



ABSTRACTS

# Abstracts of the 19th Congress of the European Geriatric Medicine Society

Live from Helsinki and Online, 20–22 September 2023

## Contents

Oral Communications.....	3
Acute Hospital Care.....	3
Pharmacology.....	5
Acute Hospital care.....	5
Ageing Biology.....	7
Cardiovascular Medicine.....	8
Multimorbidity.....	9
Cognition and Dementia.....	9
Acute Hospital Care.....	12
Comprehensive Geriatric Assessment.....	13
COVID-19.....	17
Delirium.....	17
Urinary Incontinence.....	17
Cardiovascular Medicine.....	18
COVID-19.....	18
Delirium.....	20
Education and Training.....	21
Ethics and End-of-life Care.....	23
Comprehensive Geriatric Assessment.....	23
Falls and Fractures.....	24
Frailty and Resilience.....	26
Geriatric Emergency Medicine.....	30
Old Age Psychiatry.....	31
Pharmacology.....	32
Geriatric Rehabilitation.....	32
Gerotechnology.....	34
Vaccines.....	35
Gerotechnology.....	35
Long Term Care.....	36
Multimorbidity.....	37
Nutrition.....	40
Perioperative Care.....	41
Old Age Psychiatry.....	41
Sarcopenia.....	43
Pharmacology.....	44
Geriatric Rehabilitation.....	46
Multimorbidity.....	47
Stefania Maggi Awards.....	48
Cognition and Dementia.....	48
Comprehensive Geriatric Assessment.....	48
Geriatric Emergency Medicine.....	48

Posters .....	50
Acute Hospital Care .....	50
Ageing Biology .....	73
Cardiovascular Medicine .....	79
Cognition and Dementia .....	98
Comprehensive Geriatric Assessment.....	123
COVID-19.....	140
Delirium .....	150
Diabetes .....	159
Education and Training.....	163
Ethics and End-of-life Care .....	172
Falls and Fractures .....	179
Frailty and Resilience.....	201
Geriatric Emergency Medicine .....	221
Geriatric Rehabilitation .....	232
Gerodontology .....	253
Gero-Oncology .....	255
Gerotechnology.....	265
Long Term Care .....	271
Multimorbidity.....	291
Nutrition .....	305
Old Age Psychiatry .....	323
Perioperative Care .....	329
Pharmacology .....	334
Sarcopenia.....	350
Urinary Incontinence.....	364
Vaccines.....	365
Frailty and Resilience.....	369
Old Age Psychiatry .....	370
Multimorbidity.....	370
Acute Hospital Care .....	370
Comprehensive Geriatric Assessment.....	371
Acute Hospital care 2.....	371
Falls and Fractures .....	371
Late Breaking Posters .....	373

## Oral Communications

### Acute Hospital Care

#### O-001

##### Elderly patients with non-specific complaints at the Emergency Department have a high risk for admission and 30-days mortality

Karin Erwander (1), Kjell Ivarsson (1), Björn Agvall (2)

(1) Lund University, (2) Region Halland

**Background:** Older adults have more complex medical needs that causes increased use of resources at the emergency department (ED). The prevalence of non-specific complaint (NSC) as a chief-complaint in the ED is common among older adults and is not highly prioritized. NSC are one of the most challenging conditions for an emergency physician since there are not any specific protocols to follow and the cause of NSC can be caused by everything from life threatening conditions, lack of home health care or natural aging. Due to this patients with NSC could have a worse clinical outcome compared to patients with specific complaint. The objective was to study hospital admission and mortality for older adults visiting the ED with NSC compared to specific complaints such as dyspnea, chest pain and abdominal pain.

**Method:** Retrospective observational study of older adults visiting the ED with NSC and specific complaint was performed. Chief-complaint were collected from electronic medical records. Fatigue, confusion, non-specific complaints, generalized weakness and risk of falling were defined as non-specific complaint (NSC) when registered as chief-complaint at the ED. Admission rate and 30-days mortality were the primary outcomes.

**Results:** A total of 4927 patients were included in the study based on chief-complaint; patients with chest pain 1599 (32%), dyspnea 1343 (27%), abdominal pain 1460 (30%) and NSC 525 (11%). Patients with dyspnea and NSC had the highest hospital admission rate 79% vs 70% compared to patients with chest pain (63%) and abdominal pain (61%) ( $p = < 0.001$ ). Patients with NSC had a mean LOS 4,7 h at the ED which was significantly higher compared to chest pain, dyspnea and abdominal pain. Mean bed-days for the whole population was 4.2 days compared to patients with NSC who had a mean LOS of 5.6 days. NSC and dyspnea were both associated with the highest 30-day mortality.

**Conclusion:** Older patients who present with NSC at the ED are at high risk for admission and 30-days mortality. They are often low prioritized at the ED and spend longer time at the ED compared to patients with dyspnea, chest pain and abdominal pain. This study demonstrate that NSC in older adults can be difficult to assess for ED staff even though these individuals may be at significant risk for hospital requirements and 30-day mortality. There may be a need to improve routines regarding the handling of this patient group in the ED and previous study have reported there are limitations in existing risk stratification instruments for older adults visiting the ED. Further research is needed to approach how to best care for older patients with NSC to reduce morbidity and mortality.

#### O-002

##### Improving the completion of Mental Capacity Act (MCA) Assessments and Deprivation of Liberty Safeguards (DoLS) on Complex Medical Units at the John Radcliffe Hospital

Soundarya Soundararajan (1), Alice Hindmarsh (1), Catherine Ashton (1)

(1) Oxford University Hospitals NHS Foundation Trust

**Introduction:** Cognitive disorders can impair decision-making ability in older adults. The Mental Capacity Act (MCA) 2005 protects people

who lack capacity to make decisions [1]. Deprivation of Liberty Safeguards (DoLS) are legally required where restrictions deprive someone's liberty [2]. This two-cycle audit evaluates whether MCA and DoLS are used appropriately across the four Complex Medical Units (CMUs), which treat multimorbid patients, at the John Radcliffe Hospital.

**Methods:** The first and second cycles were completed on 26/09/22 ( $n = 65$ ) and 13/12/22 ( $n = 66$ ) respectively. Inpatients in CMUs aged  $\geq 70$  years were assessed for records of Abbreviated Mental Test Score (AMTS)  $< 8$ , or diagnosis of delirium or cognitive impairment. Where these criteria were met, we assessed whether patients had a mental capacity assessment regarding hospital admission and DoLS application.

**Results:** Patient characteristics were similar across the two cycles. In the first cycle, 66.2% ( $n = 43$ ) had AMTS assessment completed. Of the 62 eligible patients, 27.4% had a mental capacity assessment and 17.7% had DoLS in place. Interventions included MCA-DoLS teaching to CMU doctors and a week-long pilot measure in CMU-B to discuss MCA-DoLS during daily board rounds. In the second cycle, 72.7% ( $n = 48$ ) had AMTS assessment completed. Of the 58 eligible patients, 25.9% had a mental capacity assessment and 12.1% had DoLS in place.

**Conclusion:** MCA and DoLS protect patient's rights while delivering quality care. Our audit has identified gaps in current practice. Though educating doctors is effective, further work, including educating the multidisciplinary team, could help achieve higher rates of MCA-DoLS completion.

#### References.

1. Recommendations: Decision-making and mental capacity: Guidance [Internet]. NICE. 2018 [cited 2023Mar30]. Available from: <https://www.nice.org.uk/guidance/ng108/chapter/Recommendations#assessment-of-mental-capacity>.
2. Deprivation of liberty safeguards at a glance [Internet]. Social Care Institute for Excellence (SCIE). 2022 [cited 2023Mar30]. Available from: <https://www.scie.org.uk/mca/dols/at-a-glance>.

#### O-003

##### Hospital-Induced Immobility—A Backstage Story of Lack of Chairs, Time, and Assistance

Katrine Storm Piper (1), Martin Oxfeldt (1), Mette Merete Pedersen (2), Jan Christensen (3)

(1) Department of Occupational Therapy and Physiotherapy, Copenhagen University Hospital, Rigshospitalet, Denmark, (2) Department of Clinical Research, Copenhagen University Hospital, Hvidovre, Denmark & Department of Clinical Medicine, University of Copenhagen, Denmark, (3) Department of Occupational Therapy and Physiotherapy, Copenhagen University Hospital, Rigshospitalet, Denmark. Department of Public Health, University of Copenhagen, Copenhagen, Denmark

**Introduction:** Inactivity and bedrest during hospitalisation have numerous adverse consequences, and it is especially important that older patients are mobile during hospitalisation. This study aimed to identify whether the introduction of formal education of clinical staff and a Mobilisation Initiative (MI) could increase mobilisation of patients in a geriatric and a medical ward. Furthermore, to explore patients' and health care staffs' view on facilitators and barriers for mobilisation during hospitalisation.

**Methods:** The study was a pragmatic clinical study. Both qualitative and quantitative methods were used. The patients' level of

mobilisation was obtained through short interview-based surveys and observations. Focus group interviews and formal education of clinical staff was initiated to increase awareness of mobilisation along with the implementation of a MI.

**Results:** 596 patient surveys were included. Patients in the geriatric (50%) and the medical (70%) ward were able to independently mobilise. The highest percentage of patients sitting in a chair for breakfast and lunch in the geriatric ward was 57% and 65%, and in the medical ward 23% and 26%, respectively. A facilitator for mobilisation was interdisciplinary collaboration and barriers were lack of chairs and time, and the patients' lack of help transferring.

**Key Conclusions:** This study adds new knowledge regarding the lack of in-hospital mobilisation in geriatric and medical departments. Mealtimes are obvious mobilisation opportunities, but most patients consume their meals in bed. A potential for a MI is present, however, it must be interdisciplinarily and organisationally anchored for further investigation of effectiveness.

## O-004

### Diagnostic yield of coupled digestive investigations in iron deficiency of elderly patients

Léna Voisot (1)

(1) UFR Médecine, Université Paris 6, Sorbonne Université

**Introduction:** Iron deficiency is frequently encountered in elderly. Various international learned societies recommend endoscopic digestive investigations to explore iron deficiency, with or without anemia. Our study aims to evaluate the diagnostic yield and safety of coupled digestive investigations (gastroscopy, and colonoscopy or computed tomography virtual colonoscopy) in cases of iron deficiency in the elderly, for whom very little specific data are available. **Methods:** Multicenter retrospective study conducted on patients over 75 years of age hospitalized in acute geriatric units between January 01, 2013 and December 31, 2017, and with iron deficiency explored by gastroscopy and colonoscopy, or gastroscopy and computed tomography virtual colonoscopy. The main objective was to evaluate the diagnostic yield of coupled digestive investigations. The explorations performed were considered contributory if a digestive lesion of the upper or lower digestive tract, explaining the iron deficiency, was found. The secondary objectives of the study were:—assess the occurrence of complications related to digestive investigations, as well as the number of incomplete colonic preparations.—identify predictive factors for the overall diagnostic yield of digestive explorations—identify predictive factors for the diagnosis of digestive cancer.

**Results:** 439 patients over 75 years of age with iron deficiency explored by coupled digestive investigations were included. Complications related to colonic preparation, anesthesia or the procedure itself occurred in 5% of cases. 18% of colonoscopies were non-contributory because they were incomplete. A lesion explaining the iron deficiency was found in 70% of cases. 57 malignant lesions (5 gastric cancers and 52 colorectal cancers) were found. Several types of lesion in the same patient were found in 88 cases. No clinical or biological features were found to predict overall diagnostic yield. In multivariate analysis, the factors associated with the diagnosis of digestive cancer were age, weight loss, hemoglobin level, antiplatelet aggregation and anticoagulant use, and male gender. Discussion About the diagnostic yield of coupled digestive investigations in case of iron deficiency, our results are in line with the literature, which notes a rate of diagnosis of potentially responsible digestive lesions of 63% to 87% of cases in elderly patients. The rate of complications is low, and simple treatment is usually possible (ulcerative lesion, Helicobacter

Pylori infection, angiodysplasia or polyp). These explorations also frequently enable the diagnosis of cancer that may be at an early stage and therefore still curable, or with a significant prognostic impact on management. As in our study, no predictive factor for the diagnostic yield of digestive tract investigations has been identified in the literature. This suggests that iron deficiency should not be overlooked, and should be investigated even in the absence of anemia, and even in the oldest patients. We have highlighted certain factors associated with the diagnosis of digestive cancer in elderly, which are rarely investigated in other studies. Further studies on this subject could be of interest.

**Conclusion:** Coupled digestive investigations are efficient and safe in patients over 75 years of age with iron deficiency.

## O-005

### Predictors of avoidable and unavoidable hospitalizations in older adults: results from a Swedish population-based study

Susanna Gentili (1), Giuliana Locatelli (2), Amaia Calderón-Larrañaga (3), Debora Rizzuto (3), Janne Agerholm (3), Carin Lennartsson (4), Åsa Hedberg Rundgren (5), Laura Fratiglioni (3), Davide L. Vetrano (3)

(1) Aging Research Center, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet and Stockholm University, Stockholm, Sweden., (2) Aging Research Center, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet and Stockholm University, Stockholm, Sweden. Department of Statistics and Quantitative methods, University of Milano-Bicocca, Milan, Italy., (3) Aging Research Center, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet and Stockholm University, Stockholm, Sweden. Stockholm Gerontology Research Center, Stockholm, Sweden., (4) Aging Research Center, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet and Stockholm University, Stockholm, Sweden. Swedish Institute for Social Research, Stockholm University, Stockholm, Sweden., (5) Stockholm Gerontology Research Center, Stockholm, Sweden

**Introduction:** Older adults frequently have complex health and social needs, which can result in multiple transitions across care settings, including an increased risk of avoidable hospitalizations. Therefore, our objective was to characterize older adults' risk associated with avoidable and unavoidable hospitalizations with a focus on avoidable hospitalizations due to chronic or acute causes.

**Method:** The study used data from the Swedish National Study on Aging and Care in Kungsholmen (SNAC-K), in Stockholm, to evaluate transition across chronic avoidable hospitalization, acute avoidable hospitalization, and unavoidable hospitalization in a sample study of 3067 individuals over 60 years of age.

**Results:** 26% of the study participants experienced at least one avoidable hospitalization. Specifically, 18% of them experienced at least one due to chronic cause and 11% due to acute cause. Formal care was related to a higher risk of the transition to unavoidable hospitalization (HR 1.09). Informal care was associated with a higher risk of chronic avoidable hospitalization (HR 1.73). Multimorbidity or a slow gait speed generally increased the risk of avoidable and unavoidable hospitalization (HR range 1.17–2.38). Cognitive impairment was associated with a lower hazard of having avoidable chronic and unavoidable hospitalization (HR range 0.52–0.84).

**Key Conclusion:** The study found that a significant number of older adults were hospitalized for avoidable reasons and that various factors within their control were linked to both avoidable and unavoidable hospitalizations. These findings highlight the importance of targeted

interventions to prevent avoidable hospitalizations in older adults and improve their overall care outcomes.

## Pharmacology

### O-006

#### Optimizing Pharmacotherapy And Deprescribing Strategies In Older Adults Living With Multimorbidity And Polypharmacy: EUGMS SIG On Pharmacology Recommendations

Eveline van Poelgeest (1), Lotta Seppala (1), Nathalie van der Velde (1), Rob van Marum (2), Martin Wehling (3)

(1) Amsterdam UMC, Department of Internal Medicine, Section of Geriatric Medicine, University of Amsterdam, Amsterdam, The Netherlands and Amsterdam Public Health Research Institute, Amsterdam, The Netherlands, (2) Amsterdam Public Health Research Institute, Aging and Later Life, Amsterdam, The Netherlands, and Department of Elderly Care Medicine, Amsterdam University Medical Centers, Location Vrije Universiteit Amsterdam, De Boelelaan 1117, Amsterdam, Netherlands, (3) Clinical Pharmacology Mannheim, Medical Faculty Mannheim, Heidelberg University, Mannheim, Germany

**Introduction:** Inappropriate polypharmacy is highly prevalent among older adults and presents a significant healthcare concern. Conducting medication reviews and implementing deprescribing strategies in multimorbid older adults with polypharmacy is an inherently complex and challenging task.

**Methods:** The Special Interest Group on Pharmacology of the European Geriatric Medicine Society has formulated recommendations to improve prescribing medications in older, multimorbid adults with polypharmacy. Our recommendations are based on a literature review and expert knowledge on medication review and deprescribing.

**Results:** Current evidence demonstrates a need for a multifaceted and wide-scale change in education, guidelines, research, advocacy, and policy to improve the management of polypharmacy in older people, and to make deprescribing part of routine care for the ageing generations to come.

**Key Conclusions:** Our recommendations can promote appropriate drug prescribing, reduce inappropriate polypharmacy, and improve patient outcomes. In addition, our recommendations aim to enhance the evidence base, improve (de) prescribing practices, and optimize interventions for older adults with multimorbidity and polypharmacy.

## Acute Hospital care

### O-007

#### Association Between The Absence Of Fever In S. Aureus Bacteremia And In-Hospital Death: VIRSTAGE, An Ancillary Study From A Prospective And Multi-Center French Cohort

Virgilio Hernández-Ruiz (1), H el ene Amieva (1), Fran ois Alla (1), Marie-Line Erpelding (2), Thibaut Fraisse (3), Emmanuel Forestier (4), Nelly Agrinier (2), Vincent Le Moing (5), Claire Roubaud-Baudron (6), on behalf of the VIRSTA Study Group. (7)

(1) INSERM, Bordeaux Population Health Research Center, UMR 1219, University of Bordeaux, F-33000, Bordeaux, France, (2) CHRU Nancy, Inserm, Universit e de Lorraine, CIC, Epid miologie Clinique,

F-54000 Nancy, France, (3) CSGA, Centre hospitalier Al es C evennes, 811 avenue du Dr Jean Goubert, 30100 ALES, (4) Department of Infectious Diseases, Centre Hospitalier M etropole Savoie, Chamb ery, France, (5) CHU de Montpellier, Universit e de Montpellier, Montpellier, France, (6) CHU Bordeaux, P ole de G erontologie Clinique, 33000, Bordeaux, France // Univ. Bordeaux, INSERM, UMR U1312—BRIC, 33000, Bordeaux, France., (7) VIRSTA Study Group

**Introduction:** Older people are at greater risk of developing *S. aureus* bacteremia (SAB), and are less likely to develop signs of infection such as fever, which may increase diagnostic and antibiotic initiation delay and consequently mortality. Therefore, this study was designed to determine whether the absence of fever was associated with in-hospital death in patients with SAB.

**Methods:** This ancillary study of the French multicenter VIRSTA cohort enrolled 2008 patients with incident SAB between 2009 and 2011. Patients' characteristics were compared according to fever status and logistic regression analyses were performed to evaluate the association between fever status and in-hospital death.

**Results:** Patients' mean age was 65.1 (17.2) and 713 (35.5%) were women. Absence of fever was documented in 233 (11.6%) patients. The no-fever group was older [69.3 (14.5) vs. 64.6 (17.4),  $p < .001$ ], had more comorbidities [1.6 (1.1) vs. 1.4 (1.2),  $p = 0.041$ ], less echocardiograms (59.7% vs. 67.8%,  $p = 0.016$ ), and longer delays from symptom onset to treatment [2.9 (11.5) vs 2.3 (4.5) days,  $p = 0.037$ ]. The no-fever status was associated with in-hospital death after adjusting for confounding variables including the delay before initiating treatment (aOR 1.65; 95% CI 1.07–2.53;  $p = 0.021$ ).

**Key Conclusions:** Absence of fever in the context of SAB was associated with higher mortality after adjusting for confounding variables including the delay before treatment, suggesting that absence of fever is a sign of vulnerability. Fever should not be a determining factor to start a diagnostic approach especially in the older population.

### O-008

#### Prevalence of Missed Nursing Care at a University Hospital—a Survey

Merete Gregersen (1), Marianne Lisby (2), Karen Vestergaard Andersen (2), Randi Tei (3), Hanne Mainz (2)

(1) Department of Geriatrics, Aarhus University Hospital, (2) Emergency Department, Aarhus University Hospital, (3) Department of Endocrinology, Aarhus University Hospital

**Introduction:** Nurses faced with multiple demands in hospitals are often compelled to prioritize nursing care. Knowledge about Missed Nursing Care (MNC) provides insight into whether necessary nursing care is delivered and what is left undone. The aim was to investigate the prevalence of MNC in medical wards, with approximately 60% of the patients aged 65 years or older.

**Methods:** The design was a cross-sectional survey including nursing staff providing direct patient care across 21 medical wards for adults at a single tertiary university hospital in Denmark. The nurses were invited by email to respond anonymously to the 'MISSCARE Survey' in November and December 2020. Nurses were asked to rate how frequently the staff missed 25 necessary nursing elements in their ward.

**Results:** In total, 42% of nurses responded to the questionnaire. More than two-thirds of the nurses reported that patient bathing (79%), emotional support (77%), ambulation (77%), documentation (73%) and mouth care (71%) were the most frequently missed elements of nursing care. Nursing care less missed were patient assessment (10%),

staff's hand washing (12%), setting up meals for patients who feed themselves (25%), bedside glucose monitoring (26%), and vital signs assessed (28%).

**Key Conclusions:** Nurses prioritize nursing care. Nursing elements to avoid potentially life-threatening situations and nursing related to treatment observations were rarely missed, while nursing care mainly visible to solely patient and nurse were most often missed. Patient outcomes related to care left undone need further research.

## O-009

### A retrospective evaluation of the sensitivity and specificity of age-adjusted D-dimer for the exclusion of pulmonary embolism at Mater Dei Hospital

Dr Peter Cassar (1), Dr Matthias Grech (1), Dr Gareth Grech (1), Dr. Nicholas Grima (1), Dr Anastasia Ghio (1), Dr Eleanor Gerada (1)

(1) Department of Medicine, Mater Dei Hospital

**Introduction:** D-dimer level of  $< 500 \mu\text{g/L}$  can safely rule out a PE in patients having a low clinical pretest probability. Studies have shown that D-dimer rises with age, resulting in higher false-positive rates in the elderly [1,2]. This will lead to further investigation using computed tomography pulmonary angiography (CTPA) which may have complications, especially in the elderly population. Therefore, the idea of an age-adjusted D-dimer (AADD) has been explored consisting of a cutoff  $< (\text{age} \times 10) \mu\text{g/L}$  in patients  $> 50$  years of age. In this study, we investigated whether AADD could have been safely used to exclude PE in patients at Mater Dei Hospital, Malta.

**Method:** A retrospective list of patients who underwent CTPA between the months of June and August 2022 was obtained. The exclusion criteria included patients  $< 50$  years of age, patients with no D-dimer taken, patients with a D-dimer level  $< 500 \mu\text{g/L}$  and patients with a Wells score  $> 4$  (likely PE). The AADD was calculated for each patient to help determine the difference in specificity for diagnosing PE.

**Results:** n total 847 CTPAs were performed over the study period. After application of exclusion criteria, there were 291 patients left in the final low-risk patient cohort. The overall positive diagnostic rate of 11.68% was seen amongst this low-risk patient cohort. The sensitivity of AADD was 94% (95% CI 80% to 99%) and specificity was 19% (95% CI 15% to 25%). The positive predictive value was 13.40% (95% CI 12.24% to 14.63%) and the negative predictive value was 96.20% (95% CI 86.43% to 98.99%) 52 patients had a D-Dimer  $\geq 500 \mu\text{g/L}$  but less than the AADD cut-off. Of these, 2 patients had a PE corresponding to a failure rate of 3.85%. One PE was segmental in the context of COVID-19 infection and the other was a sub-segmental PE.

**Key Conclusions:** -AADD demonstrated a reduction in false-positive results, sparing patients from unnecessary CTPAs.-AADD adoption would decrease radiation exposure, contrast use, and hospital costs, benefiting the elderly with higher risks of contrast-induced nephropathy and avoiding transfers from long-term care facilities.

#### References:

- Harper PL, Theakston E, Ahmed J, Ockelford P. D-dimer concentration increases with age reducing the clinical value of the D-dimer assay in the elderly. *Intern Med* 2007;37:607–13.
- Righini M, Le Gal G, Perrier A, Bounameaux H. The challenge of diagnosing pulmonary embolism in elderly patients: influence of age on commonly used diagnostic tests and strategies. *J Am Geriatr Soc* 2005;53:1039–45.

## O-010

### External Validation of FAIN T Score in Older Adults Presenting to an Academic Tertiary Care Center with Syncope

Luqman Arafath TK (1), Suud Abdul Aziz Kiradoh (1), Cynthia Lorena Aguirre Valdivieso (1), Suma Menon (1), Izzah Vasim (1), Tim Craven (1), Candice McNeil (1)

(1) Wake Forest University School of Medicine

**Introduction:** : Syncope in older adults ( $\geq 65$  years) is associated with increased mortality, irrespective of the cause. Risk stratification of older adults presenting to the ED with syncope remains challenging. We aim to externally validate the FAIN T score as a risk stratification tool to predict short-term adverse outcomes in older adults.

**Methods:** In this single-center retrospective cohort study, we evaluated 350 patients  $\geq 65$  years who presented to a tertiary care ED (Emergency Department) from 01/01/2018 to 12/31/2019 with a primary diagnosis of syncope. Patients with confirmed non-syncopal syndromes, acute medical conditions, and drug or alcohol use prior to the event were excluded from the study. Patients were risk stratified into high or low risk based on the FAIN T score. Composite outcome analysis was based on adverse events within 48 h and 30 days of syncope. It included death, myocardial infarction, arrhythmia, pulmonary embolism, stroke, aortic dissection, serious hemorrhage, any condition causing a return ED visit, hospitalization, or procedural intervention. Using a univariate logistic regression model, we explored the FAIN T score's ability to predict the outcomes assessed. The receiver operator curve (ROC) was examined, and the area under the curves (AUC) was calculated.

**Results:** For predicting 48-h composite outcome High-Risk FAIN T Score ( $> 0$ ) had an AUC of 0.6120 (95% CI 0.510–0.715) and Odds Ratio of 5.19 (95% CI 1.54–17.45). For the 30-day composite outcome, the AUC of the FAIN T Score was 0.61 (95% CI 0.530–0.682), and the Odds Ratio of 4.83 (95% CI 2.23–10.49) in predicting high-risk Syncope. Atrial fibrillation/flutter on EKG, CHF, antiarrhythmic, systolic blood pressure  $< 90$  mmHg at triage, and associated chest pain highly correlated with 48-h outcomes. An EKG abnormality, heart disease history, severe pulmonary hypertension, BNP  $> 300$ , vasovagal predisposition, and anti-depressants highly correlated with 30-day outcomes.

**Conclusions:** Performance and accuracy of the FAIN T score were suboptimal in identifying high-risk older adults with short-term adverse outcomes. We identified significant clinical and laboratory information that may help predict short-term adverse events in a geriatric cohort. I.

## O-011

### The impact of a bespoke nursing home team in on nursing home residents mortality in a tertiary referral university teaching hospital

Claire Noonan (1), Micheal Dowling (1), Aoife Fallon (1), Josephine Soh (1), SP Kennelly (2)

(1) Tallaght University Hospital, (2) Tallaght University Hospital, Trinity College Dublin

Nursing Home Residents (NHR) are the frailest group of older people in society and require a gerontologically attuned approach to address multiple challenges presented to the practitioner. Due to multiple comorbidities and increased frailty, this group are the most vulnerable for increased morbidity and mortality during acute care episodes.

**Methods:** Mortality rates on all NHRs attending a tertiary referral university teaching hospital was collected from 2015 to 2022. Impact of a bespoke nursing home specific service on hospital mortality rates are presented in this abstract.

**Results** Over the years 2015 to 2018, there was a total of 875 NHR admitted to the acute hospital with an inpatient mortality rate of 12% (n = 133). A Nursing Home specific gerontologically attuned service was then developed in 2019. Over the next 4 years from 2019 to 2022, number of admission was similar (n = 886). However, in patient mortality rate was reduced, from 12 to 8% (n = 75). There was a marked increase in mortality rates in 2020 with the impact of COVID-19. The reduction in mortality could be due to new measures put in place to support nursing homes to provide end of life care on site.

**Conclusion:** The impact of a bespoke nursing home liaison team has reduced the rate of inpatient mortality rates of NHR. The complexity and multiple comorbidities of this cohort of patients requires a timely, comprehensive gerontological approach in order to provide holistic care in throughout this acute admission and end of life journey.

## O-012

### Physical restraint use in older patients: preliminary results from the 2017 Italian Delirium Day initiative

Alessandra Coin (1), Elena Tassistro (2), Maria Cristina Ferrara (3), Maria Devita (4), Silvia Sturani (5), Marina De Rui (5), Emanuela Rossi (2), Alessandro Morandi (6), Giuseppe Bellelli (7)

(1) Geriatrics Unit, Azienda Ospedale-Università Padova, Department of Medicine- University of Padova, (2) Bicocca Center of Bioinformatics, Biostatistics and Bioimaging (B4 Centre), School of Medicine and Surgery, University of Milano-Bicocca, (3) School of Medicine and Surgery, University of Milano-Bicocca, (4) Geriatrics Unit, Azienda Ospedale-Università Padova, Department of Medicine-University of Padova; General Psychology Department-University of Padova, (5) Geriatrics Unit, Azienda Ospedale-Università Padova, Department of Medicine-University of Padova, (6) Azienda Speciale Cremona Solidale, Cremona, (7) School of Medicine and Surgery, University of Milano-Bicocca; Acute Geriatric Unit, IRCCS San Gerardo Foundation, Monza

**Introduction:** There is an ongoing and enduring debate surrounding the use of physical restraints (PR) and the potential for employing alternative approaches to minimize their use. The aim of the present study is to investigate the clinical, functional and therapeutical factors associated to the use of PR in the cohorts of people recruited in the 2017 “Delirium Day” (DD) initiative.

**Methods:** The analyses were conducted using data from the 2017 “DD”, a point-prevalence study on patient aged > 65 years who were admitted to acute hospital medical wards, emergency departments, rehabilitation wards, nursing homes and hospices in Italy in 2017. Descriptive analyses were performed based on groups categorized by PR use and logistic regression models were used to explore the association between PR and significantly related clinical, functional, and therapeutical variables.

**Results:** A sample of 2844 patients was analysed. Overall, 52.3% of individuals were subjected to at least one type of PR, with bedrails being the most common (98.2%). Patients with older age, higher comorbidity, greater dependence in the basic activities of daily living, delirium, the use of antibiotics, antipsychotics, and antidepressants on the index day were associated with the use of at least one PR at the logistic regression analysis; the highest OR was found for delirium (OR = 3.018, 95% CI 2.249–4.051).

**Discussion and Conclusion:** We provided an overview of the clinical, functional, and pharmacological variables associated with the use

of PR. Among all the variables, the presence of delirium appears to be the most significantly associated factor with PR use.

## Ageing Biology

### O-013

#### Relationship between hemoglobin and grip strength in older adults—the ActiFE Study

Theresa Hammer (1), Ulrike Braisch (2), Dietrich Rothenbacher (3), Michael Denking (4), Dhayana Dallmeier (2)

(1) Inst. for Geriatric Research, Ulm University, Ulm Germany, (2) Geriatric Center Ulm at Agaplesion Bethesda Clinic Ulm, Ulm, Germany, (3) Inst. of Epidemiology and Medical Biometry, Ulm University, Ulm, Germany, (4) Inst. for Geriatric Research, Ulm University, Ulm, Germany

**Background:** Although anemia is associated with low muscle strength and sarcopenia, hemoglobin (Hb) has been rarely studied in this context. We analyze the association between Hb and grip strength (GS) in community-dwelling older adults taking into account iron storage.

**Methods:** We used data from a German cohort of adults  $\geq 65$  years, excluding those with CRP > 10mg/l. GS (kg) was measured using a Jamar dynamometer. The association was analyzed using multiple linear regression, adjusted for established confounders. Due to interaction, age-stratified (< 80, 80 +), and sex-stratified analysis in those < 80 years old were performed. For men < 80 years effect modification with ferritin was detected.

**Results:** In total, 1297 participants were included in this analysis (mean age 75.5 years, 549 (42.3%) women, 912 (70.3%) < 80 years). On average Hb and GS were 14.9 g/dl and 41.3 kg for men, 13.9 g/dl and 25.1 kg for women. Hb was significantly associated with GS only among women < 80 years ( $\beta$  0.92 (95% CI 0.20, 1.65)). For men < 80 years, the association was significant when ferritin was  $\geq 300$  ng/ml ( $\beta$  2.04 (95% CI 0.92, 3.16)). No association was detected among those 80 +.

**Conclusions:** Our data show an association between Hb and GS only in women < 80 years old. For men < 80 years, the association was only significant in those with ferritin levels  $\geq 300\mu\text{g/l}$ . By a high prevalence of anemia and decreased hand GS in older adults further analyses investigating a possible causal relationship and more specific parameters such as transferrin saturation are warranted.

### O-014

#### Protein epigenetic scores and all-cause mortality in the longitudinal Swedish Adoption/Twin Study of Aging (SATSA)

Thaís Lopes De Oliveira (1), Jonathan K. L. Mak (2), Nancy L. Pedersen (3), Sara Hägg (2)

(1) Department of Medical Epidemiology and Biostatistics, Department of Neurobiology, Care Sciences and Society—Karolinska Institutet, (2) Department of Medical Epidemiology and Biostatistics—Karolinska Institutet, (3) Department of Medical Epidemiology and Biostatistics- Karolinska Institutet

**Introduction:** DNA methylation (DNAm) has a functional role in gene regulation, and it has been used to estimate a variety of human characteristics. Variation in DNAm is associated with aging and

variability of the proteome. Therefore, understanding the relationship between blood circulating proteins, aging, diseases, and mortality is critical to identify disease-causing pathways. Thus, this study aimed to investigate the association between protein epigenetic scores (EpiScores) with all-cause mortality in the longitudinal Swedish Adoption/Twin Study of Aging (SATSA).

**Methods:** We included information from 509 individuals. Our exposures were 109 protein EpiScores generated using longitudinal DNAm data and prediction models by the MethylDetectR shiny app. All-cause mortality was the outcome of interest. To estimate the proteins' EpiScores associations with all-cause mortality, we fitted Cox proportional hazard models adjusted for age, sex, body mass index, and smoking. We also conducted co-twin control analyses to control for shared familial factors.

**Results:** n total, 19 protein EpiScores (e.g., CRP and Stanniocalcin-1) were associated with a higher risk for all-cause mortality. In contrast, 12 protein EpiScores (e.g., Osteomodulin and Insulin-receptor) were associated with a lower risk for all-cause mortality. The co-twin control analyses showed higher hazard ratios for monozygotic twins, however not significant.

**Conclusions:** The protein EpiScores involved in immune response were associated with a higher risk of all-cause mortality. Conversely, the protein EpiScores within cell signalling/neural guidance/vascular and neural cell adhesion/neurogenesis pathways were associated with a lower risk of all-cause mortality. Overall, it is possible to predict protein levels from DNAm data that show clinical relevance.

## Cardiovascular Medicine

### O-015

#### Long-term changes in cardiovascular risk factors in the context of dementia prevention trial– the Finnish Geriatric Intervention Study to Prevent Cognitive Impairment and Disability (FINGER)

Jenni Lehtisalo (1), Tommi Härkänen (1), Alina Solomon (2), Tiina Laatikainen (2), Timo Strandberg (3), Riitta Antikainen (4), Jaakko Tuomilehto (1), Hilikka Soininen (2), Miia Kivipelto (5), Tiia Ngandu (1)

(1) Finnish Institute for Health and Welfare, (2) University of Eastern Finland, (3) University of Helsinki, (4) University of Oulu, (5) Karolinska Institutet

**Introduction:** The Finnish Geriatric Intervention Study to Prevent Cognitive Impairment and Disability (FINGER) showed that a 2-year multidomain lifestyle intervention among older people benefits cognition and cerebrovascular morbidity. We investigated long-term changes in CVD risk factors during and after the intervention.

**Methods:** FINGER included 1260 individuals aged 60–77 years at risk of dementia, randomized into intensive lifestyle intervention or general health advice. Fasting blood sampling and oral glucose tolerance test (OGTT) were executed three times during the intervention (baseline, years 1 and 2; n = 1105) and twice during the extended follow-up (years 5 and 7; n = 842) periods. The analyses were conducted using the linear mixed effects models.

**Results:** BMI decreased in both groups through the follow-up, with more weight loss in the intervention group during the active period (p = 0.003). Levels of total and LDL cholesterol remained stable, but HDL increased, without significant between-group differences. Fasting glucose and OGGT increased over time, but HbA1c decreased during the active period in both groups. Systolic blood pressure decreased during the active period, with more decrease in the intervention group at the first year (p = 0.004).

**Key Conclusions:** A multidomain lifestyle intervention for a group of older adults with vascular risk factors resulted in steeper short-term decreases in BMI and systolic blood pressure than participation in the control receiving general health advice, which also lowered these outcomes. No differences in CVD risk factors were detected between the groups in longer term, despite the benefits earlier shown for cognition and CVD morbidity.

### O-016

#### The Growing Impact of Ethnic Diversity on Acute Stroke Presentations in an Irish Population

Adam Roche (1), Orla Sheehan (2)

(1) Department of Medicine for the Older Person, Connolly Hospital Blanchardstown, Dublin, Ireland, (2) RCSI University of Medicine and Health Sciences, Dublin

**Introduction:** The Irish population is changing rapidly to become more ethnically diverse. Differences in race and ethnicity are associated with variability in risk of disease, access to medical care and treatment. Recent studies demonstrate the variability of aetiology, presentation and mortality between different ethnic groups presenting with acute stroke.

**Methods:** We reviewed our hospital stroke registry over a 24-month period (January 2021 to December 2022). Key parameters assessed included country of birth, ethnicity, clinical presentation, time of symptom onset, time of presentation to hospital, aetiology and subtype of stroke, stroke management and clinical outcomes.

**Results:** Of the 504 acute strokes admitted to our hospital in the 2 year period, non-ethnically Irish patients made up 13.3% (n = 67). The average age of non-ethnically Irish stroke presentations was younger than Irish stroke presentations (62 versus 69 years). Hemorrhagic strokes were more common in the non-Irish population (15.8% in non-Irish cohort vs 7.6% in Irish cohort). Median time from symptom onset to presentation to hospital was greater in the non-ethnically Irish cohort, with 18% (n = 6) presenting to hospital within the thrombolysis window of 4.5 h, compared to 31.5% (n = 67) of the ethnically Irish cohort.

**Key Conclusions:** This study identifies the continued disparities in acute stroke presentation between the Irish and non-Irish population presenting to a Dublin hospital. We demonstrated the importance of further research to record the variability of strokes in different ethnic groups in order to adequately plan primary and secondary stroke care. The disparities in access and presentations warrant further study but indicate the need to provide targeted public health campaigns to remain inclusive to Ireland's growing and increasingly diverse population.

### O-017

#### Factors related to the event-free survival in nonagenarians with acute myocardial infarction

Malgorzata Kupisz-Urbanska (1), Piotr Jankowski (1), Roman Topor-Madry (2), Patrycja Gryka (2), Pawel Teisseyre (2), Janina Stepinska (3)

(1) Department of Internal Medicine and Geriatric Cardiology, Centre of Postgraduate Medical Education, Warsaw, Poland, (2) Agency for Health Technology Assessment and Tariff System, Warszawa, Poland, (3) Department of Communication in Medicine, School of



Public Health, Centre of Postgraduate Medical Education, Warsaw, Poland

**Introduction:** Myocardial infarction (MI) has been stated as a major cause of death in developed countries. The aim of the present study was to evaluate factors related to the event-free survival in patients aged at least 90 years diagnosed with acute MI.

**Methods:** We included all patients aged at least 90 years hospitalized for acute MI (the ICD-10 codes I21-I22) in Poland from 2014 to 2020 and reported to the National Health Fund (NHF) database.

**Results:** A total of 14970 patients (mean age,  $92.7 \pm 2.3$  years, 4 666 men/10 304 women) were hospitalized for acute MI. Factors independently related to in-hospital mortality were age per one year—OR 1.06 (1.04–1.08, CI 95%), stroke in the history 1.22 (1.01–1.47), male sex OR 0.88 (0.81–0.95), hypertension OR 0.88 (0.75–0.89), MI or percutaneous coronary intervention (PCI) in the history, respectively OR 0.75 (0.65–0.88) and OR 0.60 (0.49–0.75), cardiology or internal medicine department, respectively OR 0.64 (0.56–0.74) and OR 0.74 (0.63–0.85). Factors independently related to post-hospital all cause death were: age-per one year—HR 1.06 (1.05–1.07), male sex HR 1.14 (1.09–1.20), hypertension HR 0.89 (0.84–0.92), invasive management HR 0.61 (0.58–0.64), PCI in the history HR 0.88 (0.8–0.97), cardiology department HR 0.90 (0.86–0.95), participation in Managed Care Programme 0.74 (0.57–0.96).

**Conclusions:** Age per one year remains to be a main predictor of medical outcomes in patients with MI. Hypertension and treatment proceeded in cardiology department or internal medicine department are factors related to event-free survival in nonagenarians with MI.

## O-018

### Direct Oral Anticoagulant Prescribing Practices and Acute Stroke Presentations in Older Irish Adults

Mary Randles (1), Joseph Harbison (2)

(1) St. James Hospital, Dublin, Ireland, (2) St. James's Hospital, Dublin

**Introduction:** Since their introduction, direct-acting oral anticoagulants (DOACs) have been seen as a user-friendly and effective alternative to vitamin K agonists for the prevention of stroke associated with non-valvular atrial fibrillation. Historically, older adults were under-anticoagulated due to fears of drug interactions and the need for therapeutic monitoring. We aimed to assess the impact of direct-acting oral anticoagulants on the rate of stroke presentations in older adults.

**Methods:** Post-hoc analysis of the published Irish National Stroke Audit (2013–2021) data was carried out. The audit collects stroke data from all hospitals providing acute stroke care in Ireland.

**Results:** Between 2013 and 2021, the percentage of people with known atrial fibrillation who were anticoagulated increased from 55.6% to 91.2%. There was a statistically significant negative correlation between the percentage of people over 80 who were anticoagulated and the proportion of strokes in those over 80 ( $r = -0.769472455$ ,  $p = 0.015$ ).

**Key Conclusions:** The introduction of DOACs in Ireland has led to increased anticoagulation prescribing for older adults with NVAF, leading to an overall trend towards reduction in the proportion of older people presenting with acute stroke.

## Multimorbidity

### O-019

#### GEMINI: Developing an Atlas of Multiple Long-Term Conditions

Jane Masoli (1)

(1) University of Exeter

**Background:** The ageing population has increasingly complex health needs. Multimorbidity, defined as the co-existence of two or more health conditions, is increasing globally, making it a research priority. GEMINI combines observational cohort data and genetic approaches to aim to understand shared pathological mechanisms of long-term conditions.

**Methods:** Chronic conditions were defined by a diverse research team including clinicians and patient advisors. We estimated prevalence of conditions in two population-representative primary care cohorts. Single nucleotide polymorphism (SNP) -based heritability and pairwise genetic correlations were estimated using independent data from UK Biobank and FinnGen cohorts.

**Results:** 76 conditions were defined as chronic with prevalence  $> 0.5\%$ . Multiple pairs of conditions showed genetic correlation. This was both within known disease domains: for example, in UKB coronary artery disease and peripheral arterial disease had a high genetic correlation (0.81; 95% CI 0.68–0.92). Genetic correlations were also identified across disease domains, for example between asthma and ischaemic stroke the combined genetic correlation estimate was 0.25, with significant genetic correlation in both UK Biobank ( $p$  value =  $2 \times 10^{-5}$ ) and FinnGen ( $p$  value =  $2 \times 10^{-3}$ ). Another example is type-2 diabetes and osteoarthritis (genetic correlation = 0.36; 95% CI 0.31–0.41), which may be explained by BMI.

**Conclusions:** We have systematically analysed the shared genetics between multiple long-term conditions to develop an atlas of multimorbidity. We have identified novel pairs with previously unexplored genetic correlation. Next, we aim to understand the causal pathways of pairs of conditions and outcomes prioritised by patient and clinician advisors. Through this work we hope to identify potentials for clinical intervention.

## Cognition and Dementia

### O-020

#### Exploring the knowledge and perceptions of middle and older aged men in socially deprived areas of brain health and dementia

Jane Carbery (1), Lauren O'Mahony (2), Emma O'Shea (2), Suzanne Timmons (2)

(1) HSE, Ireland, (2) UCC, Ireland

**Introduction:** It is estimated that 40% of dementia is attributable to modifiable risk factors, but risk reduction messaging may not reach people living in low socio-economic status (SES) areas, or with less education. Moreover, men are known to be reluctant to engage with health screening/assessments. This study therefore aimed to explore the knowledge and perceptions of middle and older age men in low-SES areas about brain health and dementia.

**Methods:** Focus groups were conducted with men in low SES areas in an Irish city. Discussions were transcribed verbatim; a thematic approach was used to analyse the data.

**Results:** Twenty-four participants took part, across five focus groups. ‘Brain health’ was often described in terms of mental health (e.g., avoiding anxiety). Although physical activity was considered important, cognitive activities and social engagement were prioritised over cerebrovascular risk factor modification; smoking and alcohol intake were under-recognised as risks. The term “dementia” was poorly understood by some; while all had heard of “new medications to cure dementia”. Barriers to lifestyle changes included physical health, cost, and socio-cultural barriers including technology, masculinity, retirement, and distrust of the health service. Motivators included experience of ill-health, wanting to keep well ‘for family’, and engaging with younger generations.

**Conclusions:** This study is the first to explore the understanding and perceptions of brain health in men in low SES areas in Ireland. The findings can support healthcare professionals, in partnership with key stakeholders, to design tailor-made programmes on brain health and dementia risk reduction for this group.

## O-021

### Frailty and behavioral and psychological symptoms of dementia: a single center study

Sara Rogani (1), Valeria Calsolaro (1), Giulia Coppini (1), Bianca Lemmi (1), Irene Taverni (1), Elena Bianchi (1), Rosanna Pullia (1), Ludovica Di Carlo (1), Chukwuma Okoye (1), Agostino Virdis (1), Fabio Monzani (1)

(1) Geriatrics Unit, Department of Clinical and Experimental Medicine, University of Pisa, Pisa, Italy

**Background:** Behavioral and Psychological Symptoms of Dementia (BPSD) frequently arise in the disease trajectory, with negative outcomes and considerable distress.

**Methods:** aim of this retrospective study was to evaluate the correlation between frailty and BPSD in a population of older patients with dementia. BPSD were classified in three clusters: “mood/apathy”, “psychosis” and “hyperactivity”. Using the Clinical Frailty Scale (CFS), patients were categorized as “severely frail”, “mild/moderately frail” and “robust” (CFS  $\geq 7$ , 4–6 and  $\leq 3$ , respectively). In order to better understand the complex pattern of relationships between the different factors, we performed a network analysis.

**Results:** 209 patients (71.3% women, mean age  $83.24 \pm 4.98$  years) with a clinical diagnosis of dementia were enrolled. The most represented group was the mild/moderately frail one ( $n = 155$ , 74%); lower numbers were seen in the robust ( $n = 18$ , 9%) and severely frail ( $n = 36$ , 17%) ones. Among the “severely frail” the percentage of BPSD was higher compared to the other groups. A significant correlation between frailty and “hyperactivity” cluster emerged, both at baseline and follow up visits ( $p < 0.001$ ,  $p = 0.022$ ,  $p = 0.028$  respectively). The degree of frailty related to BPSD of the hyperactivity cluster, such as agitation and motor aberrant activity.

**Conclusion:** In this study an association between frailty and the number of neuropsychiatric symptoms of the “hyperactivity” cluster was found; whether the loss of independence is a possible cause of frailty or viceversa is still to be determined. The assessment of frailty

may help identifying patients at risk of developing BPSD, suggesting a time-window to target early intervention.

## O-022

### Validation of a new, three-item cognitive screening instrument for use in the Survey of Health, Ageing and Retirement in Europe (SHARE-Cog)

Mark R O’Donovan (1), Nicola Cornally (2), Rónán O’Caoimh (3)

(1) Health Research Board Clinical Research Facility, University College Cork, Mercy University Hospital, Cork City, Ireland, (2) Catherine McAuley School of Nursing and Midwifery, University College Cork, Cork City, Ireland, (3) Department of Geriatric Medicine, Mercy University Hospital, Cork City, Ireland

**Background:** Cognitive impairment is common among older adults. More comparable and standardised assessments of cognitive decline are needed for epidemiological studies. We developed and validated a novel, short, cognitive screen instrument (CSI) for the Survey of Health, Ageing and Retirement in Europe (SHARE).

**Methods:** Three subtests were available across all main waves of SHARE (2004–2020): 10-word registration, verbal fluency (animal naming) and 10-word recall. These were combined into the 3-item SHARE Cognitive Screen (SHARE-Cog). Diagnostic accuracy for participant-reported dementia was compared to the 10-point Cognitive Screener (10-CS), Mini-Cog, Six-Item Screener (SIS) and three cognitive batteries mimicking the Qmci screen, MMSE and MoCA. The Area Under the Curve (AUC) of Receiver Operating Characteristic curves were used to assess diagnostic accuracy. Subjective memory complaints (SMC) were defined by “fair” or “poor” self-rated memory.

**Results:** The sample included 24,124 people. The mean age was 75 years and 56% were female. The SHARE-Cog had good diagnostic accuracy for dementia (AUC = 0.82, 95% CI 0.80–0.84), which was more accurate than the 10-CS (AUC = 0.80,  $p = 0.003$ ), Mini-Cog (AUC = 0.77,  $p < 0.001$ ) or SIS (AUC = 0.79,  $p < 0.001$ ) and similar to the other cognitive batteries ( $p$ -values  $> 0.05$ ). In its ability to differentiate dementia from SMC and SMC from normal cognition, the SHARE-Cog had similar or better diagnostic accuracy compared with the other CSIs.

**Conclusions:** The SHARE-Cog is available in all main waves of SHARE and has good diagnostic accuracy for dementia and SMC compared with other available tests, making it useful for epidemiological studies comparing cognitive decline between countries and over time in Europe.

## O-023

### Plasma p-tau217 is associated to cerebrospinal fluid A $\beta$ 42 concentrations and incident Alzheimer’s Disease in very old men

Elisabeth Hellquist (1), Vilmantas Giedraitis (1), Kristin Franzon (1), Oskar Hansson (2), Martin Ingelsson (3), Shorena Janelidze (2), Bodil Weidung (3), Lena Kilander (3)

(1) Department of Public Health and Caring Sciences, Clinical Geriatrics, Uppsala University, Uppsala, Sweden., (2) Clinical

Memory Research Unit, Lund University, Lund, Sweden, (3) Department of Public Health and Caring Sciences, Clinical Geriatrics, Uppsala University, Uppsala, Sweden

**Introduction:** Increased concentrations of plasma phosphorylated tau (p-tau) have been shown to be robust biomarkers of Alzheimer's Disease (AD) pathology. These associations have mainly been described in strictly selected cohorts and their full potential need to be verified also in population-based cohorts, not the least in very old persons, i.e. those with the highest AD incidence. We examined the longitudinal associations between plasma p-tau217 and AD, and the cross-sectional associations with cerebrospinal fluid (CSF) amyloid beta (A $\beta$ 42) and p-tau181 concentrations, in a very old population.

**Methods:** Concentrations of plasma p-tau217 were analyzed in 505 men aged approximately 82 years. Incident dementia diagnoses were identified through medical records review up to 20 years follow up. A subgroup of 36 men underwent lumbar punctures with analyses of CSF AD biomarkers together with plasma p-tau217 at age approximately 87–89 years. Plasma p-tau217 concentrations were measured using immunoassays and CSF A $\beta$ 42 and p-tau181 concentrations using ELISA.

**Results:** Levels of plasma p-tau217 were higher among individuals who developed AD than among the cognitively healthy ( $n = 73$  vs 344, Mann Whitney U test:  $p < 0.001$ ). Concentrations of plasma p-tau217 strongly correlated with CSF A $\beta$ 42 and CSF p-tau181 in cross-sectional analysis (Spearman  $\rho$ :  $\rho = -0.68$ ,  $p < 0.001$  and  $\rho = 0.33$ ,  $p < 0.05$ , resp.).

**Key Conclusions:** Elevated plasma p-tau217 levels may precede development of AD also in very old age. Plasma p-tau217 and CSF A $\beta$ 42 concentrations are strongly correlated also in the very old, suggesting that plasma p-tau217 concentrations primarily reflect brain amyloid beta deposition.

## O-024

### Cholinesterase inhibitors are associated with slower cognitive decline in dementia with Lewy bodies

Maria Eriksson (1), Annegret Habich (2), Elisabet Londos (3), Daniel Ferreira (2), Hong Xu (2)

(1) Division of Clinical Geriatrics, Center for Alzheimer Research, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet, Stockholm, Sweden. (2) Theme Inflammation and Aging, Karolinska University Hospital, Stockholm, Sweden, (3) Division of Clinical Geriatrics, Center for Alzheimer Research, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet, Stockholm, Sweden., (3) Institution of clinical sciences, Malmö, Lund University, Sweden

**Introduction:** Treatment with cholinesterase inhibitors (ChEIs) is often used in individuals with dementia with Lewy bodies (DLB), but long-term effects on cognition is lacking. Recent studies have shown associations with ChEI use and decreased risk of cardiovascular events and death in Alzheimer patients. This study explores the long-term effects of ChEIs on cognition, the risk for major cardiovascular events (MACE) and death in persons with DLB.

**Methods:** The Swedish Dementia Registry (SveDem) was linked to several national registries. Data on persons with incident DLB and associations with ChEI use or not were collected as were MACE (the composite of hospitalization of myocardial infarction, congestive heart failure or stroke) and mortality. In an inverse probability of

treatment weighting cohort, the associations were examined with mixed or Cox regression models.

**Results:** In the weighed cohort 893 with incident DLB started on ChEI and 305 did not. During a median follow up time of 3.2 years, ChEI users showed slower cognitive decline (-1.4 MMSE points/y) compared to non-users (-2.8 MMSE p/y). Of the ChEIs, galantamine was associated with the slowest cognitive decline (-0.9 MMSE p/y). Compared to non-users, ChEI use was not associated with risk of MACE or death. Similar results were found in a 1:1 propensity score matched cohort.

**Conclusions:** Long-term use of ChEI in persons with DLB was associated with slower cognitive decline where galantamine presented the strongest effect. In contrast to our previous findings in AD, ChEI use in DLB was not associated with reduced MACE nor mortality risk.

## O-025

### Smoking and Risk of Dementia: The HUNT Study, Norway

Marie Hjelmseth Larssen (1), Christian Myrstad (2), Geir Selbak (3), Inghild Johanne Skjervold (1)

(1) MS. Faculty of Medicine and Health Sciences, Norwegian University of Science and Technology (NTNU), Trondheim, Norway., (2) MD. Norwegian National Advisory Unit on Ageing and Health, Vestfold Hospital Trust, Tønsberg, Norway. Department Of Medicine, Levanger Hospital, Nord-Trøndelag Hospital Trust, Levanger Norway., (3) Prof. MD. Norwegian National Advisory Unit on Ageing and Health, Vestfold Hospital Trust, Tønsberg, Norway. Institute of Clinical Medicine, Faculty of Medicine, University of Oslo, Oslo, Norway. Geriatric Department, Oslo University Hospital, Oslo, Norway

**Background:** Even though smoking is considered a risk factor for dementia, uncertainty remains. The main objective of this study was to investigate smoking as an independent risk factor for all-cause dementia in a large longitudinal population-based cohort study. As a secondary objective we investigated the association between smoking and dementia subtypes.

**Methods:** This study was based on data from the Trøndelag Health Study (HUNT). Participants' smoking status was collected at baseline (HUNT2, 1995–97), and their cognitive status assessed after two decades of follow-up (HUNT4 70 + , 2017–19,  $N = 8532$ ). Pack-years were calculated at HUNT4 (2017–19). Risk ratios (RR) were estimated by applying Poisson regression models after adjustment for covariates, with stratification by age ( $\geq / < 85$  years) and separate analyses for women and men.

**Results:** Current smokers had a 31% higher dementia risk (RR 1.31, 95% confidence interval (CI) 1.12–1.52). Women  $< 85$  had a 54% increased risk (RR 1.54, 95% CI 1.20–1.98). Men  $< 85$  had a 36% increased risk (RR 1.35, 95% CI 1.01, 1.82). No associations were found for persons  $\geq 85$ . Current smokers had an increased risk for other dementias, but not for Alzheimer dementia in subgroup analyses. Former smoking and pack-years were not associated with dementia risk.

**Key Conclusions:** Current smoking was associated with higher dementia risk. This association was not found for persons  $\geq 85$ , probably due to death as a competing risk. Former smokers did not show increased dementia risk. Our results add to the literature an optimism about the effect of changing smoking habits and may encourage smoking cessation.

**O-026****Symptomatic and preventive medication use in community-dwelling older people with and without Alzheimer's disease**

Shin J Liao (1), J Simon Bell (1), Julian Lin (3), Samanta Lalic (4), Anna-Maija Tolppanen (3), Sirpa Hartikainen (2)

(1) Centre for Medicine Use and Safety, Faculty of Pharmacy and Pharmaceutical Sciences, Monash University, Melbourne, Australia, (2) Kuopio Research Centre of Geriatric Care, University of Eastern Finland, Kuopio, Finland, (3) School of Pharmacy, University of Eastern Finland, Kuopio, Finland, (4) Pharmacy Department, Monash Health, Melbourne, Australia

**Introduction:** Priorities of care among people with Alzheimer's disease (AD) may transition from prevention of chronic diseases to focus on symptomatic care for better quality of life. This study aimed to investigate longitudinal changes in symptomatic and preventive medication use among community-dwelling people with and without AD five years pre- and post-diagnosis.

**Methods:** Retrospective matched cohort study comprising 58,496 people with AD and 58,496 people without AD in Finland from 2005–2010. Prevalence of symptomatic and preventive medication use were evaluated every six months from five years pre- to post-diagnosis and further stratified by age and sex.

**Results:** Among people with AD, the prevalence of both symptomatic and preventive medications increased from five years before until the time of diagnosis. This increase was most pronounced in the oldest age group ( $\geq 85$  years) in comparison to younger age groups. After diagnosis, symptomatic medication use plateaued over the next five years, while preventive medication use gradually declined. While most symptomatic medication classes became less prevalent after AD diagnosis, use of paracetamol, antipsychotics, proton pump inhibitors, and opioids increased continuously post-diagnosis. Prevalence of preventive medication classes including antidepressants, calcium supplements, beta-blockers, and statins decreased following AD diagnosis. In contrast, people without AD had a continuous increase for both medication categories throughout the 10-year period.

**Conclusions:** AD diagnosis is the key timepoint for change in symptomatic and preventive medication use. The time of AD diagnosis prompts for regular medication reviews to re-evaluate the appropriateness of each nominated treatment and better align regimens to individual priorities of care.

**O-027****Prevalence of Mild Cognitive Impairment (MCI) and probable Dementia in a selected cohort of senior citizens residents of Dar es Salaam, Tanzania**

Kelvin Leshabari (1), Robert Magoma (2), Khalfan Masoud (3), Ismail Mtitu (4), Mathew Mwanjali (5), Godfrey Swai (6), Macca Mrina (7)

(1) Ageing Research Group, Registered Trustees of Ultimate Family Healthcare, (2) Amana Regional Referral Hospital, (3) Hubert Kairuki Memorial University, (4) Ministry of Health—Dodoma, Tanzania, (5) Programme Unit, Registered Trustees of Ultimate Family Healthcare, (6) Health System Research Group, Registered Trustee of Ultimate Family Healthcare, (7) Grassroots Initiative for Youth & Elderly Development

**Background:** Africa is rapidly undergoing demographic transition. Ageing Initiative in sub-Saharan Africa (AISA) is a programme that aims at analyzing biological, clinical, demographic and public health

aspects associated with ageing process in Africa. We assessed prevalence of Mild Cognitive Impairment (MCI) and probable dementia incorporating adult residents of a sub-urb in Dar es Salaam city.

**Methods:** A cross-sectional community screening was conducted in two villages at Ubungo ward. Mini-cog test was used as a screening tool. Demographic, past medical/surgical history, risk factors for cardio-metabolic risks were also assessed. Prevalence of MCI and dementia were outcome variables. Multivariable logistic regression model was fitted after appropriate model validation. Continuous data were summarized as median (with corresponding IQR) while categorical data as frequency (proportion). Unless otherwise specified,  $\alpha$ -level of 5% was used as a limit of type 1 error. All participants signed written informed consent prior to inclusion into screening.

**Results:** We screened 912 adults. They had a median age of 67.1 (IQR: 64–70) years. M: F = 1:3.2. Prevalence of MCI and probable dementia were 71.2% (95% CI 68.6%–74.2%) and 34.1% (95% CI 25.5%–40.0%) respectively. Age (AOR = 1.45, 95% CI 1.11–1.73) and systolic BP (AOR = 3.0, 95% CI 2.4–3.6) were the most significant risk factors for MCI. Age (AOR: 2.03, 95% CI 1.99–2.06), female gender (AOR: 1.2, 95% CI 1.0–1.6) and diabetes mellitus (AOR: 1.01, 95% CI 1.00–1.03) were significantly associated with probable dementia.

**Conclusion:** MCI and probable dementia were highly prevalent. Cardiometabolic risks were associated with MCI and probable dementia.

**Acute Hospital Care****O-028****Factors associated with changes in walking performance in individuals three months after stroke or TIA—secondary analyses from a randomized controlled trial of SMS-delivered training instructions**

Birgit Vahlberg (1), Staffan Eriksson (2), Ulf Holmbäck (3), Tommy Cederholm (3), Erik Lundström (4)

(1) Department of Public Health and Caring Sciences, Geriatrics, Uppsala University, Uppsala, Sweden, (2) Centre for Clinical Research, Sörmland, Uppsala University, Eskilstuna, Sweden, (3) Department of Public Health and Caring Sciences, Clinical Nutrition and Metabolism, Uppsala University, Uppsala, Sweden, (4) Department of Medical Sciences, Neurology, Uppsala University, Sweden

**Introduction:** After a stroke, individuals are predisposed to functional limitations and a sedentary lifestyle that may further jeopardize cardiovascular health. Objectives: To identify factors related to changes in walking performance in individuals three months after a stroke or TIA.

**Methods:** This post-hoc analysis of a randomized controlled study included 79 community-living individuals, 64 (10) years, 37% women, who were acutely hospitalized because of stroke during 2016–2018. The major eligibility criterion was the ability to perform the 6-Minute Walking Test (6MWT, meters). The intervention group received standard care plus daily mobile phone text messages (SMS) with instructions to perform regular outdoor walking and functional leg exercises in combination with step counting and training diaries. The control group received standard care without restrictions on physical activity. Multivariate analysis was performed and age, sex, group allocation, baseline 6MWT, BMI, cognition, and chair-stand tests were entered as possible determinants for changes in 6MWT.

**Results:** Multiple regression analyses showed that age ( $P < 0.001$ ), sex ( $P = 0.006$ ), baseline BMI ( $P < 0.001$ ), and baseline 6MWT ( $P < 0.001$ ), and possibly allocation to the SMS group ( $P = 0.06$ ) were associated with changes in 6MWT three months after the stroke event. The regression model described 37% of the variance in changes in 6MWT.

**Conclusions:** Post-hoc regression analyses indicated that younger age, male sex, lower BMI, shorter 6MWT at baseline, and allocation to the SMS group contributed to improvement in walking performance at three months in patients with a recent stroke or TIA. These factors may be important when planning SMS or similar rehabilitation services.

## Comprehensive Geriatric Assessment

### O-029

#### Including older people in health and social care research: best practice recommendations based on the INCLUDE framework

Victoria A Goodwin (1), Terence J Quinn (2), Miles D Witham (3)

(1) University of Exeter, UK, (2) University of Glasgow, UK, (3) Newcastle University, UK

**Introduction:** Older people are often explicitly or implicitly excluded from research, in particular clinical trials. This means that study findings may not be applicable to them, or that older people may not be offered treatments due to an absence of evidence. The aim of this work was to develop recommendations to guide all research relevant to older people.

**Methods:** A diverse stakeholder group identified barriers and solutions to including older people in research. In parallel, a rapid literature review of published papers was undertaken to identify existing papers on the inclusion of older people in research. The findings were synthesised and mapped onto a socio-ecological model. From the synthesis we identified themes that were developed into initial recommendations that were iteratively refined with the stakeholder group.

**Results:** range of individual, interpersonal, organisational, community and policy factors impact on the inclusion of older people in research. Fourteen recommendations were developed such as removing upper age limits and comorbidity exclusions, involving older people, advocates and health and social care professionals with expertise in ageing in designing the research, and considering flexible or alternative approaches to data collection to maximise opportunities for participation. We also developed four questions that may guide those developing, reviewing, and funding research that is inclusive of older people.

**Key Conclusions:** Our recommendations provide up to date, practical advice on ways to improve the inclusion of older people in health and care research.

### O-030

#### Description of survival and analysis of predictive survival factors for older cancer patients in the songalp cohort (oncogériatric follow-up on the alpine sillon: UCOGAlp)

Nathalie MITHA (1), Arnaud SEIGNEURIN (1), Gaetan GAVAZZI (1)

(1) CHU Grenoble

**Introduction:** A third of patients diagnosed with cancer are 75 years of age and older, and cancer-related mortality increases with age. Predicting the risk of death in a comprehensive geriatric assessment (CGA) is a challenging exercise in this heterogeneous population. In addition to the recognized prognostic factors in oncology, the impact of the different CGA domains exploring fragility is to be specified. Our objective was to describe overall patient survival for all cancers, by most common type of cancer, and to study the factors predicting mortality.

**Material and Method:** A retrospective observational study carried out in 5 centers in the French Alpine Arc, involving patients aged 70 and over, with cancer, referred for a thorough geriatric evaluation between January 2016 and December 2019. The main objective was to describe the overall patient survival of all types of cancer. The primary study endpoint was the time between the date of cancer diagnosis and the occurrence of death. Our secondary study endpoints were to describe overall survival in elderly patients with breast, colorectal, prostate and lung cancers; and finally, to identify among CGA and cancer data the factors predicting mortality.

**Results:** 1272 patients were included in the study with a median age of 83 years. At 6 months, a mortality rate of 27% was observed. At 2 years, the overall survival rate was 40% for all cancers combined. For breast cancer, overall survival was 63%, for colorectal cancer 43%, for prostate cancer 41%, and for lung cancer 18%, at 2 years respectively. Independent mortality predictors for all cancers were the Performance Status (PS)  $> 0$  (incrementally with maximum impact for PS = 4 with HR: 5.00; CI [2.72–9.19]), creatinine clearance  $< 30$  ml/min (HR: 1.85; CI [1.31–2.63]), the existence of an inflammatory syndrome with a CRP  $\geq 100$  mg/l (HR: 1.80; CI [1.33–2.43]), the existence of malnourishment measured by a Mini-Nutritional Assessment (MNA)  $< 17$  (HR: 1.56; CI [1.11–2.19]) and an albumin  $< 35$ g/l (HR: 1.27; IC [1.02–1.58] between 30 and 35 g/l and HR: 1.43; IC [1.10–1.87] if less than 30 g/l). A curative treatment goal (HR: 0.46; IC [0.33–0.64] for standard therapy and HR: 0.43; IC [0.32–0.59] for adapted therapy) as well as female gender (HR: 0.81; IC [0.67–0.99]) were significantly associated with survival. In our study, a lengthier delay between diagnosis and CGA and a poor performance on the Get Up and Go test (GUG) also appeared to be associated with better survival (HR: 0.62; CI [0.49–0.78] if delay  $\geq 21$ -days and HR: 0.65; CI [0.43–1.00] if GUG  $\geq 30$  s). The study found no significant impact of age, metastatic status, comorbidities, G8 score, functional status, cognitive status, thymic status, monopodal support, gait speed, and hemoglobin.

**Conclusion:** The population included in our study was representative of the elderly population of interest: in a state of health which was neither robust nor significantly deteriorated, for whom there are questions about the relevance of oncology treatment in terms of the balance between the expected benefits and risks. A high mortality rate of 27% was observed during the first 6 months after cancer diagnosis, followed by an overall patient survival rate of 40% for all types of cancers combined at 2 years. The identification of independent mortality predictors is a valuable guide in therapeutic decision-making. Further studies could clarify the impact of the various prognostic factors, in particular by studying these factors more specifically by type of cancer.

**Keywords:** cancer, elderly, overall survival, mortality predictors, comprehensive geriatric assessment, therapeutic decision-making support.

**O-031****Natural History of Intrinsic capacity impairments in the INSPIRE ICOPE CARE cohort of real-life users of the health system in France**

Emmanuel Gonzalez-Bautista (1), Philippe de Souto Barreto (1), Vitor Pelegrim de Oliveira (2), Neda Tavassoli (2), Caroline Berbon (2), Maria Eugenia Soto Martin (1), Bruno Vellas (1)

(1) 1. Gerontopole of Toulouse University Hospital, WHO Collaborating Center for Frailty, Clinical and Geroscience Research, and Geriatric Training, Toulouse, France. 2. Maintain Aging Research team, Centre d'Epidémiologie et de Recherche en santé des POPulations, Université de Toulouse, Inserm, Université Paul Sabatier, Toulouse, France., (2) 1. Gerontopole of Toulouse University Hospital, WHO Collaborating Center for Frailty, Clinical and Geroscience Research, and Geriatric Training, Toulouse, France

**Introduction:** Intrinsic capacity (IC) comprises the domains of cognition, locomotion, nutrition, sensory and psychological. From 2019, a stepwise approach to IC in clinical practice has been implemented as a standard of care in Southern France to screen for IC impairments (step 1), followed by an in-depth assessment, a care plan and monitoring of IC. This study aimed to describe the evolution of IC impairments and their implications for improving current practice.

**Methods:** We analysed IC impairments detected by a professional screening (ICOPE Step1) in real-life health system users of the INSPIRE ICOPE CARE cohort. We identified combinations of IC impairments (IC clusters) and followed their clinical evolution (incidence/reversibility). We tested the IC clusters' association with frailty (Fried's phenotype) and IADLs and ADLs disability.

**Results:** Over 20,000 participants were assessed (female 62.2%, mean age 76.2 SD 8.9), with a mean of 2.6 alerts and a mean interval of ~ 190 days between two screenings. Cognition and sensory alerts held the highest baseline frequency. Cognition + Psychological and Cognition + locomotion were among the most frequent IC clusters. Participants with all negative screenings at baseline tended to remain alert-free at follow-up. Nutrition and psychological domains reached the highest reversibility. Cognition + Locomotion and Cognition + Locomotion + Psychological clusters and the number of positive screenings were significantly associated cross-sectionally with frailty, IADLs and ADLs disability, and the incidence of ADL disability.

**Conclusions:** Screening for older people's IC impairments might enable the health system to provide timely preventive interventions. Targeting populations at high risk of care dependency might lead to efficient resource use.

**O-032****Validity, reliability, responsiveness, and feasibility of the Life-Space Assessment administered via telephone in community-dwelling older adults**

Christian Werner (1), Phoebe Ullrich (1), Merit Hummel (1), Klaus Hauer (1), Jürgen M. Bauer (1)

(1) Geriatric Centre, Heidelberg University Hospital

**Introduction:** The Life-Space Assessment (LSA) is the most commonly used questionnaire to assess life-space mobility (LSM) in older adults, with well-established psychometric properties for face-to-face (FF) administration. However, these properties have not yet been explicitly studied when the LSA is administered by telephone. The study aim was to evaluate the concurrent and construct validity, test-

retest reliability, responsiveness and feasibility of a telephone-based LSA version (TE-LSA) in older adults.

**Methods:** Fifty community-dwelling older adults (age = 79.3 ± 5.3 years) participated in the study. Concurrent validity was assessed against the FF-LSA, construct validity by testing 15 a priori hypotheses on expected associations with LSM determinants, test-retest reliability via two telephone surveys one week apart, responsiveness after 8.5 ± 1.8 months in participants with improved, stable, and worsened mobility defined by two external criteria, and feasibility by the completion rate/time and ceiling/floor effects.

**Results:** Good to excellent agreement between the two different administration methods was found (intraclass correlation coefficient [ICC2,1] = 0.73–0.98). Twelve of 15 (80%) hypotheses on construct validity were confirmed. ICCs for test-retest reliability were good to excellent (ICC2,1 = 0.62–0.94). Minimal detectable change for the TE-LSA total score was 20 points. Standardized response means were large for worsened (0.88), moderate for improved (0.68), and trivial for stable participants (0.04). Completion rate was 100% and mean completion time was 5.5 ± 3.3 min. No ceiling or floor effects were observed for the TE-LSA total score.

**Key Conclusions:** Telephone administration of the LSA is valid, reliable, responsive, and feasible for assessing LSM in community-dwelling older adults.

**O-033****Stakeholders experiences of comprehensive geriatric assessment in an inpatient hospital setting: a qualitative systematic review and meta-ethnography**

Íde O'Shaughnessy (1), Christine Fitzgerald (1), Christina Hayes (1), Aoife Leahy (2), Margaret O'Connor (2), Damien Ryan (3), Denys Shchetkovsky (3), Fiona Steed (4), Leonora Carey (5), Colin Quinn (2), Elaine Shanahan (2), Rose Galvin (1), Katie Robinso

(1) School of Allied Health, Faculty of Education and Health Sciences, Ageing Research Centre, Health Research Institute, University of Limerick, Ireland, (2) Department of Ageing and Therapeutics, University Hospital Limerick, Dooradoyle, Limerick, Ireland, (3) Limerick EM Education Research Training (ALERT), Emergency Department, University Hospital Limerick, Dooradoyle, Limerick, Ireland, (4) Department of Health, Baggot Street, Dublin 2, Ireland, (5) Department of Occupational Therapy, University Hospital Limerick, Dooradoyle, Limerick, Ireland

**Background:** comprehensive geriatric assessment (CGA) is considered the gold standard approach to improving a range of outcomes for older adults living with frailty admitted to hospital. To date, research has predominantly focused on quantitative syntheses of the international evidence with limited focus on qualitative synthesis of stakeholder perspectives. This review aims to resolve this research gap by identifying and synthesising qualitative studies reporting multiple stakeholders' experiences of inpatient CGA. Method: a systematic search of five electronic databases was conducted. Qualitative or mixed .

**Methods:** studies that included qualitative findings on the experiences of CGA in an inpatient hospital setting from the perspective of healthcare professionals (HCP), older adults and those important to them were included. The protocol was registered on PROSPERO (Registration: CRD42021283167) and the 10-item Critical Appraisal Skills Programme checklist was used to appraise the methodological quality of included studies results were synthesised as a meta-ethnography.

**Results:** Eleven studies, which reported on the experiences of 153 HCPs, 91 older adults and 57 caregivers were included. The studies

dated from 2011–2021 and three key themes were identified: (1) HCPs, older adults and caregivers report conflicting views on CGA as a holistic assessment process, (2) most HCPs, but only some older adults and caregivers, experience CGA goal-setting and care planning as collaborative, and (3) all stakeholders value care continuity during the transition from hospital to home but often fail to achieve it.

**Conclusion:** While HCPs, older adults and caregivers' values and ambitions related to CGA broadly align, their experiences often differ. The identified themes highlight organisational and relational factors, which positively and negatively influence CGA practices and processes in an inpatient hospital setting.

## O-034

### Pilot project concerning quality assessment of cognitive functions, sarcopenia, and frailty in a primary care in a system without geriatric medicine experience

Nenad Bogdanovic (1), Vedrana Rugole (2)

(1) Professor in Geriatric, Karolinska Institute, Stockholm Sweden,  
(2) master's degree of medical technology

**Introduction:** In medical systems where specialization in geriatrics has not been established, the approach to frailty assessment, early detection of cognitive problems and determination of sarcopenia in elderly patients is insufficient and delayed. This pilot project aims to assess frailty, cognition, and sarcopenia in patients older than 65 years in a joint approach between doctors and nurses.

**Methods:** A non-selective population of 200 patients in a family medicine practice had the task of completing the Clock Test (cognition), grip strength by dynamometer (sarcopenia), and the doctor and nurse independently assessed the degree of frailty according to the Rockwood scale. The medical team was briefly educated on the testing methodology. A time of 15 min per patient was sufficient for testing.

**Results:** The age of the population was equal between 110 men and 90 women (73y + 9 and 71y + 9). According to the Rockwood scale, 14% of men and 11% of women had initial signs of frailty (score > 4). A mild sign of sarcopenia is considered a grip strength of the dominant hand below < 30 kg for 15% of men and below < 20 kg for 17% of women. The clock test was pathological in 36% of men and 44% of women. Frailty was assessed separately by a doctor and a nurse with the degree of agreement measured by Cohen Weighted Kappa = 0.77 (p < 0.001).

**Key Conclusions:** Assessment of frailty, cognition and sarcopenia is applicable in primary care and in systems that do not have a developed geriatric service experience. Pathological frailty, reduced cognition and initial sarcopenia can be detected early with a simple approach. Educational measures achieve a high degree of agreement in the assessment of frailty between health workers and thereby influence prevention and treatment.

## O-035

### How complete is our medical clerking? A project aimed to improve medical admission clerking by creating a standardised medical admission proforma

Maria Bonnici (1), Daniel Debattista (1), Adam Cutajar (2), Antoine Vella (1)

(1) The Maltese Geriatric Medicine Department, St Vincent De Paule Residence, Luqa, Malta, (2) Mater Dei Hospital, Msida, Malta

**Introduction:** The Admission Clerking of residents to a long-care institution is a crucial initial contact between the medical team and the client. It provides information that maintains clients' safety when they are reviewed during on-call hours. The aim of this project was to improve and standardise the medical clerking of clients admitted in the largest long-term care unit in Malta.

**Methods:** Using an audit approach, the 1st phase assessed where the medical notes were being recorded and completeness of medical clerking. Thereafter, we developed a standardised proforma (including the Comprehensive Geriatric Assessment parameters), which was introduced in an admission booklet to document the clerking. A re-assessment of the above was done in the 2nd phase with a retrospective approach being used in both cycles. The Z-score for two population proportions was used to compare results from the two cycles.

**Results:** Analysis of 100 patient files in both cycles showed significant improvement (p value < 0.05) in multiple sections, including brief reason for admission, brief recent history, allergies, continence, speech language pathologist advice, pressure injuries, and parameters. No significant improvement was noted in the documentation of a cognitive screening tool.

**Conclusions:** The project concludes that the medical admission proforma improved clerking, leading to standardised and comprehensive documentation. Areas for improvement include better documentation of a cognitive screening tool. To sustain these improvements, it is recommended to conduct educational sessions on the importance of clerking and proper proforma completion. Additionally, periodic audits of the proforma are essential for continuous refinement.

## O-036

### Equal and high-quality in-hospital care for older patients with frailty—establishing a national clinical quality database; DANFRAIL

Lone Winther Lietzen (1), Søren Kabell Nissen (2), Karen Andersen-Ranberg (3), Anne Mette Falstie-Jensen (4), Thomas Johannesson Hjelholt (5)

(1) Aarhus University Hospital and Aarhus University, Denmark, (2) Odense University Hospital, Denmark, (3) Odense University Hospital and University of Southern Denmark, (4) The Danish Clinical Quality Program, Denmark, (5) Aarhus University Hospital, Denmark

**Introduction:** Achieving high quality care for acutely admitted older patients with frailty requires an interdisciplinary and inter-sectoral approach. To address deficiencies and inequity in provided care across Danish hospitals, the Danish Geriatric Society suggested the establishment of a national clinical quality database. Method: Through co-design and patient-journey-mapping methodology, DANFRAIL's steering committee of clinicians, relatives, and specialists from the Danish Clinical Quality Program established a construct-of-interest anchored in the Comprehensive Geriatric Assessment (CGA) framework. Based on Donabedian and Deming theories, a content-balanced indicator set was designed with focus on level-of-evidence and use-of-resources. Pragmatically, the population was defined as acutely admitted patients aged ≥ 80 years with frailty corresponding to a Clinical Frailty Scale (CFS) score of 5–8 two weeks prior to admission. CFS is a 9-level validated assessment-based measure developed to determine baseline health state and has been shown to be easy to implement in acute care settings. Based on data from 2021 the database is expected to assess 160.000 patient-contacts/year for patients ≥ 80 years.

**Results:** Initially, CGA-related process indicators have been established: 1. Delirium screening, 2. Do-not-resuscitate preference, 3. Early mobilization within 24 h, 4. Activities of Daily Living, and 5. Nutrition assessment. When successfully implemented, further indicators such as Medicine review, Basic Needs Assessment, and intersectoral communication will be introduced. To monitor the effect of the process indicators, result indicators including all-cause mortality and acute all-cause readmissions, both within 7 and 30 days were included.

**Conclusion:** DANFRAIL is planned to be implemented nationwide in 2024 preceded by a public consultation.

## O-037

### Investigation of the prevalence of constipation and its related factors for in older outpatients

Meris Esra Bozkurt (1), Tugba Erdogan (2), Zeynep Fetullahoglu (2), Serdar Ozkok (2), Cihan Kilic (2), Gulistan Bahat (2), Mehmet Akif Karan (2)

(1) Istanbul University Istanbul Medical School Department of Internal Medicine Division of Geriatrics“, (2) Istanbul University Istanbul Medical School Department of Internal Medicine Division of Geriatrics

**Introduction:** Functional constipation (FC) is a geriatric syndrome that is common in the elderly population and can seriously affect the quality of life and may be a frequent cause of hospital visits. In this study, we planned to investigate the relationship between FC and its related factors for in older outpatients.

**Methods:** Participants aged 65 and over whose data on FC could be accessed, who applied to the geriatrics outpatient between June 2016 and March 2023 were included in the study. They were defined on the basis of having at least two of the FC presence, ROME IV criteria. Frailty was screened by the using FRAIL scale,  $\geq 3$  a score of were evaluated as frail. Malnutrition was screened by the using the Mini Nutritional Assessment-Short Form (MNA-SF). MNA-SF score of  $7 < =$  was evaluated as malnutrition. Participants quality of life was evaluated by Euro-Quality of Life Visual Analog Scale (EQVAS) .

**Results:** The study included 602 participants whose median age was 73 (65–96) and 138 (71.3%) were male. FC prevalence was found 28.7%. In univariate analyses, FC was found related to age, having a diagnosis of depression or Parkinson diseases, frailty, urinary incontinence, sleep disorders, number of chronic diseases, and EQ-VAS. In multivariate analyses, FC was not found to be associated by the frailty while the number of chronic diseases [OR = 1.212, 95% CI (1.084–1.355),  $p = 0.001$ ] and EQVAS were found to be related [OR = 0.988, 95% CI (0.978–0.997),  $p = 0.012$ ].

**Key Conclusion:** In the results of this study, FC was not found to be associated by frailty in older outpatients but it emerged as a syndrome that should be screened frequently in patients with a high number of chronic diseases and a low general quality of life.

**Keywords:** functional constipation, frailty subgroups, older adults.

## O-038

### Medication Risk Checklist for Older Adults (LOTTA) – Development and Validation of a Self-assessment Tool

Maarit Dimitrow (1), Roosa Saarenmaa (1), Marja Airaksinen (1), Ghada Hassan (2), Emmi Puumalainen (1), Markéta Pitrová (3), Sirkka-Liisa Kivelä (4), Daniela Fialová (5), Juha Puustinen (6), Terhi Toivo (7)

(1) Clinical Pharmacy Group, Division of Pharmacology and Pharmacotherapy, Faculty of Pharmacy, UH, Helsinki, Finland, (2) Division of Pharmaceutical Chemistry and Technology, Faculty of Pharmacy, UH, Helsinki, Finland, (3) Clinical Pharmacy Department, Faculty of Pharmacy, CUNI, Clinical Pharmacy Department, University Hospital Královské Vinohrady, Prague, Czech Republic, (4) Clinical Pharmacy Group, Division of Pharmacology and Pharmacotherapy, Faculty of Pharmacy, UH, Helsinki, Finland, Faculty of Medicine, Department of Clinical Medicine, Unit of Family Medicine, UT and Turku University Hospital, Turku, Finland, (5) Department of Social and Clinical pharmacy, Faculty of Pharmacy in Hradec Králové, CUNI, Czech Republic Department of Geriatrics and Gerontology, 1st Faculty of Medicine, Charles University and General University Hospital, Prague, Czech Republic, (6) Service Unit of Neurology, Sataairaala Central Hospital, Wellbeing Services County of Satakunta, (7) Medication Safety Officer, Tampere University Hospital, Hospital Pharmacy, Wellbeing Services County of Pirkanmaa, Visiting Scientist, Clinical Pharmacy Group, UH, Helsinki, Finland

**Introduction:** Patient safety strategies highlight patients' own role in ensuring medication safety [1]. In order to manage with this, especially older people need suitable screening tools. This study aimed to develop, validate and assess the feasibility of a self-administered medication risk checklist for home-dwelling older adults  $\geq 65$  years.

**Methods:** The draft checklist was formed based on a validated practical nurse administered Drug Related Problem Risk Assessment Tool [2] supplemented with findings of two systematic literature reviews [3, an unpublished one]. Content validity of the draft checklist was determined by three-round Delphi survey with a panel of 19 experts in geriatric care and pharmacotherapy. An agreement of  $\geq 80\%$  was required. Feasibility assessment of the content validated checklist was conducted among older adults visiting community pharmacy ( $n = 84$ ). Data were analyzed using qualitative content analysis.

**Results:** The final 8-item patient self-administered Medication Risk Checklist (LOTTA) is designed to screen highest priority systemic risks, potentially drug-induced symptoms, adherence and self-management problems in medications among home-dwelling older adults. The checklist proved to be feasible for older adults and suitable for their skills. Mean time to fill out the checklist was 6.1 min.

**Key Conclusions:** The developed Medication Risk Checklist (LOTTA) can be used to screen a wide range of medication risks. It serves as a communication tool between the patient and healthcare. Electronic version of the checklist, integrated to patient information systems, could enable its wider use in health care. More research is needed to assess the usability of the checklist in clinical practice.

**References:**

1. World Health Organization (WHO). Medication without harm: Third Global Patient Safety Challenge, 2017. <https://apps.who.int/iris/handle/10665/255263>.
2. Dimitrow MS, Mykkänen SI, Leikola SN, Kivelä SL, Lyles A, Airaksinen MS: Content validation of a tool for assessing risks for drug-related problems to be used by practical nurses caring for home-dwelling clients aged  $\geq 65$  years: a Delphi survey. *Eur J Clin Pharmacol* 70: 991–1002, 2014.
3. Puumalainen E, Airaksinen M, Jalava SE, Chen TF, Dimitrow M. Comparison of drug-related problem risk assessment tools for older adults: a systematic review. *Eur J Clin Pharmacol*. 2019 Dec 10. <https://doi.org/10.1007/s00228-019-02796-w>. Review.



**COVID-19****O-039****SARS-CoV-2 Vaccination and Risk of Infectious Diseases in Hospitalized Older Patients**

Edoardo Locatelli (1), Marco Balducci (1), Maria Giorgia Barbieri (1), Elena Ferrighi (1), Serena Scardina (1), Giulia Barrile (1), Federica Sganga (2), Irene Mattioli (1), Francesca Remelli (3), Stefania Maggi (4), Stefano Volpato (1), Caterina Trevisan

(1) Department of Medical Science, University of Ferrara (Italy); Geriatrics and Orthogeriatrics Unit, Azienda Ospedaliero-Universitaria of Ferrara (Italy), (2) Geriatrics and Orthogeriatrics Unit, Azienda Ospedaliero-Universitaria of Ferrara (Italy), (3) Department of Medical Science, University of Ferrara (Italy), (4) Institute of Neuroscience—Aging Branch, National Research Council, Padova (Italy), (5) Department of Medical Science, University of Ferrara (Italy); Geriatrics and Orthogeriatrics Unit, Azienda Ospedaliero-Universitaria of Ferrara (Italy); Aging Research Center, Karolinska Institutet, Stockholm (Sweden)

**Introduction:** Common vaccinations may cause a cross-reactive immunostimulation that prevents a larger spectrum of infections. However, whether SARS-CoV-2 vaccinations may also determine this effect is unclear. This study aims to assess the incidence of infections at hospital admission and during the hospitalization in older inpatients vaccinated and unvaccinated against SARS-CoV-2, and to compare the length of hospital stay and in-hospital mortality between vaccinated and unvaccinated individuals.

**Methods:** This retrospective study included 754 older inpatients admitted to the Geriatric and Orthogeriatric Units of the University Hospital of Ferrara (Italy) between March 2021 and November 2021. Sociodemographic, health- and hospitalization-related data, including the diagnosis of infections at hospital admission and during hospitalization were collected from medical records.

**Results:** The sample's mean age was 87.2 years, 59.2% were females, and 75.5% were vaccinated against SARS-CoV-2. Vaccinated individuals had a 33% and 40% lower risks of in-hospital infections (Odds Ratio = 0.67, 95% CI 0.46–0.98) and death (Hazard Ratio = 0.60, 95% CI 0.39–0.94), respectively, also after adjusting for potential confounders. No significant results emerged about infections at hospital admission. Considering the hospitalization's endpoints, SARS-CoV-2 vaccination was associated with a lower probability of being transferred to long-term care or other hospital departments than returning home (Odds Ratio = 0.63, 95% CI 0.40–0.99).

**Key Conclusions:** SARS-CoV-2 vaccination may reduce the risk of infectious diseases also not caused by SARS-CoV-2 and in-hospital mortality in older inpatients. The vaccination coverage in the older population could limit not only the onset and severity of COVID-19 but also the occurrence of other infectious diseases.

**Delirium****O-040****Effect of delirium on activities of daily living in older people after major surgery**

Rami Aldwikat (1), Elizabeth Manias (1), Emily Tomlinson (2), Pat Nicholson (2)

(1) School of Nursing and Midwifery, Monash University, Clayton, Victoria, Australia, (2) School of Nursing and Midwifery, Centre for

Quality and Patient Safety Research, Deakin University, Burwood, Victoria, Australia

**Aims:** To assess the association of postoperative delirium developed in the post-anaesthetic care unit (PACU) with older patients' ability to perform activities of daily living during the first five postoperative days.

**Background:** Previous studies have focused on the association between postoperative delirium and long-term function decline, however the association between postoperative delirium and the ability to perform ADL, particularly in the immediate postoperative period, needs further investigation. Design: A prospective cohort study.

**Methods:** A total of 271 older patients who underwent elective or emergency surgery at a tertiary care hospital in Victoria, Australia, participated in the study. Data were collected between July 2021 and December 2021. Delirium was assessed using the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5). The Katz Index of Independence in Activities of Daily Living (KATZ ADL) scale was used to measure ADL. Activities of daily living was assessed preoperatively and daily during the first five postoperative days.

**Results:** Results showed that 44 (16.2%) patients developed new episode of delirium. Postoperative delirium was independently associated with decline in ADL (OR = 7.01, 95% CI 3.34–14.68;  $p < 0.001$ ).

**Conclusions:** Postoperative delirium was associated with a decline in ADL among older people during the first five postoperative days. Screening for delirium in the PACU is essential to identify delirium during the early stages of postoperative period and implement a timely comprehensive plan including engagement of patients in a focused physical and cognitive daily activity program, particularly for older patients undergoing major surgery.

**Urinary Incontinence****O-041****'Pad Culture: The Use of Continence Wear in older people in an Irish University Hospital'**

Clara McGurk (1), Ali Alnajjar (1), Benai Paponette (1), Juliana Carvalho (1), Janine Ong (1), Orla Reynolds (1), Sheila Williams (1), Ciara Moran (1), Fiona O Sullivan (1), Paula Hickey (1)

(1) Sligo University Hospital

**Background:** Incontinence in hospital patients can result in a longer length of stay, a greater risk of being discharged to a residential care setting, as well as increased healthcare and personal costs. Older adults may find it difficult to regain continence post discharge contributing to caregiver strain, social isolation and functional decline. There is evidence to suggest that there is an over-reliance on continence aids (wearable absorbent 'pads' & urinary catheters) for older adults in hospital. Aim: The aim of this study was to assess the prevalence of continence aids amongst older in-patients in an Irish University Hospital, as part of wider service improvement project.

**Methods:** Data was collected on consecutive in-patients 65 years or older on a single day. Medical, surgical, oncology, coronary care and medical assessment unit were included. Current incontinence aid usage and pre-admission continence aid usage was recorded, along with demographics and current mobility status.

**Results:** 156 older adults were included. 53.5% were male and the median age was 81. A total of 57.4% (N = 89) of older patients were wearing disposable pads. Of these, 64.5% (N = 58) were not wearing

continence pads pre-admission. A total of 23.2% (N = 36) had a urinary catheter inserted. Of these, 91% (N = 33) did not have a urinary catheter pre-admission. 38.3% (N = 61) of those wearing pads could mobilise either independently or with assistance of one. We also found a direct correlation between pad use and length of stay.

**Conclusion:** This study highlights the high prevalence of continence aid deployment in the care of older adults admitted to an acute hospital, with conversion to an aid occurring even in those who are able to mobilise independently or with supervision. Continence care and rehabilitation may benefit from inter-disciplinary assessment and management, similar to other complications of aging and hospitalisation, such as delirium.

## Cardiovascular Medicine

### O-042

#### Development and validation of a hospitalization risk stratification tool for patients with atrial fibrillation and multimorbidity

Alberto Zucchelli (1), Lu Dai (2), Cecilia Damiano (3), Amaia Calderón-Larrañaga (2), Cheïma Amrouch, (4), Jonas W. Wastesson (2), Kristina Johnell (5), Graziano Onder (6), Aleessandra Marengoni (1), Gregory Y. H. Lip (7), Søren Paaske Johnsen (7), Mirko

(1) Departments of Clinical and Experimental Sciences, University of Brescia, Italy, (2) Aging Research Center, Department of Neurobiology, Care Sciences and Society (NVS), Karolinska Institutet-Stockholm University, Stockholm, Sweden, (3) Department of Cardiovascular, Endocrine-Metabolic Diseases and Aging, Istituto Superiore di Sanità, Rome, Italy, (4) Department of Public Health and Primary Care And Department of Internal Medicine and Pediatrics, Ghent University, Ghent Belgium, (5) Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Stockholm, Sweden, (6) Università Cattolica del Sacro Cuore, Rome, Italy, (7) Danish Center for Health Services Research, Aalborg University, Aalborg, Denmark, (8) Department of Geriatrics, Ghent University Hospital, Ghent, Belgium

**Background:** Atrial fibrillation (AF) is prevalent among older adults with multimorbidity, leading to an increased risk of hospitalization. Reliable tools are needed to predict hospital care utilisation in these patients.

**Methods:** Using data from the Swedish National Patient Register, we analysed 203,042 individuals aged 65 and above with AF and at least one other chronic condition on January 1, 2017. We developed a logistic regression model on a random subset of the dataset (50%) to predict the 1-year hospitalization risk. We employed a forward stepwise approach and evaluated model performance using a 20-fold cross-validation, with the Area Under the ROC curve (AUC) as the metric. We subsequently applied the derived model to the remaining validation subset for calibration and discriminative ability assessment.

**Results:** The study population (mean age:79.6 years, females: 44.8%). The 1-year hospitalization risk was 34.6%. The selected model included age and total number of chronic conditions (including their interaction), COPD, heart failure, anaemia, chronic kidney disease, dementia, asthma, and the total number of drugs. In the derivation subset, the AUC was 0.67 (95% CI 0.67–0.67) and calibration was optimal. The predicted probability was stratified in four risk categories: low (< 15%), moderate (15–33%), high (33–50%), and very high (50% +), accounting for 4.5%, 49.5%, 34.4%, and 11.6% of the sample, respectively. The score was associated with 2-year hospitalization, as well as 1-year and 2-year mortality.

**Conclusion:** A simple risk score can predict the probability of all-cause 1-year hospitalization in older adults with AF and multimorbidity.

## COVID-19

### O-043

#### Association between Clinical Frailty Scale score and mortality 24-months after hospitalization in adult patients with COVID-19

Julia Minnema (1), Roos Sablerolles (2), Hugo van der Kuy (2), Janneke van Kempen (3), Harmke A. Polinder-Bos (1), Bob Van de Loo (4), Lisanne Tap (1), Melvin Lafeber (1), Miriam C. Faes (3)

(1) Department of Internal Medicine, Erasmus MC, University Medical Center Rotterdam, the Netherlands, (2) Department of Hospital Pharmacy, Erasmus MC, University Medical Center Rotterdam, the Netherlands, (3) Department of Geriatrics, Amphia Hospital, Breda, the Netherlands, (4) Digitalis Rx BV, Amsterdam, the Netherlands

**Background:** The clinical frailty scale (CFS) was used as a triage tool for medical decision making during the COVID-19 pandemic. The CFS has been posed as a suitable risk marker for in-hospital mortality in COVID-19 patients. We evaluated whether the CFS score is associated with mortality 24-months after hospitalisation for COVID-19.

**Methods:** The Covid MEDicaTion (COMET) study is an international, multicenter, observational cohort study, including adult patients hospitalised for COVID-19 between March 2020–May 2020. Patients' characteristics, prescribed medication, clinical characteristics, and CFS score were collected at admission, survival data were collected 24-months after hospital discharge. Multivariable cox proportional hazard models adjusted for covariates (age, sex, number of drugs, and type of drug class as a proxy for comorbidities) were used to study the association between the CFS and 24-months mortality.

**Results:** 1385 fit (CFS 1–3), 638 mildly frail (CFS 4–5), and 376 frail (CFS 6–9) patients were included for baseline analysis (mean age 71 years (IQR 60–80); 60.2% male). 135 (9.9%) fit, 166 (26.2%) mildly frail and 152 (40.4%) frail patients deceased in hospital, and 32 (2.4%) fit, 49 (7.7%) mildly frail and 28 (7.4%) frail patients in the following 24-months. After adjustment for covariates, mildly frail patients (HR 1.62, 95% CI 1.31–2.01) and frail patients (HR 1.96, 95% CI 1.54–2.48) had significantly higher risk for mortality 24-months after hospitalisation compared to fit patients.

**Conclusion:** The results suggest that the CFS is a suitable risk marker for mortality 24-months after hospitalisation in COVID-19 patients.

### O-044

#### Alcohol-related Diagnoses Were More Prevalent during the Covid-19 Pandemic than Before and After. A Quality Study from a General Hospital

Marianne Lid Kvaale (1), Christopher Friis Berntsen (2), Anette Høyen Ranhoff (3)

(1) Department of Internal Medicine, Diakonhjemmet Hospital, Oslo, Norway, (2) Department of Infectious Diseases, Oslo University Hospital, Norway, (3) Department of Internal Medicine, Diakonhjemmet Hospital, Oslo, Norway; Department of Clinical Science, University of Bergen, Norway

**Introduction:** Alcohol sales in Norway increased during the covid-19 pandemic. Living in Oslo and having higher education are among self-reported risk factors associated with increased alcohol consumption in this period. We previously found that Diakonhjemmet, a general hospital in Oslo covering an above average highly educated population, discharged more patients with alcohol-related diagnoses during pandemic restrictions than before. We aimed to investigate whether this increase persisted after restrictions were lifted.

**Methods:** We extracted anonymous diagnosis data from electronic health records for patients aged 65 or older admitted to geriatric, stroke and internal medicine wards at Diakonhjemmet between 2018 and 22. We compared probabilities of discharge with alcohol-related diagnoses (ICD-10 chapter F10) in periods before (2018–19), during (2020–21) and after (2022) pandemic restrictions were in force in Norway, applying multiple logistic regression and a Tukey post-hoc test, correcting for multiple comparisons.

**Results:** The probability of discharge with F10 diagnoses during pandemic restrictions (3.9%, 95% confidence interval [CI] 3.4–4.4%,  $n = 5380$ ) was higher than in the period before (2.8%, 95% CI 2.3–3.3%,  $n = 4533$ ), but not significantly (odds ratio [OR] 1.30,  $p = 0.06$ ). The incidence of F10 diagnoses after restrictions were lifted was not significantly higher than before the pandemic (3.3%, 95% CI 2.5–4.4%,  $n = 1398$ ; OR 1.07,  $p = 0.86$ ).

**Key Conclusions:** More patients admitted to medical wards at a general hospital in Oslo were discharged with alcohol-related diagnoses during pandemic restrictions than before and after. Although only bordering on statistical significance, findings concur with a self-reported increased alcohol consumption in higher-education populations and in Oslo during the pandemic.

## O-045

### Covid-19 and Influenza: Appropriate measures to prevent and control outbreaks in nursing homes (the CIAO study) — Pillar II ‘Outbreak management performance’

Daisy Kolk (1), Iris R. van der Horst (1), Laura W. van Buul (1), Martin Smalbrugge (1), Cees M.P.M. Hertogh (1)

(1) Amsterdam UMC, Vrije Universiteit Amsterdam, Department of Medicine for Older People, Amsterdam Public Health research institute, De Boelelaan 1117, Amsterdam, Netherlands

**Introduction:** Infection prevention and control (IPC) measures in nursing homes (NHs) are needed, but also negatively impact quality of life for residents, and quality of work for professionals. The CIAO study investigates what useful and proportional measures are to prevent and control outbreaks of Covid-19 and Influenza in NHs. Pillar II aims to investigate whether and how NH organizations succeeded in realizing their developed IPC strategy to control outbreaks in Winter 2022/2023, and what are corresponding barriers and facilitators.

**Methods:** This study has a mixed method design. In a prospective cohort, we followed Covid-19/Influenza outbreaks in 14 Dutch NH organizations. By weekly telephone interviews, epidemiological data on outbreaks, and executed IPC measures were registered. Maximum variation sampling was used to select outbreaks for further evaluation. These outbreaks were evaluated with involved NH professionals using qualitative group interviews to investigate barriers and facilitators in the execution of their IPC strategy.

**Results:** In total 24 outbreaks (17 Covid-19, 4 Influenza, 3 mix) were monitored, with an average duration of 12.5 days. During all outbreaks, dilemmas in IPC measures and quality of life occurred. Seven outbreaks were evaluated in qualitative interviews. (A lack of) support for measures; updated, clear and customized IPC protocols;

available material; clear communication; knowledge; cooperation and support were identified barriers and facilitators.

**Key Conclusions:** IPC strategies in NHs largely vary and during all outbreak adjustments to protocols are made to handle dilemmas with quality of life. Important themes were derived that need attention in IPC strategies of NHs.

## O-046

### The use of health care services before and during the COVID-19 pandemic for home dwelling older adults with and without dementia in Norway. A HUNT-study

Tanja Louise Ibsen (1), Bjørn Heine Strand Strand (2), Anne Marie Mork Rokstad (3), Sverre Bergh (4), Hilde Lurås (5), Svenn-Erik Mamelund (6), Geir Selbæk (1)

(1) Norwegian National Centre for Ageing and Health, Vestfold Hospital Trust, Tønsberg, Norway, (2) Department of Physical Health and Ageing, Norwegian Institute of Public Health, Oslo, Norway, (3) Faculty of Health Sciences and Social Care, Molde University College, Molde, Norway, (4) Research centre for Age-related Functional Decline and Disease (AFS), Innlandet Hospital trust, Norway, (5) Health Services Research Unit, Akershus University Hospital and Institute of Clinical Medicine, University of Oslo, Norway, (6) Centre for Research on Pandemics & Society (PANSOC), at Oslo Metropolitan University, Norway

**Introduction:** Older adults were particularly unable to use health care services during the lockdown period caused by the COVID-19 pandemic. Aim We aimed to investigate whether health care services use was reduced during the pandemic, and whether those at higher ages and/or with dementia had a higher degree of reduction than their counterparts.

**Methods:** Data from the Trøndelag Health Study (HUNT4 70 + , 2017–2019) was linked with two national health registries on use of primary- and specialist health care services. A multilevel mixed-effects linear regression-model was used to calculate changes in service use from 18-month before the lockdown, March 12th, 2020, to 18-months after the lockdown.

**Results:** We included 10,607 participants, 54% were women, 11% had dementia. Mean age was 76 years (SD 5.7, range 68–102 years). There was an immediate decrease in primary health care services use, except contact with general practitioners, during the lockdown period for people with dementia ( $p < 0.001$ ), and those 80 years or older without dementia ( $p = 0.006$ ), compared to the six-month period before the lockdown. The use of specialist health care services decreased during the lock period for all groups ( $p \leq 0.011$ ), except for those younger than 80 years with dementia. The services use reached levels comparable to pre-pandemic data within one year after lockdown.

**Conclusion:** Older adults, especially those aged 80 years or older, experienced an immediate reduction in services use during the covid-19-lockdown, with only small variations between those with and without dementia. The connection between older adults' services needs and services use requires further research.

**O-047****Increased risk of severe COVID-19 outcomes in fully vaccinated older adults aged over 65 with comorbidities during Omicron predominance period: initial results from INFORM, a retrospective, observational health cohort database study in England**

Richard McNulty (1), Sabada Dube (2), Sofie Arnetorp (3), Renata Yokota (4), Lucy Carty (5), Sylvia Taylor (2), Jurgens Peters (6), Nahila Justo (7), Yi Lu (8), Kathryn Evans (9), Mark Yates (8), Nelson Ndegwa (9), Valerie Olson (8), Jennifer Quint (10),

(1) Medical Affairs, Vaccines and Immune Therapies Unit, AstraZeneca, Cambridge, UK, (2) Medical Evidence, Vaccines and Immune Therapies Unit, AstraZeneca, Cambridge, UK, (3) Health Economics and Payer Evidence, BioPharmaceuticals R&D, AstraZeneca, Gothenburg, Sweden, (4) P95, Leuven, Belgium, (5) AstraZeneca, Cambridge, UK, (6) Medical Affairs, Vaccines and Immune Therapies Unit, AstraZeneca, London, UK, (7) Data Analytics, Real-World Evidence, Evidera, Stockholm, Sweden. Department of Neurobiology, Care Science and Society, Karolinska Institute, Stockholm, Sweden, (8) Real-World Evidence, Data Analytics, Evidera, London, UK, (9) Real-World Evidence, Data Analytics, Evidera, Bethesda, MD, USA, (10) National Heart and Lung Institute, Imperial College London, London, UK, (11) Department of Respiratory Sciences, University of Leicester, Leicester, UK

**Introduction:** Elderly individuals are at higher risk of severe COVID-19 outcomes due to immunosenescence and comorbidities, and as such may have weak immunological response to vaccines. Vaccination provides protection, but the effectiveness in this population is less certain. Results from the INFORM study on severe COVID-19 outcomes in non-immunocompromised, vaccinated individuals aged  $\geq 65$  with and without comorbidities are presented.

**Methods:** This is an observational, retrospective cohort study in England using a 25% random sample of data from National Health Service databases. COVID-19-related outcomes (hospitalisations and death) in fully vaccinated ( $\geq 3$  doses) individuals aged  $\geq 65$  from 1 Jan–31 Dec 2022 are reported. Incidence rates (IR) and mortality rates (MR) per 100 person-years (95% confidence intervals) are calculated. **Results:** n 7.2 million included individuals who received  $\geq 3$  vaccine doses, 31% (2.2m) were aged  $\geq 65$  years. 26% of those aged  $\geq 65$  years had no high-risk comorbidity or IC. IR of hospitalisation among those without immunocompromising conditions (IC) or selected comorbidities was 0.2 (0.17–0.23) and MR 0.06 (0.03–0.09). Event rates were higher among elderly subjects without IC but with the following selected comorbidities: cerebrovascular disease (IR = 1.57 [1.52–1.62], MR = 0.47 [0.42–0.52]); cardiovascular disease (IR = 1.43 [1.39–1.47], MR = 0.44 [0.40–0.48]); chronic liver disease (IR = 1.03 [0.92–1.14], MR = 0.26 [0.15–0.37]); diabetes (IR = 0.86 [0.83–0.89], MR = 0.19 [0.16–0.22]) and obesity (IR = 0.54 [0.51–0.57], MR = 0.10 [0.07–0.13]).

**Conclusion:** Risk of COVID-19 hospitalisation and death is high among individuals aged  $\geq 65$ , especially those with specific risk factors, who may benefit from additional interventions to prevent severe COVID-19.

**O-048****The effects of COVID-19 on cognitive performance in a community-based cohort: A COVID Symptom Study Biobank observational study**

Nathan Cheetham (1), Rose Penfold (2), Emma Duncan (1), Adam Hampshire (3), Claire Steves (1)

(1) King's College London, United Kingdom, (2) University of Edinburgh, United Kingdom, (3) Imperial College London, United Kingdom

**Introduction:** ARS-CoV-2 infection has been associated with cognitive impairment and increased risk of dementia diagnosis [1,2]. Whether deficits following SARS-CoV-2 improve over time is unclear. The presence, magnitude, persistence of effects in community-based cases remain relatively unexplored, with implications on cognitive ageing.

**Methods:** Cognitive performance (working memory, attention, reasoning, motor control) was assessed in 3,335 participants of the COVID Symptom Study Biobank cohort (median age = 57 years). We used multivariable linear regression to test associations between SARS-CoV-2 infection and symptom duration as exposures, and accuracy and reaction time in cognitive testing as outcomes. Models weighted for inverse probability of participation, adjusting for potential confounders and mediators.

**Results:** We found lower cognitive accuracy scores among individuals with evidence of SARS-CoV-2 infection in comparison to healthy controls [3]. Deficits were largest for individuals with  $\geq 12$  weeks of symptoms, with effect size comparable to a 10 year age difference. Stratification by self-reported recovery revealed that deficits were only detectable in SARS-CoV-2 positive individuals who did not feel recovered from COVID-19, whereas individuals who reported full recovery showed no deficits. Longitudinal analysis showed no evidence of cognitive change between 2 rounds of testing 9 months apart, suggesting that deficits persisted at almost 2 years since initial infection for affected individuals.

**Conclusions:** Cognitive deficits following SARS-CoV-2 infection were detectable nearly two years post-infection, and largest for individuals with longer symptom durations and ongoing symptoms. Our work highlights the need to monitor cognitive ageing of affected individuals.

**References**

- [1] <https://doi.org/10.1016/j.eclinm.2021.101044>.
- [2] [https://doi.org/10.1016/S2215-0366\(22\)00260-7](https://doi.org/10.1016/S2215-0366(22)00260-7).
- [3] <https://doi.org/10.1101/2023.03.14.23287211>.

**Delirium****O-049****A pandemic of delirium: an updated systematic review and meta-analysis of occurrence of delirium in older adults with COVID-19**

Maria Beatrice Zazzara (1), Alice Maria Ornago (2), Camilla Cocchi (3), Giuseppe Bellelli (4), Graziano Onder (1)

(1) 1. Fondazione Policlinico Universitario Agostino Gemelli IRCCS, Rome, Italy, (2) 2. School of Medicine and Surgery, University of Milano-Bicocca, Milan, Italy, (3) 3. Department of ageing, orthopaedics and rheumatological sciences, Catholic University of Sacred Heart, Rome, Italy, (4) 4. SC Geriatria, Fondazione IRCCS San Gerardo dei Tintori, via Pergolesi 33, 20900-Monza + 390392333472, Professore Ordinario e Direttore della Scuola di Specializzazione in Gerontologia e Geriatria, Università degli Studi Milano-Bicocca

Delirium has been recognized as an atypical presenting symptom of COVID-19 in older adults and is independently associated with increased mortality. We performed an updated systematic review of the literature and proportional meta-analysis to assess prevalence and incidence of delirium in older adults with COVID-19. PubMed, Web of Science, and Google Scholar databases were searched for English-language articles on prevalence and incidence of delirium in older adults with COVID-19, published between March 2020–January 2023. Overall, 1,172 articles were identified, 66 met selection criteria and were included in the meta-analysis (N = 35,035 participants, age range 66–90 years old, 46.6% females). A similar pooled prevalence (20.6% [95% Confidence Interval (CI) 17.8–23.8%]) and incidence (21.3% [95% CI 14.7–30%]) of delirium was observed in older adults with COVID-19, more frequently in males and frail subjects. Delirium pooled prevalence varied in the subgroup analysis according to the study setting (“Nursing home” 22.3% [95% CI 15–31%]; “Hospital” 19% [95% CI 15–22.4%],  $p = 0.39$ ). The utilization of delirium definitions and assessment tools largely varied across studies, while frailty was assessed using the Clinical Frailty Scale (CFS) in most of them. This study delineates delirium as a common symptom of SARS-CoV2 infection, particularly in frail older adults, and supports for the formal inclusion of delirium as a COVID-19 symptom. The considerable heterogeneity in delirium assessment highlights the need for an operational strategy to standardize definitions and tools utilization to facilitate its integration into daily clinical practice, especially in the management of frail older adults.

## Education and Training

### O-050

#### Perceptions and Attitudes Of Health Care Professionals Regarding The Management Of Medications Among Older Adults With Complex Chronic Conditions In Europe: Results From The I-Care4old Survey

Emanuele Rocco Villani (1), Daniela Fialova (2), Harriet Finne-Soveri (3), Mikko Nuutinen (4), Paula Pennanen (4), Ira Haavisto (4), Georg Ruppe (5), Katarzyna Szczerbińska (6), Rosa Liperoti (7)

(1) Università Cattolica del Sacro Cuore, Rome, Italy, (2) 2 Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové, Charles University in Prague, Heyrovského 1203, 500 05, Hradec Králové, Czech Republic (3) Department of Geriatrics and Gerontology, 1st Faculty of Medicine, Charles University, Prague, Czech Republic, (4) 4 Finnish Institute for Health and Welfare, Helsinki, Finland (5) Nordic Healthcare Group, Helsinki, Finland, (6) 5 Nordic Healthcare Group, Helsinki, Finland, (7) 6 Scientific Base of the European Geriatric Medicine Society, Vienna, Austria, (6) 7 Laboratory for Research on Aging Society, Chair of Epidemiology and Preventive Medicine, Medical Faculty, Jagiellonian University Medical College, Kraków, Poland, (7) 1

Università Cattolica del Sacro Cuore, Rome, Italy (8) Fondazione Policlinico Universitario A. Gemelli IRCCS

**Introduction:** Among older adults with multiple complex chronic conditions, multimorbidity and polypharmacy make the response to treatment variable and increase the risk of adverse effects. It is difficult to make evidence-based choices for these individuals, because their complexity is disregarded in clinical trials. The aim of the survey was to investigate perceptions and attitudes of healthcare professionals regarding management of medications in complex older adults (COA) and to explore which tools are considered useful to support decisions in clinical practice.

**Methods:** An e-survey of healthcare professionals across Europe was conducted as part of the EU funded I-Care4 old project (EU H2020 No 965341). The survey was developed in English and translated into Italian, Finnish, Czech, and Polish through face and linguistic validation. The survey was disseminated through e-mails, social media, I-Care4old website, EUGMS and other societies, from May 1st to July 8th, 2022.

**Results:** The overall number of responses was 527. The most problematic medications in terms of efficacy and safety included hypnotics (58.8%), NSAIDs (49.0%), anticoagulants (42.3%), antipsychotics (37.2%), strong opioids (30.6%). Polypharmacy was the most frequently reported critical factor in clinical practice (49.3%), followed by multimorbidity (46.3%), cognitive impairment (41.9%), and frailty (37.4%). Alert systems for drug-drug or drug-disease interactions (38%), systems that may predict side-effects and provide recommendations based on patients' individual clinical profile (34.7%) were indicated as helpful tools to assist clinical practice.

**Key Conclusions:** Psychotropic agents, opioids, NSAIDs and anticoagulants are perceived as the most problematic agents to manage pharmacotherapy in COA. Intelligent systems that may help predict individual response-to-treatment and adverse-effects are awaited by healthcare professionals.

### O-051

#### Future Polish Specialists—Anything But A Geriatrician. A Pilot Survey Among Young Polish Doctors

Robert Kupis (1), Benjamin Michalik (2), Sofia Duque (3), Marina Kotsani (4), Alicja Domagała (5), Karolina Piotrowicz (6)

(1) Department of Medical Education, Centre of Innovative Medical Education, Jagiellonian University Medical College, Kraków, Poland, (2) Faculty of Health Sciences, Jagiellonian University Medical College, Kraków, Poland, (3) Lisboa Ocidental Hospital Center, Lisbon, Portugal, (4) Hellenic Society of the Study and Research of Aging, Greece, (5) Institute of Public Health, Faculty of Health Sciences, Jagiellonian University Medical College, Kraków, Poland, (6) Department of Internal Medicine and Gerontology, Faculty of Medicine, Jagiellonian University Medical College, Kraków, Poland

**Introduction:** There are 560 active geriatricians in Poland, which gives 0.06 geriatricians per 1000 citizens aged 65 + . The objective of the study was to assess interest in geriatrics as a specialty and determine factors influencing medical specialty choices among young Polish doctors. The PROGRAMMING COST Action (CA21122) aims to develop educational content in the field of geriatric medicine. A framework dedicated for students and young doctors should be build, too.

**Methods:** An online survey was distributed among young doctors. The link to the questionnaire was published on nationwide social platforms used by young doctors.

**Results:** We collected 283 responses from medical doctors who have not started their residency yet (65% female, mean age 26.5 (SD 1.70) years) : 25 (8.8%) before the internship, 231 (81.6%) during the internship, 27 (9.5%) that completed the internship. Only one respondent (during the internship) considered geriatrics as the future specialty of choice. When applying for residency programs, young Polish doctors take into consideration their interests, chances to start a private practice and the ability to maintain a work-life balance. Knowledge and experience obtained during university studies are not crucial factors.

**Conclusion:** Among young doctors in Poland geriatrics as the specialty is not a preferable first choice. Moreover, university experience does not affect that preference. Polish stakeholders, authorities and decision-makers should take steps to promote geriatrics as an attractive specialty. European initiatives, such as the PROGRAMMING CA21122 (<https://cost-programming.eu/>) seem to be the opportunity to make it public and join the efforts that start the change.

## O-052

### Stakeholders to Promote Geriatric Medicine in terms of COST Action CA21122-PROMoting GeRIatric Medicine in countries where it is still eMergING (PROGRAMMING)

Sumru Savas (1), Nilüfer Demiral Yılmaz (2), Özge Kayhan Koçak (1), Elif Güngör (1), Karolina Piotrowicz (3), Sofia Duque (4), Marina Kotsani (5)

(1) Geriatrics Section, Internal Medicine Department, Medical Faculty, Ege University, Izmir, Turkey, (2) Medical Education Department, Medical Faculty, Ege University, Izmir, Turkey, (3) Department of Internal Medicine and Geriatrics, University Hospital in Krakow, (4) Faculdade de Medicina Universidade de Lisboa, (5) Hellenic Society for the Study and Research of Aging

**Introduction:** Geriatric Medicine (GM), concerned with well-being and health of older adults, can play a crucial role in the alignment of healthcare systems to the needs of the aged populations. However, countries have varying GM development backgrounds. PROGRAMMING-CA21122 goal is to propose the content of education and training activities in GM for healthcare professionals across various clinical settings, adapted to the local context, needs, and assets. One of the aims of our Action is to define relevant stakeholders and to address them internationally and country-specific.

**Methods:** Potential stakeholders will be defined by a report (including practical examples) summarizing the main .

**Conclusions:** of the online focus group meetings. In order to ensure diversity, the participants will be divided into groups based on country, profession, and gender. Feedback will also be requested from the Management Committee members, and a comprehensive summary of the meetings will be provided.

**Results:** There are 37 members from 17 countries (26 women, 11 men) of multidisciplinary professions involved in this task. Comprehensive templates that will help to retrieve stakeholders representing the complex needs of GM were created and delivered to the COST Action members. [www.cost-programming.eu](http://www.cost-programming.eu).

**Conclusion:** Overall objective is to develop specialized geriatric care delivered to older persons. This particular task will contribute to research coordination, capacity-building objectives of CA21122, dissemination, and maximization of the impact of the Action by defining and mapping multidisciplinary stakeholders involved in older people's care who might benefit from cooperation with our Action.

## O-053

### An All-teach, All-learn International Collaboration to Educate the Interprofessional Geriatric Workforce

Daniel Mansour (1), Suvi Hakoinen (2), Niina Mononen (3), Diane Martin (4), Aminah Jones (5), Marja Airaksinen (3), Barbara Zarowitz (5), Nicole Brandt (5)

(1) The Peter Lamy Center on Drug Therapy and Aging, University of Maryland, Baltimore United States of America, (2) Keusote/ University of Helsinki, Finland, (3) Division of Pharmacology and Pharmacotherapy, Faculty of Pharmacy, University of Helsinki, Finland, (4) Geriatrics and Gerontology Education and Research Program (GGEAR), Graduate School, University of Maryland, Baltimore, United States of America, (5) The Peter Lamy Center on Drug Therapy and Aging, University of Maryland, Baltimore, United States of America

Daniel Z. Mansour, PharmD, BCGP, FASCP, AGSF; Suvi M. Hakoinen, PhD (2024); Niina Mononen, PhD; Diane B. Martin, PhD; Aminah Jones, PharmD; Marja Airaksinen, PhD; Barbara J. Zarowitz, PharmD, MSW, FCCP, BCPS, FCCM, BCGP, FASCP; Nicole J. Brandt, PharmD, MBA, BCGP, FASCP.

**Introduction:** Currently, the healthcare system does not sufficiently meet the complex needs of the older population. [1] This imperative has led the World Health Organization (WHO) to suggest the need to develop “age-friendly” healthcare systems. [2] Over the last ten years, the University of Maryland, Baltimore, has evolved its “Aging in Place” interprofessional program, and in 2020, an international dimension was added. The goal of this program is to increase inter-professional collaboration locally and globally to meet the needs of Older Adults.

**Methods:** The Aging in Place program has involved interprofessional students from both the University of Maryland, Baltimore and the University of Helsinki, Finland. Students have joined remotely in patient care as well as with the provision of health education at three different sites in West Baltimore. They participated in various patient assessments (e.g., annual wellness visits), debriefed in clinical huddles, and kept reflective journal entries.

**Results:** From January 2020 to May 2023, students involved: 2 increased to 105; Number of one-on-one resident encounters: 765; Number of clinical debriefings: 75; Number of journals gathered: 145; Number of student-led presentations: 49; Topics included healthy physical therapy, medication safety, stroke prevention, cardiac health, mental, hearing, eye and dental health, and the relevance of vaccinations.

**Key Conclusions:** The international collaboration enhanced the University of Helsinki's learners' engagement in geriatric pharmacotherapy resulting in the development of an additional learning opportunity in Finland. Moreover, this all-teach, all-learn environment among older adults and the interprofessional/international

partnerships and community have positively impacted students' learning.

#### References:

- [1] Harrington L, Maria H. The Aging Workforce: Challenges for the Health Care Industry Workforce. The NTAR Leadership Center. March 2013. Accessed June 11, 2023. [https://www.heldrich.rutgers.edu/sites/default/files/2020-10/NTAR\\_Issue\\_Brief\\_Aging\\_Medical\\_Professionals\\_Final.pdf](https://www.heldrich.rutgers.edu/sites/default/files/2020-10/NTAR_Issue_Brief_Aging_Medical_Professionals_Final.pdf).
- [2] Mate KS, Berman A, Laderman M, Kabcenell A, Fulmer T. Creating Age-Friendly Health Systems—A vision for better care of older adults. *Healthc (Amst)*. 2018;6 (1) :4–6. <https://doi.org/10.1016/j.hjdsi.2017.05.005>.

## Ethics and End-of-life Care

### O-054

#### Palliative care for cardiovascular patients: description of motives for referral and actual care provided

Fiona Ecartot (1), Liesbet Van Bulck (2), Mathilde Giffard (1), Fatimata Seydou Sall (1), Nicolas Becoulet (1), Marie-France Seronde (1)

(1) University Hospital Besancon, France, (2) KU Leuven, Belgium

**Background:** Palliative care (PC) for cardiovascular patients remains suboptimal, whereby only a small proportion of patients are referred to specialist palliative care, and often too late in the disease course. We investigated the reasons that prompted cardiologists to request an intervention from the PC team, and we describe the actions implemented by the PC in response to referrals from the cardiology department.

**Methods:** This retrospective study included all patients with cardiovascular disease who were referred to the mobile palliative care team of a large University Hospital in France between 2010 and 2020. All data were extracted from the medical hospital files. For all patients referred to PC during the study period, we recorded the original motive for requesting assistance, as cited in request sent from cardiology to PC. We also recorded the types of services provided by PC, the date of the first and last consultation of the patient with PC, and the number of PC consultations per patient.

**Results:** From a total of 142 cardiology patients for whom PC assistance was requested, 136 (95.8%) died, while 6 (4.2%) are still alive. In 42 patients (29.6%), there was a generic request for intervention without indicating any particular domain where specific assistance was needed. In other cases, a motive for referral to the PC mobile team was provided by cardiologists, with ethical dilemmas (35 patients; 24.6%), symptom management (23 patients; 16.2%), and discussion about where the patient could live (11 patients; 7.7%), as the most common motive. In response to these referrals, the PC team provided assistance with ethical dilemmas in 69 patients (48.6%), symptom management in 28 patients (19.7%), discussion about where the patient could live in 15 patients (10.6%), 2 or more of these issues in 16 patients (11.3%), and other issues in 14 patients (9.8%) (e.g. reorientation to oncology or family support). The majority of patients had 1 (n = 90, 63.4%) or 2 PC consultations (n = 27, 19%), while 10 patients (7%) had 3, 9 patients (6.4%) had 4, and 6 (4.2%) had 5 or more PC consultations. Among those who died, the median number of days between the first and the last PC consultation was 0 (quartile 1 = 0, quartile 3 = 3).

**Conclusion:** This study shows that cardiologists do not necessarily have a specific motive in mind when referring patients to PC. Because many more patients received assistance with ethical dilemmas than was requested, this indicates that cardiologists may not be aware of

the ethical issues at stake in the care of cardiology patients, or that they only refer patients to PC when they have no other solution or do not know what else to do for the patient. There is clearly a need to raise awareness among cardiologists about ethical issues and about the services that the PC team can provide.

### O-055

#### Physical restraints: a wake-up call

V. Lavilla-Gracia (1), A.J. Garza-Martínez (1), S. Lippo (1), CG Álvarez-Pinheiro (1), C. Corral-Tuesta (1), A. Rodríguez-Díaz-Pavón (1), J. Corcuera-Catalá (1), Cristina Jimenez-Domínguez (1), Belén Escudero-González (1), C. Morán-Alvarez (1), C.C. Marroq

(1) HURyc

**Objective:** To determine the prevalence of physical restraint (PR) use in an acute care hospital in patients with cognitive impairment (CI) diagnosed with SARS-CoV-2. The secondary objectives were to identify main reasons for their usage and to assess the adequate quality prescription.

**Methods:** cross-sectional study. Inclusion criteria: hospitalized patients aged 65 years or older with microbiologically confirmed SARS-CoV-2 infection during three intervals (January 13, 2022; January 20, 2022 and February 14, 2022). Patients previously registered due to prolonged hospitalization or readmission were excluded. The presence of physical restraints was assessed. Data collected included demographic information, history of cognitive impairment, type of PR, reason for use, physician prescription, informed consent, and nursing documentation.

**Results:** 195 patients were included, mean age 82.2 years (SD 9.23), women (42%), cognitive impairment (35%). The prevalence of physical restraints use was 21%. Among restrained patients, 85% had history of cognitive impairment. Most frequent type of PR used: abdominal (85%), wrist (55%) and combined (40%). In quality control prescription: physician written order was only present in 35% of the cases, nursing written documentation (90%), reason of use (5%) and informed consent (0%).

**Conclusions:** One in five hospitalized COVID-19 patients had physical restraints, proportion rising to half among those with cognitive impairment. In most cases, restraints were not appropriately prescribed, and consent was not obtained. The use of restraints indicates poor quality of care and highlights the need for educational measures, protocols, and restraint removal policies.

## Comprehensive Geriatric Assessment

### O-056

#### Validation Of The Selfy-Brief-MPI A Self-Administered Short Version Of The Multidimensional Prognostic Index To Assess Multidimensional Frailty In Older Patients

Wanda Morganti (1), Nicola Veronese (2), Marina Barbagelata (1), Alberto Castagna (3), Carlo Custodero (4), Luisa Solimando (2), Marianna Ilary Burgio (2), Sofia Elena Montana Lampo (2), Emanuele Seminerio (1), Gianluca Puleo (1), Barbara Senesi (1), Lisa

(1) Department of Geriatric Care, Orthogeriatrics and Rehabilitation, E.O. Galliera Hospital, Genoa, Italy., (2) Geriatric Unit, Department of Internal Medicine and Geriatrics, University of Palermo, Palermo, Italy, (3) Primary Care Department, Health District of Soverato,

Catanzaro Provincial Health Unit, Italy, (4) Department of Interdisciplinary Medicine, “Aldo Moro” University of Bari, Bari, Italy, (5) Geriatric Medicine Department, Pugliese-Ciaccio Hospital, Catanzaro, Italy, (6) Department of Internal Medicine, and Rare Diseases Centre “C. Frugoni”, University Hospital of Bari, Bari, Italy, (7) Department of Geriatric Care, Orthogeriatrics and Rehabilitation, E.O. Galliera Hospital, Genoa, Italy and Department of Interdisciplinary Medicine, “Aldo Moro” University of Bari, Bari, Italy

**Introduction:** Clinicians are constantly seeking tools to identify older subjects at risk of multidimensional frailty to provide people with adequate and prompt care in different clinical settings. Therefore, this study aimed to test the agreement between the standard version of the Multidimensional Prognostic Index (MPI), derived from the gold standard Comprehensive Geriatric Assessment (CGA), and a new shorter, self-administered version (i.e., Selfy-Brief-MPI).

**Methods:** This new Selfy-Brief-MPI tool evaluates all the 8 MPI's domains through 18 items, compared to the original 53. Hence, people over the age of 65 were consecutively enrolled in four Italian hospitals. Participants were evaluated through the full-MPI and completed the SELFY-BRIEF-MPI. The agreement was tested through means' comparison, correlation analysis, and Bland-Altman Plot (BAP).

**Results:** In the recruited sample of 105 participants (mean age = 78.8 years, 53.3% females), the two versions overall showed no clinically significant differences (mean difference =  $0.018 \pm 0.01$ ,  $p = 0.062$ ). Correlation analysis revealed a very strong correlation between the two versions ( $R = 0.86$ ,  $p < .001$ ), and the BAP analysis revealed that only 5 participants (4.76%) were outside the limits of agreement. Moreover, Selfy-Brief-MPI's accuracy in identifying frail people (full-MPI score  $> 0.66$ ) was excellent (AUC = 0.90,  $p < .001$ ), then the corresponding Selfy-Brief-MPI cut-off score for frailty, which maximizes the sensitivity/specificity ratio, was set at 0.60.

**Key Conclusions:** These results demonstrated the good agreement of the Selfy-Brief-MPI with the full-MPI, providing evidence of its appropriateness for the screening of multidimensional frailty in older people and the utility to identify target domains for the intervention.

## Falls and Fractures

### O-057

#### Gender predictive power of muscle mass, muscle functionality, and fall-related concerns on mobility—a SPRINTT substudy

Robert Kob (1), Sabine Britting (1), Ellen Freiberger (1), Cornel C. Sieber (1), Anja Görlitz (1)

(1) Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Germany

**Background:** A self-reinforcing cycle of decreased appendicular lean mass (ALM) and functionality, increased fall-related concerns (FrPCs), and decreased mobility is hypothesized to exist. However, if sex-specific mobility can be predicted by the aforementioned parameters has not been investigated.

**Methods:** Data comes from the Nuremberg Center of the SPRINTT study (Sarcopenia and Physical fRaily IN older people: multi-component Treatment strategies). Independent living individuals aged 70 years and older who had a Short Physical Performance Battery (SPPB) score of 3 to 9 and low ALM were randomly assigned to either a multicomponent intervention or an active control group. FrPCs were measured with the Falls Efficacy Scale-International (FES-I). Mobility was assessed using average daily step counts (by

actigraphy) after at least 24 months. Linear regression analysis was performed separately for each sex with step count as the dependent variable and ALM/BMI, SPPB, FES-I, age at baseline examination and intervention group allocation as independent variables.

**Results:** In both sexes, ALM/BMI was associated with step count at 24 months (w:  $\beta$ : 0.34; m:  $\beta$ : 0.31, both  $p < 0.05$ ). In contrast, no associations were shown between mobility and SPPB, age or intervention group. FES-I was only related to steps traveled in men but not in women (w:  $\beta$ :  $-0.07$ ,  $p = 0.62$ ; m:  $-0.38$ ,  $p < 0.05$ ), although men reported significantly fewer FRPCs than women (24.9 vs. 29.7,  $p < 0.01$ ). Summary: Only muscle mass at baseline could predict mobility at 24 months. Addressing FrPCs appears to be particularly important for maintaining mobility in men.

### O-058

#### Machine Learning System To Predict Imminent Fall at Home (within 3-weeks) For Older People

Veyron Jacques-Henri (1), Rezel Théodore (1), Lainée François (2), Clémence Stéphane (3), Malvoisin Stéphanie (4), Friocourt Patrick (5), Denis Fabrice (6), Havreng-Théry Charlotte (7), Belmin Joël (8)

(1) Présage, Paris, France, (2) ALEIA, Paris, France, (3) Laboratoire Traitement et Communication de l'Information (LTCI), Ecole Nationale des Télécom de Paris, 19 Pl. Marguerite Perey, 91120 Palaiseau, FR, (4) Centre hospitalo-universitaire La Réunion, Saint-Pierre, TF, (5) Sorbonne Université, Paris, France, (6) Institut Inter-Régional de Cancérologie Jean Bernard, Le Mans, FR, (7) Laboratoire Informatique Médicale et Ingénierie des Connaissances en eSanté (UMRS 1142), Institut National de la Santé et de la Recherche Médicale and Sorbonne Université, Paris, FR, (8) Hôpital Charles Foix, Assistance Publique-Hôpitaux de Paris, Ivry-sur-Seine, FR

**Introduction:** Falls in the older population are a major health problem. Very few falls prediction models exist and fail to fully consider home behavior as variables. No model can predict fall within 3 weeks.

**Method:** Retrospective observational multicenter study. We developed random forest models which predict imminent fall (fall within 3 weeks) and fall risk within 6 or 12 months based on weekly report from Home Aides (HA) observations. The performance of these models was evaluated using the area under the receiver operating characteristic curve (AUC), sensibility and specificity. SHapley Additive exPlanation values were also used to identify predictors and protectors of fall.

**Results:** total of 1472 patients followed between Jan 2020 to Dec 2022 were enrolled. One thousand seven falls were noted for 357 patients (24%). AUC was 0.91 [95 IC: 0.88–0.93] for 12 months prediction and 0.84 [95 IC: 0.81–0.88] for 3 weeks. Sensibility was 97% (12 months) and 74% (3 weeks prediction) and specificity was 86% (12 months) and 79% (3 weeks). Predictors were “Has no visit from relatives”, “Communicate little”, “Do not leave home”, “Do not groom himself/herself”. Protectors were “is not tired”, “Recognize HA”, “Prepare meals”, “Do not forget when home care came”, “Is not painful”, “Leave home”, “Groom himself”. 8 features contributed to 98% of the prediction model.

**Key Conclusion:** In this study, machine learning methods were successfully established to predict imminent fall following daily life activity and environment situation in a smartphone to prevent unplanned hospitalizations for seniors.



**O-059****Retrospective Validation of the World Falls Guidelines-algorithm in Community-Dwelling Older Adults**

Bob van de Loo (1), Stephanie Medlock (2), Martijn Heymans (3), Ameen Abu-Hanna (2), Natasja van Schoor (3), Nathalie van der Velde (4)

(1) Department of Internal Medicine section of Geriatrics–location AMC, Department of Epidemiology and Data Science, Amsterdam UMC, UvA, APH, Amsterdam, The Netherlands, (2) Medical Informatics Department–location AMC, UvA, Amsterdam UMC, Amsterdam, The Netherlands, (3) Department of Epidemiology and Data Science—location VUmc, Amsterdam UMC, VU Amsterdam, APH, Amsterdam, The Netherlands, (4) Department of Geriatric Medicine–location AMC, Amsterdam UMC, UvA, APH, Amsterdam, The Netherlands

**Introduction:** The recently published World Falls Guidelines propose an algorithm that clinicians can use to classify patients as low-, intermediate-, and high-risk. For each risk category, recommendations are provided on further risk assessment and prevention strategies. We evaluated the algorithm's predictive performance in community-dwelling older adults.

**Methods:** We included data of 1446 older adults from the population-based Longitudinal Aging Study Amsterdam (LASA). Participants recorded falls using a fall calendar for 12 months. Input variables of the algorithm were assessed at baseline. Proxies were used for unavailable variables. We assessed the algorithm's sensitivity and specificity in classifying non-fallers as low-risk and fallers as intermediate- or high-risk. The algorithm's performance was compared against that of fall history and the 3 Key Questions (3KQ), i.e.: "Have you fallen in the past year?", "Do you feel unsteady when standing or walking?", and "Do you have worries about falling?".

**Results:** During follow-up, 451 participants (33.8%) reported a fall. The algorithm classified 919 participants (63.6%) as low-risk, 139 (9.6%) as intermediate-risk, and 388 (26.8%) as high-risk. The algorithm's sensitivity and a specificity were 45.9% (95% CI 43.2–48.6%) and 70.4% (95% CI 68.0–72.8%), respectively. Respective sensitivity and specificity were 47.9% and 75.5% for fall history and 76.2% and 43.0% for the 3KQ.

**Conclusion:** Undertreatment is generally a greater concern than overtreatment in falls prevention. Therefore, the 3KQ may be preferable to the algorithm and fall history, which both showed low sensitivity. A limitation of this study is the use of proxies for some variables, including unsteadiness.

**O-060****Effects of a multi-modal resistance and impact exercise program on knee cartilage structure, cartilage defects and bone marrow lesions in older adults—An 18-month randomised controlled trial**

Robin Daly (1), Jenny Gianoudis (1), Yuanyuan Wang (2), Christine Bailey (3), Peter Ebeling (4), Caryl Nowson (1), Flavia Cicuttini (2), Keith Hill (5), Kerrie Sanders (6)

(1) Institute for Physical Activity and Nutrition, Deakin University, Melbourne, Australia, (2) School of Public Health and Preventive Medicine, Monash University, Melbourne, Australia, (3) Department of Medicine, The University of Melbourne, Melbourne, Australia, (4) Department of Medicine, School of Clinical Sciences at Monash Health, Monash University, Melbourne, Australia, (5) Rehabilitation, Ageing and Independent Living (RAIL) Research Centre, School of Primary and Allied Health Care, Monash University, Frankston,

Australia, (6) Department of Medicine, The University of Melbourne, Melbourne, Australia

**Introduction:** Osteoporosis and osteoarthritis (OA) often coexist in older adults, and questions remain whether bone loading exercises are harmful to joints. This study examined the effects of an 18-month, progressive resistance training (PRT) and impact exercise (Impact-Ex) program, which we have shown improved in hip and spine bone density, on knee cartilage volume (CV), cartilage defects (CD) and bone marrow lesions (BMLs) in older adults at falls/fracture risk. CDs and BMLs were assessed as they are linked to cartilage loss and may be indicative of incipient OA.

**Methods:** 162 adults (60 + y) were randomised to Ex (n = 81) consisting of PRT + Impact-Ex (60–180 impacts/session) 3/week or usual-care (UC, n = 81). Knee MRI scans were used to assess tibial CV, CDs [tibiofemoral (TF) and patella] and TF BMLs. Average weekly PRT volume and impact loads were correlated with changes in cartilage health.

**Results:** 150 participants completed the study. Tibial CV loss was not significantly different between Ex and UC (medial -2.5% vs -1.5%, P = 0.27; lateral -3.2% vs -2.5%, P = 0.33), nor was progression of CD (TF medial, 14% vs 15%; lateral 26% vs 28%; patella 12% vs 19%) and BMLs (TF medial 14% vs 17%; lateral 7% vs 5%). CV loss was no different between groups according to baseline CDs or BMLs. Average weekly PRT volume and number of impacts were not related to changes in cartilage volume.

**Key Conclusion:** A multi-modal resistance and impact exercise program was safe and effective for improving bone health in older adults, with no adverse effects on knee cartilage structure.

**O-061****Anaemia early after discharge is associated with reduced mobility two months after hip fracture surgery**

Martin Aasbrenn (1), Thomas Giver Jensen (2), Marie West Pedersen (3), Nicolai Henning Hansen (3), Sune Pedersen (1), Nicolas Tekin Jones (4), Troels Haxholdt Lunn (5), Eckart Pressel (1), Henrik Palm (1), Søren Overgaard (2), Anette Ekmann (1), Charlotte

(1) Department of Geriatric and Palliative Medicine, Bispebjerg and Frederiksberg University Hospital, (2) Department of Orthopaedic Surgery and Traumatology, Bispebjerg and Frederiksberg University Hospital, (3) Department of Physical and Occupational Therapy, Bispebjerg and Frederiksberg University Hospital, (4) Department of Orthopaedic Surgery, North Zealand Hospital, (5) Department of Anaesthesia and Intensive Care, Bispebjerg and Frederiksberg University Hospital

**Aims:** Haemoglobin is essential for optimal skeletal muscle function. Anaemia may be a limiting factor in rehabilitation after acute disease. We examined the association between haemoglobin early after discharge and mobility two months after a surgically treated hip fracture.

**Methods:** Older patients ( $\geq 65$  years) surgically treated for a hip fracture between January and December 2021 and seen at the outpatient clinic two months after discharge were eligible for inclusion to the study. Haemoglobin was measured 9 days after hospital discharge. Mobility was measured using New Mobility Score (NMS, 0–9 points, 9 best mobility). NMS was evaluated by a physiotherapist at the two month outpatient visit. Anaemia was defined according to the WHO definition (haemoglobin  $< 13$  g/dL in men,  $< 12$  g/dL in women). The association between haemoglobin and NMS was evaluated by linear regression, with age and sex as covariates.

**Results:** The included 102 out of 121 eligible patients. They had a mean age of 78 (SD 9) years; 75 (74%) were women. Mean haemoglobin at the 9-day visit was 10.6 g/dL (SD 1.3). 89 (87%) had

anaemia. The average NMS at the 2-month outpatient visit was 4.7 (2.2). Linear regression showed a significant association between haemoglobin at the 9-day visit and NMS at the two month outpatient visit ( $B = 0.80$ , 95% CI 0.36–1.38,  $p = 0.002$ ).

**Conclusions:** We showed that low haemoglobin early after hospital discharge was associated with reduced mobility two months after surgery. Treatments to increase haemoglobin in the late postoperative phase might enhance rehabilitation and recovery in these frail patients.

## Frailty and Resilience

### O-062

#### Whole Body Vibration Technology Improves Mobility and Decreases Fall Risk in Post-Stroke Elderly: A Meta-Analysis of Randomized Controlled Trials

Ananda Pippahli Vidya (1), Karen Elliora Utama (1), Jansen Jayadi (1), Stephanie Amabella Prayogo (1)

(1) Universitas Indonesia

**Introduction:** Stroke is a significant global health burden with 50% of stroke cases occurring in elderly population. Mobility and fall risk are two major concerns in post-stroke elderly. [1] Whole body vibration (WBV) was found to be effective in elderly with lack of physical mobility. [2,3] Thus, We would like to include post-stroke elderly and investigate the role of WBV in improving mobility and decreasing fall risk. **Method:** This study was conducted using Preferred Reporting Items of Systematic Review and Meta-Analysis (PRISMA) reporting guidelines on several databases. Article screening, selection and data extraction were done independently by the authors. Quantitative analysis was done using Review Manager 5.4 Software, while risk of bias was assessed using the Cochrane RoB 2.0 tool.

**Results:** Seven studies with mostly low risk of bias were included. Improvement of mobility and reducing fall risk were found, observed in reduce Time Up and Go Test (TUG) (MD -3.05 [95% CI -5.92, -0.18;  $p = 0.04$ ]) and increase 6 Minute Walking Test distance (MD 6.18 [95% CI -27.80, 40.16;  $p = 0.72$ ]). Further subgroup analysis specifically showed better performance of Low WBV (LWBV) compared to High WBV (HWBV). Other than that, LWBV was reported to be safer than HWBV.

**Conclusion:** WBV is beneficial for the improvement of mobility and reducing the fall risk in post-stroke elderly. However, future larger scale studies have to be conducted to compare the effectiveness and safety between HWBV and LWBV for post-stroke elderly.

#### References:

- Lui SK, Nguyen MH. Elderly Stroke Rehabilitation: Overcoming the Complications and Its Associated Challenges. *Curr Gerontol Geriatr Res*. 2018 Jun 27;2018:9853837. <https://doi.org/10.1155/2018/9853837>.
- Liao LR, Ng GY, Jones AY, Huang MZ, Pang MY. Whole-Body Vibration Intensities in Chronic Stroke: A Randomized Controlled Trial. *Med Sci Sports Exerc*. 2016 Jul;48 (7) :1227–38. <https://doi.org/10.1249/MSS.0000000000000909>.
- Jo NG, Kang SR, Ko MH, Yoon JY, Kim HS, Han KS, Kim GW. Effectiveness of Whole-Body Vibration Training to Improve Muscle Strength and Physical Performance in Older Adults: Prospective, Single-Blinded, Randomized Controlled Trial. *Healthcare (Basel)*. 2021 May 31;9 (6) :652. <https://doi.org/10.3390/healthcare9060652>.

### O-063

#### Identifying and Estimating Frailty Phenotypes by Vocal Biomarkers

Huang-Ting Yan (1), Chih-Hsueh Lin (2), Hen-Hong Chang (3)

(1) Institute of Political Science, Academia Sinica, Taipei City, Taiwan, (2) School of Medicine, College of Medicine, China Medical University; Department of Family Medicine, China Medical University Hospital, (3) Graduate Institute of Integrated Medicine, China Medical University, Taichung City, Taiwan; Chinese Medicine Research Centre, China Medical University

**Introduction:** Recent research indicates that the human voice reflects frailty status. Frailty phenotypes are little discussed in the literature on the aging voice. This study aims to discover potential phenotypes of frail older adults and examine their relationship with vocal biomarkers.

**Methods:** Participants aged  $\geq 60$  years who visited the geriatric outpatient clinic of a teaching hospital in middle Taiwan between 2020 and 2021 were recruited. We identified two frailty phenotypes: energy-based frailty (EBF: weight loss and fatigue) and sarcopenia-based frailty (SBF: inability to rise from a chair, low handgrip strength, low walking speed, and low physical activity). Participants were asked to pronounce a sustained vowel /a/ for approximately 1 s. The speech signals were digitised using a 16-bit A/D converter and analysed using LabVIEW. Two voice parameters, average number of zero crossings (A1) and variations in local peaks and valleys (A2), were applied to analyse voice changes. Multinomial logistic regression was used for the elaboration of the prediction model.

**Results:** Among 277 older adults, an increase in A1 values was associated with a lower likelihood of EBF (Relative Risk Ratio [RRR] = 0.75, 95% confidence interval [CI] = 0.57–0.99), whereas an increase in A2 values resulted in a higher likelihood of SBF (RRR = 1.25, 95% CI 1.09–1.44). No statistically significant relationship was found between A1 and the SBF likelihood (and between A2 and the EBF likelihood).

### O-064

#### Co-occurrence of frailty and sarcopenia in acutely admitted older patients: results from the Copenhagen PROTECT study

Hanne Nygaard (1), Rikke S Kamper (2), Anette Ekman (2), Sofie K Hansen (2), Pernille Hansen (2), Martin Schultz (3), Jens Rasmussen (1), Eckart Pressel (2), Charlotte Suetta (2)

(1) Department of Emergency Medicine, Copenhagen University Hospital, Bispebjerg and Frederiksberg, Copenhagen, Denmark, (2) Department of Geriatric and Palliative Medicine, Copenhagen University Hospital, Bispebjerg and Frederiksberg, Copenhagen, Denmark, (3) Geriatric Research Unit, Department of Medicine, Copenhagen University Hospital, Herlev and Gentofte, Herlev, Denmark

**Introduction:** frailty and sarcopenia are often used interchangeably in clinical practice yet representing distinct conditions with separate therapeutic approaches. Studies regarding the co-occurrence of both conditions in older patients is scarce, as they have often been investigated separately. We aim to evaluate the prevalence and co-occurrence of frailty and sarcopenia in a large sample of acutely admitted older medical patients.

**Methods:** The study was based on the Copenhagen PROTECT study including acutely admitted older ( $\geq 65$  years) medical patients. Frailty was present at scores  $\geq 5$  on the Clinical Frailty Scale (CFS)

by Rockwood. Handgrip strength (HGS) was investigated using a handheld dynamometer. Muscle mass (SMI) was investigated using direct-segmental multifrequency bioelectrical impedance analyses (DSM-BIA). Low HGS, low SMI, and sarcopenia were defined according to the consensus definition from the European Working Group of Sarcopenia in Older People (EWGSOP).

**Results:** his study included 638 patients (mean age:  $78.2 \pm 7.6$ , 55% women) with complete records of SMI, HGS, and CFS. The prevalence of low HGS, low SMI, sarcopenia, and frailty were 39.0%, 33.1%, 19.7%, and 39.0%, respectively. The co-occurrence of frailty and sarcopenia was evident in 12.1% of the total sample.

**Key Conclusions:** Frailty and sarcopenia represent clinical manifestations of ageing and overlap in terms of the impairment in physical function observed in both conditions. We demonstrate that frailty and sarcopenia do not necessarily co-occur within the older patient, highlighting the need for separate assessments of both conditions to ensure the accurate characterization of the health status of older patients.

## O-065

### Preferred Health Outcomes Of Older Adults In The Netherlands In Relationship To Frailty Status–The COOP Study

Veerle van der Klei (1), Yvonne Drewes (2), Bas van Raaij (1), Maaïke van Dalsen (1), Anneke Julien (1), Jan Festen (3), Simon Mooijaart (1), Jacobijn Gussekloo (2), Frederiek van den Bos (1)

(1) 1. Department of Internal Medicine, section Gerontology and Geriatrics, Leiden University Medical Center (LUMC), Leiden, the Netherlands; 2. LUMC Center for Medicine for Older people (LCO), LUMC, Leiden, the Netherlands, (2) 1. Department of Internal Medicine, section Gerontology and Geriatrics, Leiden University Medical Center (LUMC), Leiden, the Netherlands; 2. LUMC Center for Medicine for Older people (LCO), LUMC, Leiden, the Netherlands; 3. Department of Public Health and Primary Care, LUMC, Leiden, the Netherlands, (3) KBO-PCOB, Nieuwegein, the Netherlands

**Introduction:** Older patients' preferences of health outcomes are essential to personalized medicine. As these preferences vary widely among the heterogenous older population, we explored to what extent these preferences in case of hypothetical acute and/or severe disease relate to frailty status.

**Methods:** Dutch adults aged 70 + completed an online or hard copy questionnaire between May and October 2022 (embedded in the COOP-study). Participants were divided into three groups based on a self-reported Clinical Frailty Scale (CFS): fit (CFS 1–3), mildly frail (CFS 4–5) and severely frail (CFS 6–8). Seven health outcomes were assessed: extending life, preserving quality of life, staying independent, relieving symptoms, supporting others, preventing hospital admission and preventing nursing home admission. These outcomes were graded as unimportant (1–5), somewhat important (6–7) or very important (8–10).

**Results:** Out of the 1,278 participants (median age 76 years, 63% female and 53% higher educated), 57% was considered fit, 32% mildly frail and 12% severely frail. For 87% of the participants, preventing nursing home admission was regarded as very important, followed by staying independent (85%) and preserving quality of life (83%). Extending life was most frequently regarded as unimportant (41%). These preferences were similar across frailty subgroups. However, the importance rating of all health outcomes slightly declined with an increasing frailty status ( $p$ -values for trend  $\leq 0.034$ ).

**Key Conclusions:** Preferred health outcomes of older adults in case of hypothetical acute and/or severe disease are not related to frailty

status. Our ongoing qualitative analysis explores personal preferences more in-depth and possible explanations.

## O-066

### Frailty and avoidable hospitalizations in older adults: the role of clinical, functional, and contextual factors

Clare Tazzeo (1), Debora Rizzuto (2), Amaia Calderón-Larrañaga (2), Xin Xia (1), Susanna Gentili (1), Laura Fratiglioni (2), Davide Liborio Vetrano (2)

(1) Aging Research Center, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet and Stockholm University, Stockholm, Sweden, (2) Aging Research Center, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet and Stockholm University, Stockholm, Sweden; Stockholm Gerontology Research Center, Stockholm, Sweden

**Introduction:** This study aims to investigate the relationship between frailty, its interplay with individual and contextual factors, and avoidable hospitalization risk.

**Methods:** We included 2883 community-dwelling individuals from the Swedish National study on Aging and Care in Kungsholmen (SNAC-K). We operationalized frailty in accordance with Fried's frailty phenotype using baseline SNAC-K data (2001–2004). Avoidable hospitalizations were identified through the Swedish National Patient Register and classified as inpatient care that could have been prevented through proper and timely outpatient care. Participants were followed (median 9.3 years) from baseline until first avoidable hospitalization, death, drop out, or December 31, 2016. The association between frailty and avoidable hospitalization was examined through flexible parametric survival models, with stratified analyses to test for effect modification.

**Results:** There was a higher rate of avoidable hospitalization among those with frailty (hazard ratio [HR] = 1.76; 95% confidence interval [CI] = 1.35–2.29) and pre-frailty (HR = 1.19; 95% CI 1.00–1.41) compared to non-frail participants. The association between frailty and avoidable hospitalization was particularly strong in those who were women (HR = 2.11; 95% CI 1.51–2.94), unpartnered (HR = 1.91; 95% CI 1.37–2.66) and not receiving formal care (HR = 1.92; 95% CI 1.42–2.59). There was evidence of a negative multiplicative interaction between frailty and age ( $p$ -value = 0.001) in relation to avoidable hospitalization.

**Key Conclusions:** Community-dwelling older adults with frailty and prefrailty are at higher risk of experiencing avoidable hospitalizations compared to those who are non-frail. Age, sex, civil status, formal care, and informal care were some of the identified potential effect modifiers, indicating a need to closely monitor specific subgroups of frail and pre-frail persons.

## O-067

### Comparing frailty assessment tools for outcome prediction during the COVID-19 pandemic: Correlation, agreement, and comparative performance of Hospital Electronic Frailty Indexes and Clinical Frailty Scale with clinical decision-making implications

Vicky Kamwa (1), Jemma Mytton (1), Elizabeth Sapey (1), Thomas Jackson (1)

(1) UoB

**Introduction:** e aimed to assess the performance of previously developed and validated frailty indexes (FI-QEHB and HerFI) against

the clinical frailty scale (CFS) administered as part of clinical practice during the COVID-19 pandemic.

**Methods:** We included all patients aged 65 years, assessed with CFS between 1st March 2020 and 1st April 2022. FI-QEHB and HerFI scores were calculated and compared to CFS. Correlation coefficients ( $r$ ) with  $p$ -values determined tool correlations, while cronbach-alpha ( $\alpha$ ) with confidence intervals (CI) measured agreement. AUROC curves assessed the performance of CFS and FI-QEHB in multivariable logistic regression for outcomes prediction.

**Results:** The correlation between FI-QEHB and HerFI ( $r = 0.67$ ;  $p = 0$ ) was stronger than CFS with FI-QEHB (0.29; 0) or HerFI (0.29; 0). Overall, there was poor agreement between the three assessment tools ( $\alpha$  [CI]: 0.48 [0.45–0.51]). A total of 2701 patients were included, with 32.1% having COVID-19 (mean age 77.4 [SD 8.44]; 48.6% Female) vs 67.9% without (79 [8.39]; 52.3%). In COVID-19, assessment using FI-QEHB conferred a higher likelihood of hospital mortality (OR 2.07; CI 1.54–2.81;  $p < 0.001$ ) compared to CFS (1.40; 1.01–1.95; 0.045); FI-QEHB outperformed CFS in predicting in-patient mortality (AUROC—0.739 vs 0.678) and 30-day readmission (AUROC—0.607 vs 0.603, respectively) while CFS performed better in predicting 7-day readmission (AUROC—0.642 vs 0.604, respectively) compared to FI-QEHB.

**Key Conclusions:** Despite poor agreement, good performance across all tools indicates the importance of considering patients' accumulated deficits at admission for clinical decision-making, enabling risk identification and targeted interventions like comprehensive geriatric assessment.

## O-068

### Association Between Pollution and Frailty in Older People: A Cross-Sectional Analysis of the UK Biobank

Nicola Veronese (1), Laura Maniscalco (1), Domenica Matranga (1), Ligia Dominguez (1), Francesco Pollicino (1), Marianna Burgio (1), Laura Cilona (1), Marianna Burgio (1)

(1) University of Palermo

**Background:** Frailty is a relevant issue in older people, being associated with several negative outcomes. Increasing literature is reporting that pollution (particularly air pollution) can increase the risk of frailty, but the research is still limited. We aimed to investigate the potential association of pollution (air, noise) with frailty and prefrailty among participants 60 years and older of the UK Biobank study.

**Methods:** In this cross-sectional study, frailty and prefrailty presence were ascertained using a model including 5 indicators (weakness, slowness, weight loss, low physical activity, and exhaustion). Air pollution was measured through residential exposures to nitrogen oxides (NO<sub>x</sub>) and particulate matter (PM<sub>2.5</sub>, PM<sub>2.5-10</sub>, PM<sub>10</sub>). The average residential sound level during the daytime, the evening, and night was used as an index for noise pollution.

**Results:** A total of 220,079 subjects, aged 60 years and older, was included. The partial proportional odds model, adjusted for several confounders, showed that the increment in the exposure to NO<sub>x</sub> was associated with a higher probability of being in both the prefrail and frail category [odds ratio (OR) 1.003; 95% CI 1.001–1.004]. Similarly, the increase in the exposure to PM<sub>2.5-10</sub> was associated with a higher probability of being prefrail and frail (OR 1.014; 95% CI

1.001–1.036), such as the increment in the exposure to PM<sub>2.5</sub> that was associated with a higher probability of being frail (OR 1.018; 95% CI 1.001–1.037).

**Conclusions:** Our study indicates that the exposure to air pollutants as PM<sub>2.5</sub>, PM<sub>2.5-10</sub>, or NO<sub>x</sub> might be associated with frailty and prefrailty, suggesting that air pollution can contribute to frailty and indicating that the frailty prevention and intervention strategies should take into account the dangerous impact of air pollutants.

## O-069

### Mortality Prediction Among Community-dwelling Older Adults: A Systematic Review

Collin JC Exmann (1), Eline CM Kooijmans (1), Emiel Hoogendijk (2), Karlijn Joling (3), George L Burchell (4), Hein PJ van Hout (1)

(1) Department of General Practice, Amsterdam UMC; Vrije Universiteit Amsterdam; Amsterdam Public Health research institute (Aging & Later Life), (2) Department of Epidemiology & Data Science, Amsterdam UMC; Vrije Universiteit Amsterdam; Amsterdam Public Health research institute (Aging & Later Life; Quality of care), (3) Department of Elderly Care Medicine Amsterdam UMC; Vrije Universiteit Amsterdam; Amsterdam Public Health research institute (Aging & Later Life; Digital health), (4) Medical Library, Vrije Universiteit Amsterdam

**Introduction:** In aging societies, clinicians increasingly have to deal with complex clinical decisions on effective medical care. Estimations of mortality may help inform these decisions, but current research on mortality prediction in community-dwelling older populations is inconclusive. In this systematic review, we evaluate current mortality prediction models' performance and methods, valuating their findings to inform clinical practice and future research.

**Methods:** A systematic search with terms related to artificial intelligence, mortality prediction and older populations was performed in four databases without time restrictions. Two independent reviewers filtered results on predetermined eligibility criteria. The CHARMS Checklist [1] and the PROBAST tool [2] were used for data extraction and quality assessment.

**Results:** 36 articles were included in the review of which 17 articles were judged as a high risk of bias. 13 articles used a cumulative deficit based frailty index and 7 used artificial intelligence in their statistical procedure. Performance measures were poorly reported, AUC being reported in 47.2% and calibration plots in 36.1% of the articles. Diagnostic information, functional status and healthcare usage were the most common predictor categories.

**Conclusion:** Although mortality is an often studied outcome in older populations, there is a lack of well-validated prediction models for mortality. Most models show moderate performance and included information is usually restricted to the same predictor categories. To improve mortality predictions in older adults, more research is needed on optimal combinations of different types of information, as well as more transparent reporting of the performance measures and statistical procedures.

#### References:

1. Moons KG, de Groot JA, Bouwmeester W, Vergouwe Y, Mallett S, Altman DG, et al. Critical appraisal and data extraction for systematic reviews of prediction modelling studies: the CHARMS checklist. *PLoS medicine*. 2014;11 (10) :e1001744.

2. Wolff RF, Moons KG, Riley RD, Whiting PF, Westwood M, Collins GS, et al. PROBAST: a tool to assess the risk of bias and applicability of prediction model studies. *Annals of internal medicine*. 2019;170 (1):51–8.

## O-070

### Tempoforme®, ageing well in Hauts-de-France

Mailliez Aurélie (1), Biava Camille (1), Bodelle Laura (1), Le Goff Florian (2), Denis Fabrice (2), Lesschaeve Mélanie (3), Ovigneur Hervé (3), Bloch Frédéric (4), Puisieux François (5), Boulanger Eric (5)

(1) tempoforme, Lille University Hospital, France, (2) Kelindi, Lille, France, (3) IRFO, Lille, France, (4) Amiens University Hospital, France, (5) Lille University Hospital, France

**Introduction:** “tempoforme® aging well in Hauts-de-France” is a public health program whose mission is to promote successful ageing. tempoforme is composed by: 1/a tempoforme application, 2/ a website (tempoforme.fr), 3/ training with a Complementary University Course Certificate (CUCC) “Aging Well”, offered in e-learning for health professionals and webinars for actors in the social field and 4/a tempoforme space (the 1st in Lille) where teleconsultations and Aging Well Assessments are performed. This program, launched in May 2022, allows everyone to self-assess thanks to the tempoforme application its aging profile: “Robust”, “Pre frail” or “Frail”. This anonymous, quick, fun and free self-assessment makes it possible to identify its (pre) frailty (ies) to promote their reversibility thanks to a personalized prevention plan linked to primary care actors.

**Methods:** After completing their self-assessment on the tempoforme application, the user receives a summary of the results which, in the event of detection of (pre) frailty (ies), encourages him to consult his GP in order to offer adapted care or to drive him towards the tempoforme space in Lille to benefit from teleconsultation or an Aging Well Assessment during which the physical, cognitive, neurosensory, respiratory and cardiometabolic (pre) frailties will be assessed. At the end of the assessment, an Aging Well Multidisciplinary Meeting (AWMM) allows the synthesis of identified (pre) frailties and priority actions to be carried out and send to the patient and his GP.

**Results:** 1 year after the launch of the tempoforme program, the results are as following:- Application: 20,145 self-questionnaires created, and 14,537 self-questionnaires completed: 25% of users are self-identified “Frail” among those over 50;- Website: 51,500 users, 71,000 sessions and 133,000 page views;- Trainings: 198 health professionals were trained by CUCC;- Aging Well Assessments at the tempoforme® space in Lille: 154 assessments were carried out. On the first 100 patients, we observe the following (pre) frailties: physical (39%), cognitive (32%), neurosensory (36%), respiratory (28%) and cardio-metabolic (55%). Recommendations to promote the reversibility of identified (pre) frailties are of a non-health nature for 16.7% between them. Regarding health recommendations, 27.2% concern the physical domain, 24.1% relate to the neurosensory domain and 19% relate to the thymic and cognitive domain. We now want to assess the reversibility of (pre) fragilities identified within the framework of a research project.

**Conclusion:** With the support of the various regional supports, the tempoforme program has been successfully developed in the Hauts-de-France region with the aim of promote “ageing well”, identify

(pre) frailties to enable their reversibility and to delay or even avoid entry into dependency. A spin-off of tempoforme spaces in France and Europe is planned.

## O-071

### Associations between physical activity and hospital care use in Swedish older adults: a 6-year longitudinal study

Joan Ars (1), Giorgi Beridze (2), Pau Farrés-Godayol (3), Laura M Pérez (4), Marco Inzitari (5), Amaia Calderón-Larrañaga (6), Anna-Karin Welmer (6)

(1) Aging Research Center, Department of Neurobiology, Care Sciences and Society (NVS), Karolinska Institutet and Stockholm University, Stockholm, Sweden; RE-FiT Barcelona Research group, Vall d’Hebron Institute of Research (VHIR) and Parc Sanitari Pere Virgili, Barcelona, Spain; Department of Medicine, Universitat Autònoma de Barcelona, Barcelona, Spain, (2) Aging Research Center, Department of Neurobiology, Care Sciences and Society (NVS), Karolinska Institutet and Stockholm University, Stockholm, Sweden, (3) Research group on Methodology,

**Methods:** Models and Outcomes of Health and Social Sciences (M3O), Faculty of Health Sciences and Welfare, University of Vic-Central University of Catalonia (UVic-UCC), Vic, Spain, (4) RE-FiT Barcelona Research group, Vall d’Hebron Institute of Research (VHIR) and Parc Sanitari Pere Virgili, Barcelona, Spain, (5) RE-FiT Barcelona Research group, Vall d’Hebron Institute of Research (VHIR) and Parc Sanitari Pere Virgili, Barcelona, Spain; Faculty of Health Sciences, Universitat Oberta de Catalunya (UOC), Barcelona, Spain, (6) Aging Research Center, Department of Neurobiology, Care Sciences and Society (NVS), Karolinska Institutet and Stockholm University, Stockholm, Sweden; Stiftelsen Stockholms Läns Äldrecentrum, Stockholm, Sweden.

**Introduction:** Although higher levels of physical activity (PA) are associated with a reduced risk of chronic diseases, few studies have explored its impact on hospital care use. We aimed to examine the association between objectively assessed PA and risk of unplanned hospital admissions and length of stay.

**Methods:** We analyzed data from 665 older adults aged  $\geq 66$  years from the Swedish SNAC-K study (2016–2019). The ActivPAL3 accelerometer was used to assess PA (number of steps/day, hours/day of sedentary behaviour [SB], minutes/day of low PA [LPA] and of moderate to vigorous PA [MVPA]). Cox and Laplace regressions were used for 6-year unplanned hospitalizations, and Poisson regressions for total hospitalization days. All analysis were adjusted by age, sex, education, number of chronic diseases, chair-stand test, and cohabitation status.

**Results:** A higher number of steps/day and more time spent in MVPA were associated with a lower risk of unplanned admissions (hazard ratio [HR] 0.95, 95% confidence interval [CI] 0.91–0.99 and HR 0.68, 95% CI 0.47–0.99, respectively) and shorter length of stay (incidence rate ratio [IRR] 0.97, 95% CI 0.95–0.98 and IRR 0.72, 95% CI 0.65–0.80, respectively). For every 1000-step and 60-min increase in MVPA, the median time to first admission was postponed by 92 (95% CI 3–81) and 382.7 (95% CI 12.7–752.5) days, respectively. No significant associations were found between SB or LPA and any of the outcomes.

**Conclusions:** Our results support the importance of promoting more steps and more time in MVPA to reduce the risk of hospital admissions and length of stay in older adults.

## O-072

### Addressing Frailty & Healthy Ageing in the London Borough of Newham: Outcomes from Newham University Hospital's (NUH) Pilot Acute Frailty Service

Catherine R E D Smith (1), Catherine L Jackman (1)

(1) Care of the Elderly department, Newham University Hospital, Barts Health NHS Trust

**Introduction:** Newham is one of the most diverse and deprived neighbourhoods in the UK with a relatively young but increasingly frail and ageing population. Comprehensive Geriatric Assessments (CGA) improve outcomes in patients living with frailty. The NHS Long Term Plan mandates a 70-h per week Acute Frailty Service (AFS) in hospitals with 24-h Emergency Departments (ED). NUH implemented a pilot 40-h per week AFS in May 2022, comprising a Consultant Geriatrician, Senior House Officer, and ED therapy team, aiming to improve patient outcomes, optimise length of stay (LOS) and avoid admissions.

**Methodology:** Patients meeting specific criteria (age  $> = 65$  years, Clinical Frailty Score  $> = 4$ , expected same-day discharge, National Early Warning Score  $< = 3$ , and at least one frailty syndrome) were identified. Over 12 months, 151 Frailty patients (average age 83.5 years) underwent CGAs. 71 Control patients from April 2022 ED visits were identified (average age 82.7 years).

**Results:** Of the 151 patients, 60% were discharged, while the remaining were admitted with a shorter average LOS (13.4 days) compared to other Care of the Elderly patients (15.1 days). Admissions were avoided in 62% of Frailty patients and re-attendances within 7, 30, and 60 days decreased by 2.5% (Number Needed to Treat (NNT) = 41), 5.2% (NNT = 19), and 3.0% (NNT = 34) respectively compared to Control patients, with an overall NNT to prevent re-attendances of 28. The estimated annual cost saving of a full 70-h per week AFS at NUH is £2,908,934.

**Conclusions:** NUH's pilot AFS improved patient care by reducing LOS, admissions and re-attendances in Frailty patients.

## O-073

### Frailty among adults with intellectual disability: the importance and necessity of targeted frailty screening

Marco C. van Maurik (1), Alyt Oppewal (1), Mylène N. Bohmer (1), Josje D. Schoufour (2), Dederieke A.M. Festen (1)

(1) Department of General Practice, Intellectual Disability Medicine, Erasmus MC, University Medical Center Rotterdam, Rotterdam, the Netherlands, (2) Faculty of Sports and Nutrition, Faculty of Health, Center of Expertise Urban Vitality, Amsterdam University of Applied Sciences, Amsterdam, the Netherlands

**Introduction:** Frailty is a common health issue that occurs 20 years earlier among adults with intellectual disability (ID) than in the general population (1). During care-intensive times, like COVID-19, the Clinical Frailty Scale (CFS) is recommended to measure frailty, predict hospital outcomes, and determine admission for overflow

cases in hospitals. However, NICE guidelines caution against using the CFS in the ID population due to the lack of validation, potentially leading to unjust exclusion from care (2). Therefore, the ID-frailty index (ID-FI) was created to measure frailty in the ID population (3). Our objective is to compare the ID-FI to the CFS and to assess the utilization of the ID-FI.

**Methods:** Using the Healthy Ageing and Intellectual Disability (HA-ID) cohort study data, we compared the ID-FI with the CFS, examining the disparities in frailty categories and mortality prediction between the indices. Additionally, we conducted interviews with intellectual disability physicians, behavioral therapists, and personal caretakers about the utilization of the ID-FI.

**Results:** Compared to the ID-FI, the CFS overestimated 92% of individuals as moderately frail, 74.9% as severely frail and predicted mortality less accurately (4). Regarding the utilization of the index, our interviews revealed several key themes: 'index improvements', 'reasons for scoring differences', 'practical use', and 'added value'. Key findings Compared to the ID-FI the CFS overestimates frailty, predicts mortality less accurately and is therefore unsuitable for frailty screening among adults with ID. Our Interviews confirmed the ID-FI's potential for clinical practice, while also highlighting the need for future clarification and refinement.

#### References:

- Schoufour JD, Mitnitski A, Rockwood K, Evenhuis HM, Echteld MA. Development of a frailty index for older people with intellectual disabilities: results from the HA-ID study. *Res Dev Disabil.* 2013;34 (5) :1541–55.
- NICE. (2023). COVID-19 rapid guideline: Managing COVID-19 (28.0). Retrieved from <https://www.nice.org.uk/guidance/ng191/resources/fully-accessible-version-of-the-guideline-pdf-pdf-51035553326>.
- Schoufour JD, Oppewal A, van Maurik MC, Hilgenkamp TIM, Elbers RG, Maes-Festen D a. M. Development and validation of a shortened and practical frailty index for people with intellectual disabilities. *Journal of Intellectual Disability Research.* 2022;66 (3) :240–9.
- Festen DAM, Schoufour JD, Hilgenkamp TIM, Oppewal A. Determining Frailty in People With Intellectual Disabilities in the COVID-19 Pandemic. *J Policy Pract Intell Disabil.* september 2021;18 (3) :203–6.

## Geriatric Emergency Medicine

### O-074

#### Risk Assessment by the Emergency Medical Services Identifies Older Patients at Risk for Emergency Department Readmissions: A Retrospective Observational Study

Eeva Saario (1), Marja Mäkinen (2), Esa Jämsen (2), Maaret Castrén (2)

(1) Helsinki University Hospital and University of Helsinki & Satakunta Wellbeing Services County, Finland, (2) Helsinki University Hospital and University of Helsinki, Finland

**Background:** Malnutrition, falls, and cognitive impairment are common underlying causes for older patients' emergency department (ED) visits, but they often remain unrecognized. Aim: To observe whether a simple risk assessment protocol in the emergency medical services (EMS) can identify older patients at risk for ED readmissions.

**Methods:** This retrospective observational study took place between November 2018 and July 2019 in Espoo, Finland. The EMS assessed the falls risk, nutritional risk, and cognition (using FRAT, NRS-2002, and 4AT, respectively) of 472 patients (median age 82.6, range 70.3–103.7; 62% female) with non-urgent transportation to the ED. Data on the risk assessment, Charlson Comorbidity Index (CCI), and ED readmissions were collected from patient records. Data were analyzed using negative binomial regression and the results are presented as incidence rate ratios (IRR).

**Results:** During the 12-month follow-up, 312 patients (66%) experienced 880 ED readmissions. When adjusted for age, gender, and CCI, the nutritional risk was associated with an increased ED readmission rate throughout all time categories ( $< 1$ , 1–3, 3–6, and  $\geq 6$  months; IRRs 1.38–1.79,  $p$ -values  $< 0.05$ ), and the falls risk with fall-related ED readmissions from one month of the index visit (IRR 1.41–1.57,  $p$ -values  $< 0.02$ ). Cognitive impairment had no effect on ED readmissions.

**Conclusions:** Patients with nutritional risk or falls risk had higher ED readmission rates independent of comorbidity. The EMS risk assessment could supplement the clinical assessment at ED to identify older patients who might benefit from more detailed assessment of health status and different interventions to reduce the risk of ED readmissions.

## O-075

### PhoneFrail: A Rapid Frailty Screening Questionnaire for Telephone-based Triage Systems

Isabel Sebjørnsen (1), Marit Stordal Bakken (1), Anette Høyen Ranhoff (2), Valborg Baste (3), Martine Nybakk Vedvik (4), Nora Advocaat Wigand (4), Christine Olsen Gulla (3)

(1) National Centre for Emergency Primary Health Care, NORCE Norwegian Research Centre/University of Bergen, (2) University of Bergen/Norwegian Institute of Public Health/Diakonhjemmet Hospital, (3) National Centre for Emergency Primary Health Care, NORCE Norwegian Research Centre, (4) University of Bergen

**Introduction:** Traditional symptom-based triage systems used in emergency services have limited accuracy in older adults, often presenting with “atypical” symptoms. To better risk stratify older adults, incorporating frailty screening has been suggested. However, rapid frailty screening tools suitable for use by telephone is lacking. We aimed to develop a brief questionnaire for frailty identification by telephone.

**Methods:** We performed a cross-sectional study of patients aged  $\geq 70$  years attending a Norwegian emergency primary care centre. Patients were assessed with the Clinical Frailty Scale (CFS) and answered 9 potential screening tool questions. We excluded high acuity patients and those unable to answer questions. We performed linear regression with CFS score as dependent variable and potential screening tool questions as independent variables. Based on adjusted R squared values of the potential screening tool questions, PhoneFrail was developed.

**Results:** We included 200 patients (59% female) of which 48% were 70–79 years, 38% were 80–89 years and 14% were  $\geq 90$  years. Median CFS score was 4. Adjusted R squared values were highest for potential screening tool questions on receiving help weekly (59%), homeboundness (48%) and using a walking aid (43%). Together, these factors could explain 77% of the variation in CFS score.

**Key Conclusion:** We developed a rapid frailty screening questionnaire for telephone-based services—PhoneFrail—consisting of three simple questions. Next, we plan to pilot and validate the questionnaire for use in clinical practice. We hypothesise that PhoneFrail can

supplement traditional symptom-based triage and enable more accurate assessment of older adults in emergency services.

## O-076

### The impact of frailty Screening of Older adults with muLtidisciplinary assessment of those At Risk during emergency hospital attendance on the quality and safety of care (SOLAR) : a randomised controlled trial

Aoife Leahy (1), Louise Barry (1), Gillian Corey (1), Aoife Whiston (1), Helen Purtill (2), SOLAR team (3), Denys Shchetkovsky (4), Damien Ryan (4), Ahmed Gabr (3), Elaine Shanahan (5), Margaret O’Connor (5), Rose Galvin (1)

(1) School of Allied Health, University of Limerick, (2) University of Limerick, (3) University Hospital Limerick, (4) Dept of Emergency Medicine, University Hospital Limerick, (5) Dept of Ageing and Therapeutics, University Hospital Limerick

**Background:** Comprehensive multidisciplinary geriatric assessment (CGA) has been proven to improve outcomes in hospitalised older adults but there is limited evidence of its effectiveness in the Emergency Department (ED). We aim to assess the benefits of CGA in the ED for frail older adults.

**Methods:** Older adults over 75 who presented with medical complaints and screened positive for frailty on the ISAR ( $> / = 2$ ) were randomised to geriatrician-led multidisciplinary comprehensive geriatric assessment and management or to usual care (randomisation allocation 1:1). The primary outcome was waiting time in the ED. Secondary outcomes were mortality, ED re-attendance, hospitalisation, nursing home admission, quality of life and functionality at 30 days and 180 days.

**Results:** 228 patients were recruited with a mean age of 83.75. (113 in intervention group, 115 in control group). There was a statistically significant improvement in ED waiting times in the intervention group (17.4 h vs 21.1 h  $p = 0.013$ ). The intervention group had significantly lower rates of ED re-attendance, hospitalisation, nursing home admission and higher self-reported function as per Barthel score at 180 days but not 30 days. There was a statistically significant benefit in self-reported quality of life scores in the CGA group (EQ5D5L).

**Conclusion:** Multidisciplinary assessment of older frail adults in the ED setting conferred a statistically significant improvement in ED waiting times at index visit and lower rates of ED re-attendance, nursing home admission, quality of life and function at 180 days. Further multi-centre trials are warranted to explore the external validity of the findings.

## Old Age Psychiatry

### O-077

#### Easy and quick to use depression screening in old age: diagnostic power of Whooley questions compared with geriatric depression scale (GDS-15)

Johannes Trabert (1), Elena Bauer (2), Sandra Schuetze (1)

(1) AGAPLESION MARKUS KRANKENHAUS, Department of Geriatrics, Frankfurt, Germany, (2) Goethe-University Frankfurt, Germany

**Introduction:** Aim of the study was to investigate sensitivity and specificity of a simple bed-side depression screening tool in hospitalized geriatric patients, the two-item Whooley questions. The test was compared to the Geriatric Depression Scale (GDS-15) using the Montgomery-Asberg Depression Rating Scale (MADRS) as gold standard. The Whooley questions have not yet been investigated in this population.

**Methods:** 248 hospitalized geriatric patients were included prospectively and all tests were performed on all patients: Whooley questions were asked within 24 h of admission, GDS-15 was part of the usual geriatric assessment. The MADRS was taken within 72 h of admission. In addition, all patients were examined for cognition (mini-mental status examination), vision and hearing (finger rub test).

**Results:** in 248 patients (mean age 83, 73% female), whooley questions had a sensitivity of 74,2% and a specificity of 65,3% to detect depressive symptoms. This is compared to sensitivity of 39,5% and specificity of 70,2% for GDS-15. In addition to diagnostic power of both whooley questions and GDS-15, the influence of cognition, vision and hearing on test quality will be examined. Complete evaluation of all data will be completed by August 2023.

**Key Conclusions:** First data evaluation indicates better diagnostic sensitivity of Whooley questions compared to GDS-15 in hospitalized geriatric patients. Final data and impact of other factors on test quality will be presented.

## Pharmacology

### O-078

#### What is a prescribing cascade? A scoping review of definitions

Kieran Dalton (1), Frank Moriarty (2), Aislinn O'Mahony (1), Rachael Horan (1), Lisa McCarthy (3)

(1) School of Pharmacy, University College Cork, College Road, Cork, Ireland., (2) School of Pharmacy and Biomolecular Sciences, RCSI University of Medicine and Health Sciences, Dublin 2, Ireland., (3) Institute for Better Health, Trillium Health Partners, Ontario, Canada; Leslie Dan Faculty of Pharmacy and Temerty Faculty of Medicine, University of Toronto, Ontario, Canada; Canada and Women's College Research Institute, Women's College Hospital, Toronto, Ontario, Canada

**Introduction:** rescribing cascades, first described where the “misinterpretation of an adverse reaction as another medical condition may lead to the prescription of additional medications” [1,2], are an important medication issue—particularly for multimorbid older adults with polypharmacy. The definition has been debated, for example, on whether the side effect may be misinterpreted or recognised/unrecognised, and consequently whether cascades are intentional/unintentional [3]. This scoping review aimed to map how prescribing cascades have been defined/described in the published literature.

**Methods:** Seven electronic databases were searched from inception to January 2023. Studies were included if they i) were published full-text articles in English, ii) mentioned prescribing cascade (or synonymous term) in the title/abstract, and iii) provided a definition/description of a prescribing cascade in the full text. Specific terminology and images used to define/describe the prescribing cascade were extracted, and the findings were narratively synthesised.

**Results:** ninety-six articles were included. Half included a definition stating the side effect was misinterpreted (n = 48), whilst 12.5% indicated a possible misinterpretation. Twenty-two articles mentioned the side effect could be recognised/unrecognised (22.9%), 20.8% addressed the cascade's appropriateness/inappropriateness, and 5.2% referenced their intentional/unintentional nature. Nearly one quarter

(22.9%) included an image or map to describe a prescribing cascade. Nuances and expanded concepts identified included ‘prophylactic prescribing cascade’, ‘prescribing cascade relic’, and ‘deprescribing cascade’.

**Key Conclusions:** This review has uniquely mapped how prescribing cascades have been conceptualised in the literature, finding considerable heterogeneity between studies. These findings suggest the need for consensus and/or operational definitions for prescribing cascades going forward.

#### References:

- [1] Rochon PA, Gurwitz JH. Drug therapy. *The Lancet*. 1995 Jul 1;346 (8966):32–6.
- [2] Rochon PA, Gurwitz JH. Optimising drug treatment for elderly people: the prescribing cascade. *BMJ*. 1997;315 (7115): 1096–1099.
- [3] McCarthy LM, Visentin JD, Rochon PA. Assessing the scope and appropriateness of prescribing cascades. *Journal of the American Geriatrics Society*. 2019 May;67 (5): 1023–6.

## Geriatric Rehabilitation

### O-079

#### Effectiveness of home-based exercise delivered by digital health in older adults: a systematic review and meta-analysis

Lilian Solís-Navarro (1), Aina Gismero (1), Carles Fernández-Jané (1), Rodrigo Torres-Castro (2), Mireia Solà-Madurell (1), Clara Bergé (3), Laura Mónica Pérez (4), Joan Ars (4), Carme Martín-Borràs (5), Jordi Vilaró (1), Mercè Sitjà-Rabert (1)

(1) Global Research on Wellbeing (GRoW), Facultat Ciències de la Salut Blanquerna, Universitat Ramon Llull, Barcelona, Spain., (2) Department of Physical Therapy, University of Chile, Santiago, Chile., (3) Department of Physiotherapy, School of Health Sciences, TecnoCampus-Pompeu Fabra University, Barcelona, Spain., (4) RE-FiT Barcelona Research Group, Vall d'Hebron Institute of Research & Parc Sanitari Pere Virgili, Barcelona, Spain., (5) Department of Physical Therapy, Facultat Ciències de la Salut Blanquerna, Universitat Ramon Llull, Barcelona, Spain

**Background:** regular physical exercise is essential to maintain or improve functional capacity in older adults. Multimorbidity, functional limitation, social barriers and currently, coronavirus disease of 2019, among others, have increased the need for home-based exercise (HBE) programmes and digital health interventions (DHI). Our objective was to evaluate the effectiveness of HBE programs delivered by DHI on physical function, health-related quality of life (HRQoL) improvement and falls reduction in older adults.

**Methods:** A systematic review and meta-analysis were performed. Randomised clinical trials were included on community-dwelling older adults over 65 years whose intervention consisted of exercises at home through DHI. The included studies aimed to assess physical function, HRQoL, and accidental falls. All the outcomes included were measured with validated clinical scales.

**Results:** twenty-six studies have met the inclusion criteria, including 5,133 participants (range age 69.5 ± 4.0–83.0 ± 6.7). The HBE programmes delivered with DHI improve muscular strength (five times sit-to-stand test, – 0.56 s, 95% confidence interval, CI – 1.00 to – 0.11; P = 0.01), functional capacity (Barthel index, 5.01 points, 95% CI 0.24–9.79; P = 0.04) and HRQoL (SMD 0.18; 95% CI 0.05–0.30; P = 0.004); and reduce events of falls (odds ratio, OR 0.77, 95% CI 0.64–0.93; P = 0.008). In addition, in the subgroup analysis, older adults with diseases improve mobility (SMD –0.23; 95% CI –0.45 to –0.01; P = 0.04), and balance (SMD 0.28; 95% CI 0.09–0.48; P = 0.004).



**Conclusion:** the HBE programmes carried out by DHI improve physical function in terms of lower extremity strength and functional capacity. It also significantly reduces the number of falls and improves the HRQoL. In addition, in analysis of only older adults with diseases, it also improves the balance and mobility.

## O-080

### Recovery of Daily Functioning and Quality of Life in Post-COVID-19 Patients in Geriatric Rehabilitation

L.S. van Tol (1), M.L. Haaksma (1), M. Cesari (2), F. Dockery (3), I.H.J. Everink (4), B.N. Francis (5), A.L. Gordon (6), S. Grund (7), L.M. Perez Bazan (8), O.N. Tkacheva (9), J.M.G.A. Schols (4), E. Topinková (10), M.A. Vassallo (11), M.A.A. Caljouw (1)

(1) 1 Department of Public Health and Primary Care, Leiden University Medical Center, Leiden, The Netherlands 2 University Network for the Care sector Zuid-Holland, Leiden University Medical Center, Leiden, The Netherlands, (2) IRCCS Istituto Clinici Maugeri, University of Milan, Milan, Italy, (3) Beaumont Hospital, Dublin, Ireland, (4) Department of Health Services Research, Maastricht University, Maastricht, The Netherlands, (5) Fliman Geriatric Rehabilitation Center, Haifa, Israel, (6) Academic Unit of Injury, Recovery and Inflammation Sciences (IRIS), School of Medicine, University of Nottingham, United Kingdom, (7) Center for Geriatric Medicine, Agaplesion Bethanien Hospital Heidelberg, Geriatric Center at the Heidelberg University, Heidelberg, Germany, (8) RE-FiT Barcelona Research Group, Parc Sanitari Pere Virgili Hospital and Vall d'Hebron Institut de Recerca (VHIR), Barcelona, Spain, (9) Russian Clinical and Research Center of Gerontology, Moscow, Russia, (10) Department of Geriatrics, First Faculty of Medicine, Charles University and General Faculty Hospital, Prague, Czech Republic, (11) Karin Grech Hospital, Pieta, Malta, (12) -

**Introduction:** After a COVID-19 infection older persons may benefit from geriatric rehabilitation (GR). In referral to GR frailty status is often considered. However, little is known about functional recovery and quality of life (QoL) of post-COVID-19 patients with different frailty levels admitted to GR.

**Methods:** The EU-COGER study is a pan-European multicenter study in 59 GR facilities across 10 countries. Patients' characteristics, functional status (Barthel Index; BI), QoL (EQ-5D-5L) and frailty (Clinical Frailty Scale; CFS) were collected from medical records at GR admission, discharge, and at 6 weeks and 6 months follow-up. Linear mixed models were applied to examine the course of functional recovery and QoL.

**Results:** 723 patients were included (mean age 75.5 (SD 9.9) years; 52.4% male). Most patients were mildly frail to severely frail (median CFS 6.0) at admission. After admission patients' BI increased with 2.73 points per month (SE 0.14, p-value < 0.00), and this growth was quadratic (estimate -0.30, (SE 0.02) p-value < 0.00). Severely frail and mildly frail patients' BI increased parallel until 15.73 (CFS 8) and 19.22 (CFS 4) five months after admission. Similarly patients' EQ-5D-5D increased quadratically (linear estimate 0.12 (SE 0.01), p-value < 0.00; quadratic estimate < -0.00, (SE < 0.00) p-value < 0.00) to almost equal scores of 0.87 (CFS 4) and 0.85 (CFS 8) 5 months after admission.

**Conclusions:** Post-COVID-19 patients admitted to GR show substantial and similar recovery in ADL functioning and QoL. COVID-19 induced frailty appeared to be not distinctive for the outcome and should therefore not be considered in GR referral.

## O-081

### Perspectives of rehabilitation professionals on implementing a validated home telerehabilitation intervention for older adults in geriatric rehabilitation: a multi-site qualitative study

Margriet Pol (1), Amarzish Qadeer (2), Margo van Hartingsveldt (3), Mohamed-Amine Choukou (4)

(1) Amsterdam University of Applied Sciences, Research group occupational therapy: Participation and Environment, Faculty of Health, Center of Expertise Urban Vitality, Amsterdam, The Netherlands - (2) Amsterdam UMC, location Vrije Universiteit Amsterdam, Department of Medicine for Older People, Amsterdam, The Netherlands - (3) Amsterdam Public Health, Aging & Later Life, Amsterdam, The Netherlands, (2) - (4) Department of Occupational Therapy, College of Rehabilitation Sciences, Rady Faculty of Health, (3) - (1) Amsterdam University of Applied Sciences, Research group occupational therapy: Participation and Environment, Faculty of Health, Center of Expertise Urban Vitality, Amsterdam, The Netherlands, (4) - (4) Department of Occupational Therapy, College of Rehabilitation Sciences, Rady Faculty of Health Sciences, University of Manitoba, Canada. - (5) Bimedical Engineering graduate program, University of Manitoba, Canada. - (6) Centre on Aging, University of Manitoba, Canada

**Introduction:** elerehabilitation has been identified as a promising tool to support rehabilitation at home. This study aims to depict the factors that influence the implementation of an evidence-based sensor monitoring intervention for older adults from the perspectives of 1) rehabilitation professionals in the Netherlands, and, 2) rehabilitation professionals in the province of Manitoba (Canada).

**Methods:** We adopted a qualitative study design to conduct two focus groups, one in-person in the Netherlands and one online via Zoom (due to covid-19) in Canada. Qualitative data obtained were analyzed using thematic analysis.

**Results:** he participants expressed different characteristics of the telerehabilitation intervention that contributed to making the intervention successful for the at-home rehabilitation: 1) Focus on future participation goals; 2) The telerehabilitation provides the professionals with objective and additional insight into the daily functioning of the older adults at home; 3) The intervention can be used as a goal-setting tool; 4) The telerehabilitation deepens their contact with older adults. The analysis showed facilitators and barriers to the implementation of the telerehabilitation intervention. These included i. personal/client related, ii. therapist related, and iii. technology related.

**Conclusions:** To better guide the implementation of telerehabilitation in the daily practice of rehabilitation professionals, the following steps are needed: 1) ensuring technology is feasible for communities with limited digital health literacy, and cognitive impairments; 2) developing instruction tools and guidelines and 3) training of rehabilitation professionals.

## O-082

### Disability prevention through individualized multicomponent training in hospitalized adults: randomized clinical trial—pilot study

Fabricio Zambom-Ferraresi (1), Antón de La Casa Marín (2), Iranzo Olló-Martínez (3), Fabiola Zambom-Ferraresi (4), Itxaso Marín-Epelde (5), Marisa Fernández González de la Riva (3), Débora Moral-Cuesta (5), Nicolás Martínez Velilla (6)

(1) Navarrabiomed, UPNA. IdiSNA, Hospital Universitario de Navarra, TDN Clinica, (2) Navarrabiomed, (3) Navarrabiomed, (4) IdiSNA, (5) Department of Geriatric Medicine, Complejo Hospitalario de Navarra, (6) Department of Geriatric Medicine, Complejo Hospitalario de Navarra, IdiSNA, Navarrabiomed, UPNA

**Objectives:** To analyze the effects of an individualized multicomponent training program in acutely hospitalized patients over 75 years on maximal dynamic and isometric strength after 3 days of training. **Methods:** 97 patients, 53% women, with a mean age of  $86 \pm 5$  years, participated in the Randomized Clinical Trial. It was carried out in the Geriatrics Service of the University Hospital of Navarra. Three gym machines were used: leg press (LP), chest press (CP) and knee extension (KE). After a comprehensive assessment, the intervention group (IG) trained for 3 consecutive days, progressively. First day, after the initial assessment, 2 sets of 10 repetitions at 50% of 1RM. On the second day, 3 sets of 10 squats and 3 sets of 10 repetitions at 60% of 1RM. On the third and last training day, 3 sets of 10 squats and 3 sets of 8 repetitions at 70% of 1RM. The control group (CG) received treatment as usual. The geriatrician could prescribe physiotherapy treatment if deemed necessary.

**Results:** Maximum dynamic strength in LP, CP and KE improved by 14.3% ( $p < 0.001$ ), 7.3% ( $p < 0.05$ ) and 19.2% ( $p < 0.001$ ), respectively, in the IG, while it worsened in the CG; -1.1% in LP, -2% in CP and -5.1% in KE ( $p > 0.05$ ). Manual grip strength through the HandGrip improved by 6% ( $p < 0.01$ ) in the IG and presented no changes in the CG (0%).

**Conclusions:** In geriatric patients, functional deterioration associated with hospital stay is an aspect to be improved in current health systems. Generally, treatments are focused on the pathology, ignoring the functional and/or cognitive domains. This protocol of only 3 days of intervention is capable of reversing the negative functional consequences of hospital stay in the geriatric population, so multicenter randomized clinical studies should be carried out to confirm the improvements noted.

## Gerotechnology

### O-083

#### Management of falls in older adults living in nursing homes: impact of a gerontopreventive telemedicine programme: analysis of the randomized study, GERONTACCESS

Caroline GAYOT (1), Patrick KAJEU (2), Vincent DOUZON (3), Thomas MERGANS (2), Noëlle CARDINAUD (4), Cécile Laubarie (4), Achille TCHALLA (4)

(1) Clinical Research and Innovation Unit, Department of Gerontology, University Hospital Center of Limoges, France; VieSante Laboratory UR 24134, Limoges University, France, (2) Department of Gerontology, University Hospital Center of Limoges, France, (3) Hospital Center, Saint Yrieix, France, (4) Department of Gerontology, University Hospital Center of Limoges, France; VieSanté Laboratory UR 24134, University of Limoges, France

**Introduction:** falls are common events in nursing homes (NHs), especially in areas where geriatric expertise is lacking. 10% to 25% of them result in hospital admission and/or fractures. We present results from the GERONTACCESS trial which objective was to evaluate the impact of a gerontopreventive teleconsultation program (GTLM-prog) reducing indoor falls.

**Methods:** We conducted a prospective multicentre randomized cluster trial in 9 NHs located in medical deserts areas in France. Multimorbidity participants aged  $> 60$  years were included. Only for participants randomized in the intervention group (IG), a care plan was proposed within the 10 days after the baseline comprehensive geriatric assessment, followed by geriatric teleconsultations scheduled every 3 months to assess gerontological issues. The objective was to evaluate at 12 months the impact of the GTLM-prog on falls.

**Results:** 426 participants were randomized. 1086 falls occurred during the study without significant difference between the two groups. Regarding non-serious falls (which did not require medical assistance): 107 residents fell in the IG versus 134 in the control group ( $p = 0.006$ ). There was 31 repeated fallers in the IG and 49 in the control group ( $p = 0.02$ ). The incremental cost effectiveness ratio was €3 926 gained per fall avoided.

**Conclusion:** GTLM-prog significantly reduces the incidence of falls and delays the first fall occurrence in NH residents. This program could be an innovative health preventive care delivery model to cope with falls.

### O-084

#### Effectiveness and acceptability of an autonomous digital solution in older versus younger persons

Nathalie Salles (1), Maria Montserrat Sanchez-Ortuno (2), Patricia Sagaspe (2), Lucile Dupuy (3), Florian Pecune (2), Pierre Philip (2)

(1) CHU Bordeaux—Hôpital Xavier Arnoz, (2) SANPSY, UMR 6033, University of Bordeaux, 33000, France, (3) School of Psychology, University of Bordeaux, 3300, France

The objective of this project is to compare the effectiveness and acceptability of a digital application (virtual companion) in older people ( $> 65$  years old) versus younger people (18–35 years old).

**Methods:** In these analyses of a self-selected sample ( $n = 5660$ ) of older adults ( $> 65$  years) and young (18–35 years) subjects downloading a free app that delivers, aided by a virtual companion, a brief behavioral intervention for insomnia was realized. The approval of the ethics committee of the University of Bordeaux has been obtained, as well as the GDPR agreement by the French authorities (CNIL). The analysis focused on: 1) the perception of the app's functionalities in both groups studied; 2) participant engagement using credibility and trust scores (ETQ score: ECA-trust questionnaire); 3) the acceptability of the application in both groups (Acceptability E-scale) and 4) the effectiveness of the application on insomnia.

**Results:** A total of 9030 participants downloaded the application and a sample of 5660 adults (3692 aged under 35 and 1968 aged over 65) was selected for this study. Results showed that in older group: perceived credibility, trust in the application, as well as the empathic character of the virtual companion are associated with a higher probability of completing the program: trust score by age groups: OR = 1, 12, [95% CI 1.01–1.25],  $p = 0.03$ , and credibility scores by age group: OR = 1.25, [95% CI 1.06–1, 47],  $p = 0.007$ . Furthermore, at the end of treatment, insomnia remission and insomnia response rates were comparable across both age groups. In Conclusion, acceptability is an essential lever to allow seniors to adhere and use digital solutions. These findings suggest that empathic interactions with virtual companions may be particularly helpful in maintaining older users engaged with effective fully automated digital treatments.

## Vaccines

### O-085

#### Safety and Efficacy of a Respiratory Syncytial Virus Vaccine (mRNA-1345), Against a Spectrum of Symptomatic Disease in Adults Aged $\geq 60$ Years

Jaya Goswami (1), Eleanor Wilson (1), Sonia K. Stoszek (1), Runa Mithani (1), Shraddha Mehta (1), Archana Kapoor (1), Wenmei Huang (1), Lan Lan (1), Jiejun Du (1), Laila El Asmar (1), Catherine A. Panozzo (1), Parinaz Ghaswalla (1), Beverly M. Francis (1)

(1) Moderna, Inc., Cambridge, MA, USA

**Introduction:** Respiratory syncytial virus (RSV) is a significant public health burden. Here, we present an interim analysis from a pivotal phase 2/3 clinical trial in adults aged  $\geq 60$  years assessing mRNA-1345, an investigational mRNA-based RSV vaccine encoding the RSV prefusion-stabilized F glycoprotein.

**Methods:** In this ongoing, phase 3, randomized, observer-blind, placebo-controlled, case-driven study, adults aged  $\geq 60$  years (NCT05127434) were randomised 1:1 to receive 1 dose of mRNA-1345 (50  $\mu\text{g}$ ) or placebo. The primary efficacy endpoints were prevention of a first episode of RSV-associated lower respiratory tract disease (LRTD; RSV-LRTD) with  $\geq 2$  or  $\geq 3$  lower respiratory symptoms between 14 days and 12 months post-injection; secondary efficacy endpoints include RSV-associated acute respiratory disease (RSV-ARD) with  $\geq 1$  respiratory symptom between 14 days and 12 months post-injection.

**Results:** mRNA-1345 was well-tolerated, and no safety concerns were identified (solicited local adverse reactions (AR) : mRNA-1345 = 58.7%, placebo = 16.2%; solicited systemic ARs: mRNA-1345 = 47.7%, placebo = 32.9%). Primary efficacy endpoints were met in the in the per-protocol efficacy set (n = 35,088) including a vaccine efficacy of 83.7% (95.88% CI 66.0–92.2;  $P < 0.0001$ ) against RSV-LRTD cases with  $\geq 2$  lower respiratory symptoms and 82.4% (96.36% CI 34.8–95.3;  $P = 0.0078$ ) against RSV-LRTD cases with  $\geq 3$  lower respiratory symptoms. For the secondary efficacy endpoint, vaccine efficacy was 68.4% (95% CI 50.9–79.7) against RSV-ARD. Symptom distribution between participants receiving mRNA-1345 and placebo and additional efficacy analyses by RSV subtype will be discussed.

**Key Conclusions:** mRNA-1345 had a favourable safety and tolerability profile in adults aged  $\geq 60$  years and is efficacious in preventing a spectrum of symptomatic RSV disease.

## Gerotechnology

### O-086

#### Efficacy And Feasibility Of A Technology-Based Multicomponent Intervention For The Discharge Of Multimorbid Older Patients From The Hospital To A Protected Smart-Home Area: The PRO-HOME Study

Marina Barbagelata (1), Romina Custureri (1), Rosetta Femia (1), Federica Gandolfo (1), Gianluca Puleo (1), Wanda Morganti (1), Emanuele Seminerio (1), Simone Dini (1), Carlo Custodero (2), Antonio Camurri (3), Niccolò Casiddu (4), Alberto Cella (1), Albe

(1) Department Geriatric Care, Orthogeriatrics and Rehabilitation, E.O. Galliera Hospital, Genova, Italy, (2) Department of Interdisciplinary Medicine, “Aldo Moro” University of Bari, Bari, Italy, (3) Department of Informatics, Bioengineering, Robotics and

Systems’ Engineering (DIBRIS), University of Genova, Italy, (4) Department of Architecture and Design (DAD), University of Genova, Genova, Italy, (5) Department Geriatric Care, Orthogeriatrics and Rehabilitation, E.O. Galliera Hospital, Genova, Italy and Department of Interdisciplinary Medicine, “Aldo Moro” University of Bari, Bari, Italy

**Introduction:** . Prolonged hospital stays increase the risk of multi-dimensional impairment especially in frail older patients. The PRO-HOME study is a Net-Research Program co-funded by the Italian Ministry of Health aimed to assess the efficacy of a technology-based multicomponent intervention in older multimorbid patients discharged from the hospital acute ward to a protected smart-home, featuring domotics, robotics and other assistive technologies, to reduce the length of hospital stay and prevent multidimensional impairment of hospitalized older patients.

**Methods:** . In this Randomized Clinical Trial (RCT), 60 patients aged over 65 years, considered stable and dischargeable from the Acute Geriatric Unit, were recruited: 30 patients were included in the technology-based multicomponent intervention group inside the PRO-HOME smart-home facility while 30 patients were included in the usual care group as controls. Multicomponent intervention includes technology-based cognitive and physical activity training, educational programs on life-styles, chronic disease care and a protocol of music therapy. The Multidimensional Prognostic Index (MPI), based on Comprehensive Geriatric Assessment (CGA), were administered and motility and sleep parameters were assessed using infra-red camera and smart-watch. Length of hospital-stay were compared between groups using Mann-Whitney test.

**Results:** No differences in mean age ( $82.7 \pm 6.43$ ) and gender (50% females) were observed between the two groups. Patients of intervention group report a statistically significant reduction in hospitalization length-of-stay compared to the control group (mean difference reduction: days = 2.00;  $p < .001$ ).

**Key Conclusions:** The multicomponent intervention program ProHome significantly reduced length-of-hospital-stay in multimorbid older patients, A protected discharge smart-home facility based on technologies can decrease the length-of-hospital-stay.

### O-087

#### Geriatrics and artificial intelligence in Spain (Ger-IA Project) : talking to ChatGPT. A nationwide survey

Daniel Rossello (1), Sara Docampo (2), Yolanda Collado (1), Leonor Cuadra (1), Francesc Riba (2), Mireia Llonch (1)

(1) Geriatrics Service. Hospital de Terrassa. Consorci Sanitari de Terrassa (Barcelona, Spain), (2) Geriatrics Service. Hospital de la Santa Creu de Tortosa (Tarragona, Spain)

**Introduction:** Artificial intelligence (AI) is broadly defined as a computer program that is capable of making intelligent decisions. The objective was to describe the degree of agreement between specialist geriatricians/residents in Geriatrics, with the answers given by an AI tool (Chat-GPT) in response to questions related to different areas in Geriatrics.

**Methods:** Descriptive, observational nationwide study. Ten (10) questions about different areas in Geriatrics (generalist, pharmacology, treatment, complex decisions-end of life and diagnosis/complementary tests) were asked to an AI (ChatGPT). Each question with its own answer was sent to doctors. A Likert scale was presented for each question-answer: score from 1–5 was given to each level of agreement with the answer provided by the AI (1 = disagree; 5 = totally agree) .

**Results:** 126 doctors included. 69.8% women. Mean age 41.4y. 71.4% specialist geriatricians; 28.6% residents. 94.4% responses from 41 Spanish hospitals. Average score obtained by AI was 3.10/5. Specialists geriatricians gave ChatGPT a lower score compared to residents (3.02 vs. 3.28), respectively ( $p < 0.05$ ). Answers for generalist questions obtained better mean score (3.96/5) than other areas (pharmacology: 2.99/5; treatment: 3.00/5; complex decisions-end of life: 2.50/5; diagnosis-complementary tests: 2.48/5).

**Key Conclusions:** Scores with great variability, depending on the questions/area of knowledge. It seems those about complex decisions (care level/therapeutic level) obtained worse scores. Questions related to theoretical aspects of challenges/future forecasts in Geriatrics obtained better scores. AI is likely to be incorporated into some areas of medicine, but according to our study, it would still present important limitations.

## Long Term Care

### O-088

#### The Prevalence of Non-pharmacological Interventions in Older Homecare Recipients: an Overview From Six European Countries

Eline C.M. Kooijmans (1), Emiel O. Hoogendijk (2), Jitka Pokladníková (3), Louk Smalbil (4), Katarzyna Szczerbińska (5), Iлона Бара́нская (6), Adrianna Ziuziakowska (5), Daniela Fialova (7), Graziano Onder (8), Anja Declercq (9), Harriet Finne-Soveri (10),

(1) 1. Amsterdam UMC, location Vrije Universiteit Amsterdam, Department of General Practice, de Boelelaan 1117, Amsterdam, the Netherlands. 2. Amsterdam Public Health, Aging & Later Life, Amsterdam, the Netherlands, (2) 1. Amsterdam UMC, location Vrije Universiteit Amsterdam, Department of General Practice, de Boelelaan 1117, Amsterdam, the Netherlands. 2.. Amsterdam UMC, location Vrije Universiteit Amsterdam, Department of Epidemiology and Data Science, De Boelelaan 1117, Amsterdam, the Netherlands. 3. Amsterdam Public Health, Aging & Later Life, Amsterdam, the Netherlands, (3) Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové, Charles University, Czech Republic, (4) Vrije Universiteit Amsterdam, Department of Computer Science, De Boelelaan 1111, 1081 HV Amsterdam, the Netherlands, (5) Jagiellonian University Medical College, Medical Faculty, Chair of Epidemiology and Preventive Medicine, Laboratory for Research on Aging Society, ul. Skawińska 8, Kraków, Poland, (6) Jagiellonian University Medical College, Medical Faculty, Chair of Epidemiology and Preventive Medicine, Laboratory for Research on Aging Society, ul. Skawińska 8, Kraków, Poland, (7) 1. Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové, Charles University, Czech Republic 2. Department of Geriatrics and Gerontology, 1st Faculty of Medicine in Prague, Charles University, Czech Republic, (8) Fondazione Policlinico Gemelli IRCCS and Università Cattolica del Sacro Cuore, Rome, Italy, (9) LUCAS–Center for Care Research & Consultancy and Cesò–Center for Sociological Research, KU Leuven, Belgium., (10) Finnish Institute for Health and Welfare, Helsinki, Finland, (11) 1. Amsterdam UMC, location Vrije Universiteit Amsterdam, Department of Medicine for Older People, de Boelelaan 1117, Amsterdam, the Netherlands. 2. Amsterdam Public Health, Aging & Later Life, Amsterdam, the Netherlands

**Introduction:** Non-pharmacological interventions (NPIs) play an important role in the management of older people receiving homecare. However, little is known about the prevalence of NPIs and to what extent usage varies between countries. Therefore, the aim of the

current study was to investigate the prevalence of NPIs in older homecare recipients in six European countries.

**Methods:** The prevalence of 24 NPIs was analyzed cross-sectionally in a population of older homecare recipients (65+) using the inter-RAI Home Care Instrument in six European countries. Data collection took place between 2014 and 2016 within the longitudinal cohort study ‘Identifying best practices for care-dependent elderly by Benchmarking Costs and outcomes of community care’ (IBenC).

**Results:** A total of 2884 homecare recipients were included. Interventions in the field of psychosocial interaction (eg participation in social activities, 33%), special therapies (eg speech therapy, 0.4%), physical activity (eg physical therapy, 14.6%), preventive measures (eg physical restraints, 9.2%), regular care interventions (eg home health aides, 60.3%) special aids (eg urinary collection device, 6.9%) and environmental interventions (eg emergency assistance available, 74.1%) were analyzed. Large differences between countries in the use of NPIs were observed and included, for example, ‘going outside’ (range: 7%-82%), ‘home health aides’ (range: 12%-93%), and ‘physician visit’ (range: 24%-94%).

**Key Conclusions:** There were large differences in the prevalence of NPIs between homecare users in European countries. It is important to better understand the barriers and facilitators of use of these potentially beneficial interventions in order to design successful uptake strategies.

### O-089

#### Ageism behind bars and its associated factors

Natalia Sanchez-Garrido (1), Rafael Itamar Casale Martínez (2), Daniela Josefina Cataneo Piña (3), Mario Ulises Pérez Zepeda (4)

(1) University of Toronto, (2) 2.Hospital General Regional IMSS 66 Ciudad Juárez, (3) Instituto Nacional de Enfermedades Respiratorias Ismael Cossio Villegas, (4) 4.National Institute of Geriatrics

**Introduction:** Prison is considered a microcosmos of society, hence the incarcerated population is also growing older. Ageism is a type of discrimination based on age. It is a pervasive societal issue, which has been shown to have a health impact on older adults. There is scarce information regarding the experience of ageism by older inmates in prison. This study aims to characterize older inmates’ experience of ageism.

**Methods:** This is secondary analysis of the National Survey of Incarcerated People 2021, the sample consisted only of prisoners 50 years and older. Descriptive analysis was performed, and logistic regression was used to determine associated factors to ageism.

**Results:** out of 8010 inmates 50 years and older, 13.7% were women. 12.4% of older inmates reported experiencing ageism. Other inmates (86.1%,) guards (25.7%) and personnel (9.0%) were perpetrators. Inmates reported discrimination through mockery (89.54%), threats (12.04%), physical abuse (18.2%), theft (7.7%), damage to their belongings (5.7%), being ignored (18.7%), limitation to services (8.39%) and activities (6.8%). Ageism is associated with gender identity (OR 1.81 IC 95% 1.56–2.09), education (OR 1.12 IC 95% 1.05–1.19), diabetes (OR 1.28 IC 95% 1.09–0.51), hypertension (OR 1.60 IC 95% 1.39–1.83), visual impairment (OR 1.72 IC 95% 1.50–1.97), hearing impairment (OR 1.92 IC 95% 1.64–2.24), and mobility impairments (OR 2.5 IC 95% 2.15–2.90). However, there is no association with ethnicity (OR 1.04 IC 95% 0.97–1.12).

**Conclusion:** Ageism is less prevalent than reported in other populations, it is associated with major sociodemographic and health factors.

**O-090****Hospital-based nursing homes (NH) versus independent nursing homes: do their infection prevention & control practices and their use of antibiotics differ ?**

Nathalie Weil Armand (1), Damien Seynaeve (2), Alice Raffetin (3), Florence Lieutier-Colas (4), Seydou Goro (5), Gaëtan Gavazzi (6)

(1) Centre Hospitalier de Valence, France, (2) Hôpitaux Drôme Nord, France, (3) Centre Hospitalier Intercommunal de Villeneuve Saint Georges, France, (4) CHRU Nancy, France, (5) Centre de Recherche Clinique Centre Hospitalier Intercommunal de Créteil, France, (6) Centre Hospitalier Universitaire Grenoble Alpes, Service de Gériatrie, France

**Introduction:** We describe and analyze the infection prevention and control (IPC) practices and the appropriate use of antibiotics (AUA) in these two types of NH.

**Methods:** An online survey was proposed to coordinating teams working in NH and distributed via several networks promoting IPC and AUA in France from June to July 2022. We compared the answers to the survey between NH associated with a hospital and not associated.

**Results:** We collected 535 usable surveys: 133 (24.9%) were from doctors or nurses working in a hospital-based NH. These professionals ( $n = 107/133$  (80.5%)) were significantly more likely to work in public NH ( $p < 0.001$ ), compared to professionals working in independent NH. They had significantly better antibiotics stewardship compared to independent NH: availability of a prescription protocol for antibiotic therapy: (73–55.3% vs 109–27.6%,  $p < 0.001$ ), better assessment of antibiotic therapy at 48–72 h (76–57.6% vs 184–46.5%,  $p = 0.016$ ). No difference was found in practices such as urine collection (urine dipstick or urine cytobacteriological examination) without a medical prescription; nor on the computerization of the medical prescription. Physicians working in a hospital-based NH were more likely to seek advice for prosthetic infections ( $p < 0.001$ ), for the management of a resident carrying a multiresistant bacteria ( $p = 0.006$ ), or implement an IPC program ( $p = 0.008$ ).

**Key Conclusion:** According to French National Strategy, deploying intervention teams in AUA and IPC should strengthen IPC, especially in remote settings with no hospital surroundings.

**O-091****Implementation of a tailored multifaceted antibiotic stewardship intervention with a participatory-action-research approach to improve antibiotic prescribing for urinary tract infections in frail older adults in four European countries: a process evaluation**

Esther Hartman (1), Wim Groen (2), Silje Rebekka Heltveit-Olsen (3), Morten Lindbæk (3), Sigurd Høye (3), Sara Sofia Lithén (3), Pär-Daniel Sundvall (4), Sofia Sundvall (4), Egill Snaebjörnsson Arnljots (4), Ronny Gunnarsson (4), Anna Kowalczyk (5), Macie

(1) Department of medicine for older people, Amsterdam UMC, Vrije Universiteit Amsterdam, De Boelelaan 1117, 1081 HV Amsterdam, the Netherlands | Amsterdam Public Health Research Institute, Aging & Later Life, Amsterdam, the Netherlands. | Julius Center for Health Sciences and Primary Care, University Medical Center Utrecht, Utrecht University, Universiteitsweg 100, 3584 CG Utrecht, the Netherlands, (2) Department of medicine for older people, Amsterdam UMC, Vrije Universiteit Amsterdam, De Boelelaan 1117, 1081 HV Amsterdam, the Netherlands | Amsterdam Public Health Research Institute, Aging & Later Life, Amsterdam, the Netherlands., (3) The Antibiotic Centre for Primary Care, Department of General

Practice, Institute of Health and Society, University of Oslo, P.O. Box 1130 Blindern, 0318 Oslo, Norway, (4) General Practice/Family Medicine, School of Public Health and Community Medicine, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Box 454, SE-405 30 Gothenburg, Sweden | Research, Education, Development & Innovation, Primary Health Care, Region Västra Götaland, Sweden, FoUUI-Centrum Södra Älvsborg, Sven Eriksonsplatsen 4, SE-503 38 Borås, Sweden, (5) Centre for Family and Community Medicine, the Faculty of Health Sciences, the Medical University of Lodz, 90-419 Lodz, Poland, (6) Julius Center for Health Sciences and Primary Care, University Medical Center Utrecht, Utrecht University, Universiteitsweg 100, 3584 CG Utrecht, the Netherlands

**Introduction:** In a recent cluster randomized controlled trial in general practices and older adult care organizations in Poland, the Netherlands, Norway, and Sweden, we found that a multifaceted antibiotic stewardship intervention effectively reduced antibiotic use for suspected urinary tract infections in frail older adults compared with usual care [1]. We aimed to evaluate the implementation of this intervention.

**Methods:** We conducted a process evaluation alongside the trial. The antibiotic stewardship intervention consisted of a decision-tool and a toolbox, and was implemented using a participatory-action-research (PAR) approach through sessions for education and evaluation. We documented the implementation process of the intervention, and conducted a questionnaire with health care professionals (HCPs) in intervention and usual care clusters. We evaluated whether intervention components were delivered and used in clinical practice, the opinion of HCPs, perceived barriers and facilitators to their use, and contextual factors.

**Results:** The questionnaire was completed by 254 HCPs from the 38 participating clusters. The use of the decision-tool and toolbox materials appeared to vary in practice; nevertheless, HCPs evaluated them as useful. The PAR-approach stimulated local tailoring of the implementation process. During the educational and evaluation sessions, HCPs reflected on barriers for implementation and how to overcome them. Across clusters, HCPs varied in which actions they undertook for implementation. The COVID-19 pandemic and staff changes were important barriers for implementation.

**Key Conclusions:** A decision-tool, toolbox, and a PAR-approach with educational and evaluation sessions all appear to contribute to a tailored implementation process within the local older adult care setting.

**References:**

1.Hartman EAR, van de Pol AC, Heltveit-Olsen SR, Lindbaek M, Høye S, Lithen SS, et al. Effect of a multifaceted antibiotic stewardship intervention to improve antibiotic prescribing for suspected urinary tract infections in frail older adults (ImpresU) : pragmatic cluster randomised controlled trial in four European countries. *BMJ*. 2023;380:e072319.

**Multimorbidity****O-092****Comorbidity patterns and health outcomes in older adults with atrial fibrillation: Nationwide population-based findings from the Swedish National Patient Register**

Lu Dai (1), Amaia Calderón-Larrañaga (2), Cecilia Damiano (3), Pia Cordsen (4), Marco Proietti (5), Hao Luo (6), Jonas W. Wastesson (7), Kristina Johnell (8), Graziano Onder (9), Federico Triolo (1), Cheima Amrouch (10), Mirko Petrovic (10), Gregory Y. H

(1) Aging Research Center, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet and Stockholm University, Stockholm, Sweden, (2) Aging Research Center, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet and Stockholm University, Stockholm, Sweden; Stockholm Gerontology Research Center, Stockholm, Sweden, (3) Department of Cardiovascular, Endocrine-Metabolic Diseases and Aging, Istituto Superiore di Sanità, Rome, Italy, (4) Danish Center for Health Services Research, Aalborg University, Aalborg, Denmark, (5) Department of Clinical Sciences and Community Health, University of Milan, Milan, Italy; Division of Subacute Care, IRCCS Istituti Clinici Scientifici Maugeri, Milan, Italy; Liverpool Centre for Cardiovascular Science at University of Liverpool, Liverpool John Moores University and Liverpool Heart & Chest Hospital, Liverpool, UK, (6) Department of Social Work and Social Administration, The University of Hong Kong, Hong Kong, China; Sau Po Centre on Ageing, The University of Hong Kong, Hong Kong, China, (7) Aging Research Center, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet and Stockholm University, Stockholm, Sweden; Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Stockholm, Sweden, (8) Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Stockholm, Sweden, (9) Università Cattolica del Sacro Cuore, Rome, Italy, (10) Department of Geriatrics, Ghent University Hospital, Ghent, Belgium, (11) Danish Center for Health Services Research, Aalborg University, Aalborg, Denmark; Liverpool Centre for Cardiovascular Science at University of Liverpool, Liverpool John Moores University and Liverpool Heart & Chest Hospital, Liverpool, UK

**Introduction:** Older adults with atrial fibrillation (AF) often present with multiple comorbidities that challenge their clinical management and worsen their prognosis. We aimed to characterize the comorbidity patterns in AF and explore their prognostic value for health outcomes. **Methods:** We used cross-sectional data from the Swedish National Patient Register (2012–2017) and identified adults with AF  $\geq 65$  years by 1st January 2017. We performed latent class analysis (LCA) to identify groups of adults with similar comorbidity patterns; disease exclusivity  $\geq 25\%$ , and observed/expected ratio  $\geq 2$  were applied to determine overexpressed diseases in each class. Cox regression models adjusted for relevant confounders were fitted to investigate the association between comorbidity patterns and 2-year health outcomes. **Results:** We included 203,042 adults with AF (79.6 [7.9] years, 45% female). Seven comorbidity patterns were identified: unspecific, metabolic disease, complex comorbidity, neuropsychiatric disease, cardiovascular disease, musculoskeletal disease, and eye disease. Compared with the unspecific pattern, adults with complex comorbidity had the strongest association with all-cause mortality (hazard ratio, HR 2.02, 95% confidence interval, 1.96–2.08), cardiovascular mortality (HR 2.31, 2.20–2.41), all-cause hospitalization (HR 2.45, 2.40–2.50), cardiovascular hospitalization (HR 2.68, 2.60–2.77), and bleedings (HR 1.55, 1.40–1.72); adults with neuropsychiatric disease had highest risk of stroke (HR 1.44, 1.30–1.59); and adults with musculoskeletal disease had reduced risk of all-cause (HR 0.70, 0.66–0.74) and cardiovascular (HR 0.67, 0.62–0.74) mortality and increased risk of all-cause (HR 1.37, 1.34–1.41) and cardiovascular hospitalization (HR 1.19, 1.14–1.25).

**Conclusions:** The characterization of comorbidity patterns may help identifying subjects more needed to receive integrated care among older adults with AF.

## O-093

### Obstructive Sleep Apnea and oxygenation in very old adults: a Propensity-Score match study

María Juárez España (1), Cristina Aguado Blanco (1), Ana Isabel Soria Robles (1), Marina Alcaraz Barcelona (2), Jesús Jiménez López (2,3), Ramón Coloma Navarro (2,3), Fernando Andrés Pretel (4), Almudena Avendaño Céspedes (1,5,6), Elisa Belén Cortés Zamora (1,6), Elena Gómez Jiménez (1,7), Laura Plaza Carmona (1), Alicia Noguero García (1), Matilde León Ortiz (1), Pedro Manuel Sánchez Jurado (1,3,6), Luis Romero Rizos (1,3,6), Rubén Alcántud Córcoles (1,6,7), Pedro Abizanda (1,3,6)

(1) Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain, (2) Neumology Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain, (3) Facultad de Medicina de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain, (4) Statistics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain, (5) Facultad de Enfermería de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain, (6) CIBERFES, Instituto de Salud Carlos III, Madrid, Spain, (7) Fundación Hospital Nacional de Paraplégicos, Toledo, Spain

**Introduction:** Obstructive sleep apnea (OSA) is a highly prevalent respiratory disorder and its prevalence increases with age. Its severity is determined by apnea hypopnea index (AHI). This classification does not contemplate other parameters that have influence on the disease's development especially in elderly. Other oximetric parameters appear to be better predictors of cardiometabolic effects. This could lead to defining different groups of OSA and identifying patients with high risk phenotypes, even if they have the same AHI. **Methods:** A Retrospective observational study was carried out in 11,747 participants, 210 were 80 years or older and had valid data. A Propensity Score matching process was held creating 4 groups of age. The main result variables were total sleep time spent with arterial oxygen saturation (SaO<sub>2</sub>) < 90% (T90), medium oxygen saturation, minimal oxygen saturation and AHI.

**Results:** Participants 80 years or older had higher percentages of T90 (44%; IQR 80-8) and greater probability of higher percentages of T90 in density curves. They also had lower percentages of minimum O<sub>2</sub> saturation (medium: 75%; IQR 80-59) and lower percentages of average O<sub>2</sub> saturation (medium: 89%; IQR 92-86). The percentage of T90 increases with the value of AHI, but if we select patients with the same AHI, very old patients had higher values of T90.

**Key Conclusions:** Among patients with the same severity of OSA (measured by AHI), the group of oldest adults had increased values of T90. This emphasizes the possible limitations that AHI has to define severe OSA in very old patients.

**O-094****Community-dwelling older adults' experiences of a home visiting programme led by nursing students: a qualitative evaluation of the VISITAME trial**

Iria Dobarrio-Sanz (1), Anabel Chica-Pérez (2), Isabel María Fernández-Medina (1), José Granero-Molina (1), María del Mar Jiménez-Lasserrotte (1), Jose Manuel Hernández-Padilla (1)

(1) University of Almería, (2) Emera Nursing Home

**Introduction:** Although home visiting programmes led by nurses can improve biopsychosocial health in older adults, their cost-effectiveness has not been proven. Home visiting programmes implemented by nursing students could be an effective alternative. The aim of this study was to comprehend the experiences of community-dwelling older adults with chronic multimorbidity in relation to a home visiting programme implemented by nursing students.

**Methods:** A descriptive qualitative study included 31 in-depth interviews with community-dwelling older adults with chronic multimorbidity who had completed a home visiting programme implemented by nursing students in 10 community centres in the southeast of Spain. Data were analysed following the reflexive thematic analysis method developed by Braun & Clarke.

**Results:** Two main themes were developed. The first theme was 'Empowering the older adult to manage their own health' and had three subthemes: 'learning how to manage their health and condition', 'gaining awareness in order to take control of one's own health', and 'changing unhealthy behaviours and habits'. The second theme was 'Home visits to promote health in older adults' and included two subthemes: 'filling the gap in the care offered by the public healthcare system' and 'the older adults' perception of improved biopsychosocial health'.

**Key Conclusions:** The home visiting programme implemented by nursing students led to community-dwelling older adults perceiving their autonomy and health improved. Nursing regulatory bodies should collaborate with nursing faculties to design policies that promote the integration of nursing students as a health asset for community-dwelling older adults with chronic multimorbidity.

**O-095****Amyopathic dermatomyositis in an older woman: clinical case**

Estefania Elizabeth Abundis-Márquez (1), Francisco Javier Torres-Quintanilla (2), Daniel Zacarías Villarreal-Martínez (3), Rosa Icela Arvizu-Rivera (2), Griselda Serna-Peña (2), Jorge Ocampo-Candiani (3), Ricardo Salinas-Martínez (1), Rocío Morales-Delgad

(1) 1.Geriatric Service, Universidad Autónoma de Nuevo León, Facultad de Medicina y Hospital Universitario "Dr. José Eleuterio González", Monterrey, Nuevo León, México, (2) 2.Rheumatology Service, Universidad Autónoma de Nuevo León, Facultad de Medicina y Hospital Universitario "Dr. José Eleuterio González", Monterrey, Nuevo León, México, (3) 3.Department of Dermatology, Universidad Autónoma de Nuevo León, Facultad de Medicina y Hospital Universitario "Dr. José Eleuterio González", Monterrey, Nuevo León, México

**Introduction:** ermatomyositis (DM) is an idiopathic inflammatory disease, the amyopathic subtype is rare (10–20%), manifesting only with pathognomonic findings of the skin, without clinical or laboratory evidence of muscle involvement [1,2]. We present the case of a woman with amyopathic DM. CaseA 77-year-old female with a history of hypertension, diabetes, heart failure, chronic obstructive

pulmonary disease, and gastroesophageal reflux disease, with no family nor pathological history of autoimmune disease. Dermatositis presented 9 years ago, described as pruritic and erythematous plaques on the forehead, with progression to the eyelids, anterior thorax, upper extremities, and back of the hands. Fatigue and proximal, symmetric muscle weakness in the upper extremities were reported 4 years later. Upon physical examination: heliotrope rash was present on the face, heliotrope edema and erythema on the upper eyelids, V sign in thorax, and Gottron's papules over the metacarpophalangeal joints. MMT8 score: 150. Katz: 6/6, Lawton-Brody: 7/8, PHQ 9: 18, Mini-Mental: 23CPK (60 IU/L) and aldolase (3.6 U/L) were normal. ANA were negative. The Myopathy panel: TIF1 gamma positivity (147.0) and borderline MDA5 (8.0). Skin biopsy reported the presence of interstitial mucin. The screening was performed to rule out malignancy. Hydroxychloroquine, methotrexate, folic acid, prednisone, and topical steroids were started, with excellent clinical response and improved quality of life.

**Conclusion:** We present an unusual case of amyopathic DM. Accurate diagnosis and multidisciplinary management are essential for an optimal therapeutic approach to DM and the prevention of its complications [3].

**O-096****Patterns of multimorbidity in primary care electronic health records: a systematic review**

Giorgi Beridze (1), Ahmad Abbadi (1), Joan Ars (2), Francesca Remelli (3), Davide L. Vetrano (1), Caterina Trevisan (3), Laura Pérez (2), Juan Antonio López (4), Amaia Calderón-Larrañaga (1)

(1) Karolinska Institutet & Stockholm University, Aging Research Center, (2) Vall d'Hebron Institute of Research (VHIR) and Parc Sanitari Pere Virgili, REFIT Barcelona Research Group, (3) University of Ferrara, Department of Medical Sciences, (4) Universidad Rey Juan Carlos Faculty of Health Sciences, Department of Medical Specialties and Public Health

**Background:** Multimorbidity, the coexistence of multiple chronic conditions in an individual, is a complex geriatric syndrome that is highly prevalent in primary care settings. This systematic review aimed to summarise the current evidence on multimorbidity patterns identified in primary care using electronic health record (EHR) data.

**Methods:** Multiple databases were searched from inception to April 2022 to identify studies that derived original multimorbidity patterns from primary care EHR data. The quality of the included studies was assessed using a modified version of the Newcastle-Ottawa Quality Assessment Scale.

**Results:** Sixteen studies were included in this systematic review, none of which was of low quality. Most studies were conducted in Spain, and only one study was conducted outside of Europe. The prevalence of multimorbidity (i.e. two or more conditions) ranged from 14.0% to 93.9%. The most common stratification variable was sex, followed by age and calendar year. Despite significant heterogeneity in clustering .

**Methods:** and disease classification tools, consistent patterns of multimorbidity emerged. Mental health and cardiovascular patterns were identified in all studies, often in combination with diseases of other organ systems (e.g. neurological, endocrine).

**Key Conclusions:** These findings emphasise the frequent coexistence of physical and mental health conditions in primary care, and provide useful information for the development of targeted preventive and management strategies. Future research should explore mechanisms underlying the multimorbidity patterns, prioritise methodological systematicity to facilitate the comparability of findings, and promote

the use of EHR data globally to enhance our understanding of multimorbidity in more diverse populations.

## Nutrition

### O-097

#### Paravertebral myosteatosi s is associated with 1-year mortality in older adults hospitalized with COVID-19 infection

Pauline Courtois-Amiot (1), Loukbi Saker (2), Lorène Zerah (3), Edouard Baudouin (4), Virginie Fossey-Diaz (5), Olivier Drunat (5), Hélène Vallet (6), Jacques Boddaert (7), Antoine Khalil (8), Agathe Raynaud-Simon (9), Manuel Sanchez (10)

(1) Department of Geriatric Medicine, APHP.Nord Bichat Beaujon Bretonneau Hospital, Paris France, (2) Department of Radiology, APHP.Nord Bichat Hospital, Paris, France, (3) Department of Geriatric Medicine, APHP.Sorbonne University Pitié-Salpêtrière Hospital, Paris, France and INSERM, Institut Pierre Louis d'Épidémiologie et de Santé Publique, IPLESP, Sorbonne University, Paris, France, (4) Department of Geriatric Medicine, APHP.Paris Saclay University Paul Brousse Hospital, Villejuif, France and INSERM 1178, CESP, Équipe MOODS, Paris Saclay University, Le Kremlin-Bicêtre, France, (5) Department of Geriatric Medicine, APHP.Nord Bretonneau Hospital, Paris, France, (6) Department of Geriatric Medicine, APHP.Sorbonne University Saint-Antoine Hospital, Paris, France and INSERM UMR1135, Centre d'immunologie et des Maladies Infectieuses, Sorbonne University, Paris, France, (7) Department of Geriatric Medicine, APHP.Sorbonne University Pitié-Salpêtrière Hospital, Paris, France, (8) Department of Radiology, APHP.Nord Bichat Hospital, Paris, France and INSERM UMR1152, Physiopathologie and Epidemiology of Respiratory Diseases, Paris, France, (9) Department of Geriatric Medicine, APHP.Nord Bichat Beaujon Bretonneau Hospitals, Paris, France and Faculty of Medicine, Paris Cité University, Paris, France, (10) Sanchez Manuel (Department of Geriatric Medicine, APHP.Nord Bichat Beaujon Bretonneau Hospitals, Paris, France and Faculty of Medicine, Paris Cité University, Paris, France)

**Rationale:** Low muscle mass has emerged as predictor of poor outcomes in COVID-19, but the predictive value of muscle fat infiltration (myosteatosi s) on subsequent mortality has been rarely assessed in older adults. We aimed to determine if myosteatosi s was associated with 1-year mortality in hospitalized older adults with COVID-19.

**Methods:** This is an ancillary study of a multicenter retrospective study that included adults aged  $\geq 70$ , hospitalized with COVID-19 in geriatric acute care wards. We included subjects with a thoracic CT-scan performed within 5 days after the diagnosis in two centers. We considered paravertebral muscle area at T12 level, as indicator of muscle mass, and the severity of myosteatosi s using the Goutallier classification (five-level visual scale ranging from 0 (no myosteatosi s) to 4 (very severe myosteatosi s)), as indicator of muscle quality. Cox model evaluated the associations with 1-year mortality.

**Results:** Among the 90 participants (46% women, mean age 84 years), 29 (32%) died within one year. The severity of lung injury and of paravertebral myosteatosi s were associated with 1-year mortality, whereas the paravertebral skeletal area was not. In Cox model adjusted on lung injury severity, hypertension, obesity and Charlson index, the most severe degrees of myosteatosi s were associated with

1-year mortality: HR (95% CI) for Goutallier classification 3-4 vs 0-1, 2.46 [1.20–6.48],  $p = 0.01$ .

**Conclusion:** The myosteatosi s was independently associated with 1-year mortality in older adults hospitalized with COVID-19. Muscle quality, and not only muscle mass, should be considered. The Goutallier classification is an easy-to-use, visual method to quantify myosteatosi s.

Disclosure of Interest: None Declared.

**Keywords:** COVID-19, Goutallier classification, Muscle quality, Myosteatosi s, Older Adults.

### O-098

#### A qualitative study to identify the determinants of dietary intake in community-dwelling older adults to inform the development of a digital service to prevent malnutrition

Chloe French (1), Sorrel Burden (1), Emma Stanmore (1)

(1) University of Manchester

**Introduction:** Understanding the determinants of dietary intake in older adults is important to develop appropriate strategies to improve nutritional status. Furthermore, interventions that have been co-developed with consumers are more likely to be acceptable and increase the likelihood of long-term utilisation. The aim of the current study is to explore the factors that influence the eating habits of community-dwelling older adults and identify possible features and potential barriers of a digital service designed to prevent malnutrition and improve dietary intake.

**Methods:** Adults aged 65 and older were recruited from assisted living facilities across Greater Manchester. Five focus groups involving 33 older adults (aged 69-96 years) were conducted between October and December 2022. Conversations were audio-recorded, transcribed verbatim and analysed using an inductive thematic approach.

**Results:** Four themes and nine sub-themes emerged from the dataset. The main determinants of dietary intake were personal preference (taste, cooking habits), perceptions of foods (food quality, health claims, calorie content) and psycho-social/ physiological factors (change to living situation, reduced sense of smell/ taste). The ability, engagement and willingness to use digital technology varied among participants. The majority of participants had a positive attitude towards the digital service with suggestions often relating to an educational component, recipes and motivational support.

**Key Conclusions:** The findings from this study will inform the design of a digital health app to prevent malnutrition specifically tailored to the needs of older adults.

### O-099

#### Inflammatory diets influence iron metabolism in older and younger adults

Catrin Herpich (1), Christiane Ott (2), Ursula Müller-Werdan (3), Kristina Norman (3)

(1) University of Potsdam, Institute of nutritional science, (2) German Institute of Human Nutrition Potsdam-Rehbrücke, (3) Charité—Universitätsmedizin Berlin

**Background:** An inflammation promoting diet is known to contribute to systemic inflammation, thus interfering with iron metabolism. This



analysis examined the effects of an inflammatory diet on iron metabolism in older and younger healthy adults.

**Methods:** 24-h dietary recalls were assessed and dietary Inflammatory Index [DII] was computed based and dietary iron intake was also derived. Median DII score was used as a cut-off for an either less or more inflammatory diet. Markers of iron metabolism (ferritin, transferrin, iron, transferrin saturation [TSAT], soluble transferrin receptor [sTfR], hepcidin) were quantified colorimetrically or by ELISA. Ferritin index was calculated as sTfR/log ferritin. Mann-Whitney-U-test was used for group comparisons, spearman-rho for correlation analysis.

**Results:** Younger adults ( $n = 60$ ,  $26.5 \pm 4.13$  years) exhibited a similar DII, but lower ferritin concentrations ( $50.8 \pm 44.3$  vs  $110 \pm 80.5$  ng/mL,  $p < 0.001$ ) and TSAT ( $23.8 \pm 11.7$  vs  $29.5 \pm 11.4\%$ ,  $p = 0.001$ ) as well as higher dietary iron intake ( $11.9 \pm 5.01$  vs  $10.4 \pm 4.77$  mg/day,  $p = 0.038$ ) compared to older adults ( $n = 80$ ,  $72.5 \pm 5.51$  years). In both age groups, subjects with a more inflammatory diet had higher ferritin (young:  $60.9 \pm 49.0$  vs  $40.6 \pm 38.4$  ng/mL,  $p = 0.029$ ; old:  $140 \pm 87.3$  vs  $80.1 \pm 60.1$  ng/mL;  $p = 0.001$ ) and lower dietary iron intake (young:  $9.70 \pm 4.68$  vs  $13.7 \pm 4.57$  mg/day,  $p = 0.002$ ; old:  $7.89 \pm 2.46$  vs  $13.1 \pm 5.21$  mg/day,  $p < 0.001$ ). Only in older adults, subjects with a higher DII score also exhibited higher hepcidin concentrations (young:  $46.0 \pm 62.4$  vs  $35.9 \pm 58.2$  ng/mL,  $p = 0.205$ , old:  $102 \pm 93.3$  vs  $49.5 \pm 73.5$  ng/mL,  $p = 0.025$ ). Independent of age, DII was correlated with ferritin concentrations ( $\rho = 0.309$ ,  $p < 0.001$ ), ferritin index ( $r = -0.231$ ,  $p = 0.007$ ) and dietary iron intake ( $\rho = -0.624$ ,  $p < 0.001$ ).

**Conclusion:** Our results suggest that an inflammation driving diet results in insufficient iron intake and supply.

## Perioperative Care

### O-100

**Using frailty screening instruments in daily clinical practice: conclusions from a diagnostic comparative study in patients aged 70 and over undergoing elective colorectal surgery**

Fagard Katleen (1), Geyskens Lisa (2), Van den Bogaert Björk (1), Willems Sarah (1), Bislenghi Gabriele (3), Flamaing Johan (1), Wolthuis Albert (3), Deschodt Mieke (2)

(1) Dpt of Geriatric Medicine, University Hospitals Leuven, Leuven, Belgium, (2) Dpt of Public Health and Primary care, Division of Gerontology and Geriatrics, KU Leuven, Leuven, Belgium, (3) Dpt of Abdominal Surgery, University Hospitals Leuven, Leuven, Belgium

**Background:** Pre-operative frailty screening has been recommended as an easy way to identify older adults who would benefit from perioperative comprehensive geriatric assessment (CGA). However, because comparative research is lacking, there is no consensus on which screening instrument to choose. This study compares the diagnostic performance of seven frailty screening instruments for adverse postoperative outcomes in patients aged  $\geq 70$  years undergoing colorectal surgery.

**Methods:** Prospective cohort study in an academic hospital, examining the predictive accuracy of the Fried and Robinson frailty criteria, Edmonton Frail Scale, Rockwood Clinical Frailty Scale, Modified Frailty Index, FRAIL questionnaire, and Geriatric 8 for postoperative complications with Clavien-Dindo severity grade  $\geq 2$ . Secondary outcomes were prolonged length of stay, increased care level after discharge, and functional decline in basic or instrumental activities of daily living up to 1 month after surgery.

**Results:** The study included 172 consecutive patients. Frailty prevalence ranged from 10.6% to 76.2%. Clavien-Dindo severity grade  $\geq 2$  complications were present in 37.8% of patients. Most instruments had a high specificity (76.7%–92.4%) at the expense of sensitivity (21.5%–38.5%) for predicting postoperative complications. The Geriatric 8 showed the opposite pattern (sensitivity 86.2%–specificity 29.9%). Comparable results were found for the secondary outcomes.

**Conclusions:** Based on predictive accuracy for adverse postoperative outcomes, no screening instrument could be selected as best. To identify patients for peri-operative CGA, we propose to use a self-reported geriatric assessment questionnaire. Future research should further explore how to select patients who would benefit from CGA and integrated geriatric-surgical care.

## Old Age Psychiatry

### O-101

**Loneliness, social inactivity and social isolation and their association with health-related quality of life and mortality in home-dwelling older adults**

Laura Rautiainen (1), Anu Jansson (1), Ulla Aalto (2), Annika Kolster (3), Hannu Kautiainen (4), Timo Strandberg (5), Mia Knuutila (6), Kaisu Pitkälä (7)

(1) 1. University of Helsinki 2. The Finnish Association for the Welfare of Older Adults, Finland, (2) 1. University of Helsinki 2. Hospital District of Helsinki and Uusimaa (HUS), Finland, (3) 1. University of Helsinki 2. Western Uusimaa Wellbeing Services County, Finland, (4) 1. University of Helsinki, Finland, (5) 1. University of Helsinki 2. The Finnish Association for the Welfare of Older Adults 3. Hospital District of Helsinki and Uusimaa (HUS), Finland, (6) 1. University of Helsinki 2. Unit of Primary Health Care, Helsinki University Hospital, Finland, (7) 1. University of Helsinki 2. Unit of Primary Health Care, Helsinki University Hospital, Helsinki, Finland

**Introduction:** Loneliness, social inactivity and social isolation are interrelated concepts. They indicate poor well-being, adverse health effects and increased mortality [1-3]. There are scarce of studies exploring the overlapping and prognosis of these concepts. Our aim was to investigate 1) the overlapping of loneliness, social inactivity, and social isolation, 2) characteristics of lonely compared to other groups, 3) health-related quality of life (HRQoL), psychological well-being (PWB), and 3.5 years mortality of these groups.

**Methods:** We retrieved a randomly selected sample ( $n = 989$ ) from the 2019 wave of the population-based Helsinki Aging Study postal survey. The sample consisted of home-dwelling older adults aged  $\geq 75$ . Participants were classified as 1) not lonely, not socially inactive nor socially isolated ( $n = 494$ ); 2) lonely ( $n = 280$ ); 3) not lonely but socially inactive or/and socially isolated ( $n = 215$ ). Participants were assessed for MMSE, ADL, comorbidities, and self-rated health. Participants' PWB score was calculated and the HRQoL was investigated using 15D. Follow-up for all-cause mortality was 3.5 years.

**Results:** Only 2% of the whole sample were simultaneously lonely, socially inactive, and socially isolated. Of lonely participants, 38% were also socially inactive and/or socially isolated. Participants' suffering from loneliness were significantly more often widowed, lived alone, and had the lowest HRQoL and poorest PWB compared to other groups. There was no difference in mortality between the groups.

**Key Conclusions:** Loneliness is an independent and strong determinant of poor HRQoL and PWB and should be considered separately from social inactivity and social isolation.

#### References.

- [1] Freak-Poli R, Ryan J, Tran T, et al. 2022. Social isolation, social support and loneliness as independent concepts, and their relationship with health-related quality of life among older women. *Aging & Mental Health*. 2022;26 (7) :1335-1344. <https://doi.org/10.1080/13607863.2021.1940097>.
- [2] Cacioppo S, Grippo AJ, London S, Goossens L, Cacioppo JT. Loneliness: clinical import and interventions. *Perspect Psychol Sci*. 2015 Mar;10 (2) :238-49. <https://doi.org/10.1177/1745691615570616>.
- [3] Tilvis RS, Routasalo P, Karppinen H, Strandberg TE, Kautiainen H & Pitkala KH. 2012. Social isolation, social activity and loneliness as survival indicators in old age: a nationwide survey with a 7-year follow-up. *European Geriatric Medicine* 3: 18-22. <https://doi.org/10.1016/j.eurger.2011.08.004>.

## O-102

### Validation of the Hospital Anxiety and Depression Scale (HADS) in Geriatric Patients: A Cross-Sectional Study

Anne Fons (1), Lindsey Koster (1), Clara Besselink (1), Ralph Vreeswijk (2), Kees Kalisvaart (3)

(1) Department of Geriatric Medicine, Spaarne Gasthuis, Haarlem, The Netherlands, (2) Department of Geriatric Medicine, Spaarne Gasthuis, the Netherlands, (3) Department of Geriatric Medicine, Spaarne Gasthuis, The Netherlands

**Introduction:** The aim of this study is to evaluate the validity of the Hospital Anxiety and Depression Scale (HADS) as screening tool for both anxiety and depression in geriatric outpatients and to determine the optimal cut-off value for this population.

**Methods:** A cross-sectional, single-center validation study including geriatric outclinic patients aged 65 years and older. The performance of the HADS-D (depression) and HADS-A (anxiety) were assessed using respectively the GDS-15 and Geriatric Anxiety Inventory (GAI) as gold standard. The GDS-15 and GAI were conducted by a trained nurse, the HADS by an independent researcher.

**Results:** In total, 98 patients (mean age: 79.7 years old, male: 50.0%) were included. The prevalence of depressive symptoms was 20.4% (GDS) and of anxiety symptoms 24.5% (GAI). The cut-off value of 8 yielded a sensitivity of 60.0% (95% Confidence Interval (CI) : 38.3-79.3) and a specificity of 97.4% (95% CI 92.3-99.6) for the HADS-D; for the HADS-A this was 50% (95% CI 30.8-69.2) and 98.6% (95% CI 94.2-99.9), respectively. The optimal cut-off value for both HADS-subcales was 5 (HADS-D: Youden Index (YI) = 0.81, HADS-A: YI = 0.80). The AUC for the HADS-D was 0.94 and for the HADS-A 0.96. The sensitivity and specificity were respectively 95.0% and 85.9% for the HADS-D and 95.8% and 83.8% for the HADS-A.

**Conclusion:** The HADS detected symptoms of depression and anxiety comparable to the GDS-15 and GAI, respectively, when using a cut-off point of 5 for both HADS-subcales.

## O-103

### Early retirement intentions among employees aged 50–65 years: Prevalence across 17 European countries and association with loneliness

Inna Lisko (1), Annele Urtamo (2), Olli Kurkela (3), Jenni Kulmala (4), Leena Forma (2)

(1) Faculty of Sport and Health Sciences and Gerontology Research Center (GEREC), University of Jyväskylä, Finland, (2) Laurea University of Applied Sciences, Vantaa, Finland, (3) Faculty of Social Sciences (Health Sciences), Tampere University, Finland, (4) Faculty of Social Sciences (Health Sciences) and Gerontology Research Center (GEREC), Tampere University, Finland

**Introduction:** . Optimal age for retirement has raised discussions across the Europe. In the meantime, loneliness has been recognized as a new geriatric giant. The aim is to explore the extent to which individuals across Europe have early retirement intentions and if loneliness is associated with intended early retirement.

**Methods:** . Data come from the Survey of Health, Ageing and Retirement in Europe (SHARE) study wave 7, collected in 2017 in 27 European countries. Altogether 15,405 individuals aged 50–65 years reported if they were looking for an early retirement (yes/no before the age of 65 years) and of these 1,041 individuals had reported how often they feel lonely (often, some of the time or hardly ever/never). Logistic regression model with early retirement intentions as the dependent factor and loneliness as an independent factor was used. The model was adjusted for age, sex, depression, sum of chronic conditions and physical activity.

**Results:** The proportion of individuals who looked for an early retirement ranged from 24% in Israel to 77% in Hungary, with overall proportion being 49%. Individuals who felt often lonely were 2.7 times more likely (95% CI 1.2–6.5) to look for an early retirement as compared to individuals feeling never/very rarely lonely. Feeling lonely some of the time did not increase the odds for early retirement intentions (OR 1.4, 95% CI 0.94–2.1).

**Conclusions:** . Attitudes towards early retirement vary greatly across the Europe. Loneliness was independently associated with early retirement intentions. Intervening loneliness might increase willingness to prolong work careers.

## O-104

### What is the Association between Psychotropic Medication Use and Orthostatic Hypotension in Community-Dwelling Older People: Data from TILDA

Desmond O'Donnell (1), Frank Moriarty (1), Amanda Lavan (1), Rose Anne Kenny (1)

(1) The Irish Longitudinal Study on Ageing, Trinity College Dublin, Dublin, Ireland

**Background:** The aim of this study is to examine the link between psychotropic medication use and orthostatic hypotension (OH) .

**Methods:** Participants  $\geq 65$  years at TILDA Wave 1 had an active stand to assess orthostatic blood pressure. OH was defined as a blood pressure (BP) drop  $\geq 20$  mmHg systolic and/or  $\geq 10$  mmHg diastolic beyond 30 s post-standing. Medication lists were examined for the

following anatomic therapeutic chemical classification codes: N06A (Antidepressants); N05BA, N05CD, N03AE (Benzodiazepines); 'N05CF ('Z' Drugs); N05A (Antipsychotics). Logistic regression models assessed the association between psychotropic use and OH. Analyses were adjusted for age, sex, education, alcohol excess, depression, cognition, chronic disease, heart disease and sleep quality. **Results:** Of the 1,875 participants (mean age 71 years, 52% female), 12% were prescribed  $\geq 1$  psychotropic medication (234/1,875), while 4% (78/1,875) were prescribed  $\geq 2$ . Psychotropic medication use was associated with a larger drop in systolic BP at 30 s (7.81 (95% CI 5.61–10.02) vs 3.46 (95% CI 2.61–4.32) mmHg;  $p < 0.001$ ) and 60 s (4.02 (95% CI 1.82–6.21) vs 1.28 (0.44–2.13);  $p = 0.025$ ) post standing. Psychotropic medication use was associated with a higher likelihood of OH (OR 1.50 (95% CI 1.10–2.08;  $p = 0.013$ ), with a stronger association noted for those taking  $\geq 2$  psychotropics (OR 2.19 (95% CI 1.34–3.57);  $p = 0.002$ ).

**Conclusion:** Psychotropic medication use is independently associated with delayed BP recovery after standing. Older people prescribed psychotropics have a 50% higher likelihood of OH related to their use, highlighting the importance of reviewing these medications in a comprehensive geriatric assessment.

## Sarcopenia

### O-105

#### The Association Between Sarcopenia and Blood Pressure Recovery After Standing

Eoin Duggan (1), Silvin P. Knight (1), Roman Romero-Ortuno (1)

(1) Discipline of Medical Gerontology, School of Medicine, Trinity College Dublin, Ireland

**Introduction:** sarcopenia and orthostatic hypotension (OH) are growing age-related health challenges associated with adverse outcomes in older adults. Despite a possible pathophysiological link via the skeletal muscle pump of the lower limbs, their relationship is not well elucidated. We sought to characterise the relationship between sarcopenia, blood pressure (BP) recovery and OH in attendees to a falls and syncope clinic aged 50 years and older.

**Methods:** Participants underwent active stand with beat-to-beat BP measurements. Hand grip strength and 5-chair stands time were measured. Bioelectrical impedance analysis was performed, and the European Working Group on Sarcopenia in Older People guidelines were used to classify participants into robust, probable sarcopenia and sarcopenia groups. Mixed effects models with linear splines were used to model the effect of sarcopenia status on BP after standing while controlling for potential confounders and heart rate.

**Results:** n 109 participants (mean age 70 years, 58% women), the prevalence of probable sarcopenia was 32% and sarcopenia 15%. Probable sarcopenia and sarcopenia were independently associated with an attenuated rate of recovery of both systolic and diastolic BP in the 10–20s period after standing, when compared to the robust group (systolic BP  $\beta -0.59, -0.85, P < 0.01$ ; diastolic BP  $\beta -0.45, -0.65, P < 0.001$ ).

**Conclusion:** Sarcopenia is associated with an attenuated recovery of BP during a key time-period after standing, increasing the risk of OH. This effect is independent of the heart rate response, and other confounders, and therefore may be mediated via the skeletal muscle pump.

### O-106

#### Sarcopenia Prevalence and Outcomes in Older Men With Obesity: EWGSOP2 vs. ESPEN-EASO Definitions

David Scott (1), Fiona Blyth (2), Vasi Naganathan (2), David Le Couteur (2), David Handelsman (2), Louise Waite (2), Vasant Hirani (2)

(1) Deakin University, (2) University of Sydney

**Introduction:** Operational definitions of sarcopenia may underestimate its prevalence and consequences in older adults with obesity. We aimed to compare the prevalence and functional outcomes of sarcopenic obesity in older men using recent consensus operational definitions of sarcopenia and sarcopenic obesity.

**Methods:** We classified 1,416 community-dwelling men ( $\geq 70$  years) into obesity categories according to body mass index (BMI;  $\geq 30$  kg/m<sup>2</sup>), sarcopenia categories according to the European Working Group on Sarcopenia in Older People (EWGSOP2) definition, and sarcopenic obesity categories according to the European Society for Clinical Nutrition and Metabolism and the European Association for the Study of Obesity (ESPEN-EASO) definition. We analysed the prevalence of sarcopenic obesity and its associations with functional outcomes including activity of daily living (ADL) and instrumental activity of daily living (IADL) disability, and 12-month falls.

**Results:** Only 0.3% of men had EWGSOP2 sarcopenia with obesity whereas 9.6% had ESPEN-EASO sarcopenic obesity. No participant with BMI  $\geq 32$  kg/m<sup>2</sup> had EWGSOP2-confirmed sarcopenia, despite 60.8% of these participants having probable sarcopenia (low muscle strength). Men with ESPEN-EASO sarcopenic obesity had significantly lower hand grip strength, higher chair-stands time and slower gait speed (all  $P < 0.05$ ), increased odds for ADL (odds ratio: 5.02, 95% CI 1.85–13.58) and IADL (2.18, 1.38–3.45) disability, and higher 12-month incident falls rates (incident rate ratio: 1.59, 95% CI 1.03–2.44) than men with neither sarcopenia nor obesity.

**Conclusion:** The EWGSOP2 sarcopenia definition may underestimate sarcopenia prevalence in older men with obesity. The ESPEN-EASO sarcopenic obesity definition consistently identified older men at risk of poor functional outcomes.

### O-107

#### Creatinine-to-cystatin C ratio, as a novel marker of skeletal muscle mass and myosteatosis

Yasuharu Tabara (1), Yoko Okada (2), Masayuki Ochi (2), Yasumasa Ohyagi (2), Michiya Igase (2)

(1) Shizuoka Graduate University of Public Health, (2) Ehime University Graduate School of Medicine

**Objective:** Sarcopenia is a risk factor for poor outcomes in older adults. We investigated associations of creatinine-to-cystatin C ratio (CCR) with skeletal muscle mass and fat deposition in the muscle (myosteatosis), as well as physical performance measures, to clarify the usefulness of CCR as a plasma marker of sarcopenia.

**Methods:** The study population consisted of community dwelling older adults (N = 1,329). Skeletal muscle mass and fat deposition in the muscle was assessed using CT images obtained at mid-thigh.

**Results:** Quartiles of CCR was strongly associated with mid-thigh muscle cross-sectional area (Q1: 104  $\pm$  22, Q2: 108  $\pm$  24, Q3: 110  $\pm$  23, and Q4: 114  $\pm$  25 cm<sup>2</sup>, F = 10.38,  $P < 0.001$ ) and the mean attenuation value of the muscle, a surrogate measure of fat deposition in the muscle (Q1: 47.4  $\pm$  4.8, Q2: 48.9  $\pm$  4.4, Q3: 49.8  $\pm$  4.1, Q4: 50.9  $\pm$  3.7 HU,  $P < 0.001$ ). These associations were

independent of major covariates. Although creatinine alone was independently associated with muscle cross-sectional area, the association was weaker than that of CCR, particularly in the individuals with renal functional decline. Furthermore, CCR was associated with grip strength and one-leg standing time independently of muscle cross-sectional area.

**Conclusion:** CCR was associated with skeletal muscle mass and myosteatosis in older adults, as well as physical performance measures. CCR may serve as a convenient marker of sarcopenia.

## Pharmacology

### O-108

#### European survey on subcutaneous antibiotics administration

Louise-Marie Mesples (1), Emmanuel Forestier (2), Marc Paccalin (3), Dafna Yahav (4), Marco Falcone (5), Virginie Prendki (6), Marco Tinelli (7), Joanna Gough (8), Adam Gordon (9), Gaetan Gavazzi (10), Claire Roubaud-Baudron (11)

(1) Gériatrie, Université de Bordeaux, Bordeaux, (2) Maladies infectieuses, CH Métropole Savoie, Chambéry, (3) Gériatrie, CHU de Poitiers, Poitiers, (4) Infectious diseases, Sheba Medical Center, Ramat Gan, Israël, (5) Infectious Diseases Unit, Cisanello University Hospital, Pise, Italie, (6) Département de médecine interne, réhabilitation et gériatrie, Hôpitaux Universitaires de Genève, Genève (Thônex), (7) Infectious Disease, Italian Auxological Institute San Luca Hospital, Milano, Italie, (8) Scientific Officer, British Geriatrics Society, Marjory Warren House, London. UK, (9) Professor of Care of Older People, Academic Unit of Injury, Recovery and Inflammation Sciences (IRIS), University of Nottingham, Nottingham, UK., (10) Clinique universitaire de médecine gériatrique, C.H.U Grenoble-Alpes, Grenoble, (11) Univ. Bordeaux, INSERM BRIC UMR 1312, Bordeaux F-33000, France

**Introduction:** While the subcutaneous (SC) administration of antibiotics (AB) is off label, this practice is very common in France, especially for older patients. This survey aims to determine the proportion of physicians prescribing SC AB in different European countries.

**Methods:** An electronic questionnaire was emailed to the members of ESCMID Study Group for Infection in the Elderly (ESGIE) and former European Academy for Medicine of Ageing (EAMA) students from October 2022 to January 2023.

**Results:** 345 practitioners (mainly geriatricians (46%) or ID specialists (34%)) from 19 different European countries responded on the survey. France (n = 93), UK (n = 69), Belgium (n = 24), Poland (n = 22) and Italy (n = 21) were the main responders. 140 (41%) practitioners declared prescribing SC AB. This practice varies from 98% in France to 0% in England or Germany. The main reasons for using the SC route were a poor venous access (n = 130, 92%), delirium (n = 67, 47%), managing pain and comfort (n = 83, 59%) or ambulatory care (n = 66, 47%). Yet, 205 physicians never used SC for administering AB: 135 (63%) never heard of this practice, 76 (36%) because it was off-label and 56 (26%) because of the lack of available PK/PD data. 200 (98%, n = 205) of these physicians however, replied that the SC route could be an interesting alternative if on-label.

**Key Conclusions:** There is a great heterogeneity in AB SC practice across Europe, but the majority of physicians underlined that this practice could be useful in common situations in geriatrics. SC route should be integrated in AB research and development.

### O-109

#### Pharmacokinetics Of Ceftriaxone Administered by Subcutaneous Or Intravenous Route In Patients Aged Over 65 Years: the Phasage Study

Sylvain Goutelle (1), Héloïse Fauchon (2), Gaetan Gavazzi (3), Marc Paccalin (4), Emmanuel Forestier (5), Tristan Ferry (6), Françoise Stanke-Labesque (7), Claire Roubaud-Baudron (8)

(1) Pharmacy, Hospital Pierre Garraud—HCL, Lyon, France, (2) LBBE, UMR CNRS 5558, University Claude Bernard Lyon 1, Lyon, France, (3) Geriatrics Ward, CHU Grenoble-Alpes, Grenoble, France, (4) Geriatrics Ward, CHU Poitiers, Poitiers, France, (5) Infectious Diseases Ward, CHMS, Chambéry, France, (6) Infectious Diseases Ward, Hospital Croix-Rousse, HCL, Lyon, France, (7) Pharmacology, CHU Grenoble-Alpes, Grenoble, France, (8) Clinical Gerontology Pole, CHU Bordeaux, Bordeaux, France

Ceftriaxone is frequently administered by subcutaneous (SC) route in older patients in France [1], although this practice is off-label since 2014 due to a lack of pharmacological evidence. The Phasage study aimed to compare the intravenous (IV) and SC pharmacokinetics (PK) of several antibiotics in older patients. This report describes the first results for ceftriaxone. Patients aged > 65 years who were administered ceftriaxone (1g/24h) by IV or SC route were included in this national multicentric study. Steady state ceftriaxone concentrations were measured at several times: pre-infusion (H0), at the end of infusion (H0.5), and at 2h (H2, SC only) and 5h post-infusion (H5). Concentrations of ceftriaxone and patients' characteristics were compared between the two groups (IV and SC). To assess pharmacological efficacy, the proportions of H0 unbound concentrations  $\geq 1$  mg/L [2] were compared. Data from 47 patients (23 under IV and 24 under SC ceftriaxone) were analyzed. Sex-ratio, mean age, weight, creatinine clearance, and median Charlson and ADL scores were not significantly different between IV and SC groups. Concentrations of ceftriaxone at H0.5 were significantly higher in the IV group (p-value < 0.001), while H0 and H5 concentrations were similar. In the SC group, H2 concentrations were higher than H0.5 concentrations (p-value = 0.003). The target concentration was achieved in 23/23 (IV) and 23/24 (SC) patients, without significant difference. These first results support favorable PK of ceftriaxone administered by SC route in older patients. PK modeling is ongoing, to evaluate optimal doses for each route of administration.

#### References:

1. Forestier E, Paccalin M, Roubaud-Baudron C, Fraisse T, Gavazzi G, Gaillat J. Subcutaneously administered antibiotics: a national survey of current practice from the French Infectious Diseases (SPILF) and Geriatric Medicine (SFGG) society networks. *Clin Microbiol Infect.* 1 avr 2015;21 (4) :370.e1-370.e3.
2. EUCAST Breakpoint Tables. 1 janv 2023;13.0.

### O-110

#### Medication Adherence in Hospitalized Patients Enrolled in the APPROACH Randomized Controlled Trial

Elena Barbieri (1), Andrea Grandieri (1), Viviana Bagalà (1), Marianna Boccafogli (1), Lisa Marzano (1), Marianna Noale (2), Sara Sambo (3), Andrea Cignarella (3), Bruno Micael Zanforlini (3), Giuseppe Sergi (3), Stefano Volpato (1), Caterina Trevisan (4)

(1) Geriatric and Orthogeriatric Unit, Department of Medical Sciences, University of Ferrara, Ferrara, Italy, (2) Institute of Neuroscience, National Research Council, Padua, Italy, (3) Department of Medicine, University of Padua, Padua, Italy, (4)

Geriatric and Orthogeriatric Unit, Department of Medical Sciences, University of Ferrara, Ferrara, Italy Geriatric and Orthogeriatric Unit, Department of Medical Sciences, University of Ferrara, Ferrara, Italy

**Introduction:** The effective management of chronic diseases in older people often needs of multiple long-term therapies, which may hamper maintaining high medication adherence. We aimed to evaluate how much older adults adhere to medical recommendations and identify the factors associated with poor medication adherence.

**Methods:** We used data from the baseline examination of the APPROACH randomized controlled trial (clinicaltrials.gov: NCT05719870), involving patients (and, eventually, their caregivers) hospitalized in the Geriatrics Units of Ferrara and Padova University Hospitals. Medication adherence in the pre-admission period was measured through the Medication Adherence Report Scale-5 (MARS-5) and Morisky Medication Adherence Scale-4 (MMSA-4). Sociodemographic data and information from the Comprehensive Geriatric Assessment were collected for each participant. The association between these factors and low medication adherence (i.e. MARS-5 score < 24 or MMSA-4 score 3-4) was tested through binary logistic regressions.

**Results:** The analysis included a subsample of 156 individuals with a mean age of 84.6 and 60.9% of women. A caregiver was interviewed in 58.5% of cases. At baseline, the frequency of high medication adherence ranged between 61.2% (MMSA-4) and 65.7% (MARS-5). Except for a borderline result for cognitive deficits, we found no significant associations of low medication adherence with sociodemographic characteristics, clinical and functional status.

**Key Conclusions:** In line with previous findings [1], the preliminary data from the APPROACH trial show a prevalence of high medication adherence of around 60%. Analyses of the total sample will help delineate the profile of older patients less adherent to medical recommendations. Citations [1] I. B. Félix et al, «Medication adherence and related determinants in older people with multimorbidity: A cross-sectional study» Nurse Forum, vol. 56 (4), pp. 834-843, 2021 <https://doi.org/10.1111/nuf.12619>. Acknowledgements: The project is supported by a Pfizer Quality Improvement grant (n. 53789559).

## O-111

### Trends in Drug Duplications in Swedish Older Adults: A Nationwide Register Study from 2006 to 2019

Jonas W Wastesson (1), Tatiana Erhan (2), Kristina Johnell (1), Johan Fastbom (2)

(1) 2) Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Stockholm, Sweden. (2) 1) Aging Research Center, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet & Stockholm University, Sweden

**Introduction:** Drug duplication, the use of two identical drugs simultaneously, is a medication error increasing the risk of adverse drug events. We describe the trends, and implicated drugs, in drug duplications in older adults from 2006 to 2019 in Sweden.

**Methods:** Repeated register-based cross-sectional study of all older adults ( $\geq 75$  years) dispensed drugs at a community pharmacy in 2006–2019. Drug duplication was defined as a  $\geq 30$  day overlap of two dispenses of drugs with the same 7-character ATC-code (Anatomical Therapeutic Chemical (ATC) Classification System), but with different brand names, within a three-month period.

**Results:** Among Swedish older adults ( $n \approx 600,000$ /year), the prevalence of users of duplicated drugs increased from 6 to 12% in 75–79-year-olds and from 7 to 13% in  $\geq 80$ -olds. The drug classes most frequently implicated in drug duplications were beta blocking agents, high-ceiling diuretics and ACE inhibitors in 2006, and Vitamin B12 and folic acid, lipid modifying agents and Angiotensin II receptor blockers in 2019.

**Key Conclusion:** Drug duplication represents a common but unnecessary and potentially hazardous medication error. Our study indicates that the prevalence of drug duplications in older adults has almost doubled during the two last decades affecting more than 10% in 2019. Cardiovascular medications were the drug class most often implicated in drug duplications. National efforts are needed to revert this increasing trend, such as improved computerised systems to detect drug duplications.

## O-112

### The burden of managing medicines for older people with sensory impairment: an ethnographically-informed study

Peter Fuzesi (1), Kirsten Broadfoot (2), Marilyn Lennon (1), Sabrina A. Jacob (1), Leah Macaden (3), Annetta Smith (4), Tomas J. Welsh (5), Margaret C. Watson (1)

(1) University of Strathclyde, Glasgow, UK, (2) Sterena Consultancy, Cromarty, UK, (3) University of Edinburgh, Edinburgh, UK, (4) University of the Highlands and Islands, Inverness, UK, (5) Research Institute for the Care of Older People, Bath, UK; University of Bristol, Bristol UK; Royal United Hospitals Bath NHS Foundation Trust, Bath, UK

**Introduction:** ageing is associated with an increased risk of visual and/or hearing impairment and rising medication usage, leading to substantial medicine-related challenges and potential for medicine-related harm. We set out to explore the daily ‘medicines’ journey’ of older people with sensory impairment (OPwSI).

**Methods:** We recruited community-dwelling adults aged over 65 years with visual and/or hearing impairment and using  $> 4$  medicines to this ethnographically informed qualitative study. Participants created audio- and video-recordings, and made diary notes about their medicines’ journey. They then participated in semi-structured interviews and provided information about their daily medicine regime.

**Results:** Fourteen OPwSI were recruited of whom seven had dual impairment, four had hearing impairment, and three had visual impairment. The mean age was 75 (SD 7.7) (range 65-89) years, nine were female, and five lived alone. The participants used a mean of 11 (SD 5.0) medicines (range 5 to 22) and a wide variety of formulations. Participants reported challenges at all stages of the medicines’ journey (i.e. medicine ordering, obtaining, storing, administering and disposing). They had developed elaborate, individualised strategies to facilitate medicine use in their home. These included bespoke storage systems, fixed routines, simple aids, communication, and assistive technologies to facilitate medicine use.

**Key Conclusions:** OPwSI experience a significant burden in managing their medicines to ensure their safe and effective administration. There is an urgent need for person-centred medicine-related services that accommodate individual needs and abilities. The individualisation of medicine regimens and more effective use of assistive technologies could provide greater support to OPwSI.

## O-113

### Inappropriate medication use in older inpatients according to the TIME criteria: a multicenter, cross-sectional study from Türkiye

Gulistan Bahat (1), Serdar Ozkok (1), Zeynep Fetullahoglu (1), Tugba Erdogan (1), Meryem Merve Oren (2), Duygu Erbas Sacar (1), Emine Gemci (3), Sevgi Aras (3), Murat Varli (3), Suna Burkuk (4), Meltem Halil (4), Gozde Sengul Aycicek (5), Zekeriya Ulger

(1) Department of Internal Medicine, Division of Geriatrics, Istanbul University, Istanbul Medical School, 34093, Istanbul, Türkiye, (2) Department of Public Health, Istanbul University, Istanbul Medical School, 34093, Istanbul, Türkiye, (3) Department of Internal Medicine, Division of Geriatrics, Ankara University Faculty of Medicine, 06620, Ankara, Türkiye, (4) Department of Internal Medicine, Division of Geriatrics, Hacettepe University Faculty of Medicine, 06230, Ankara, Türkiye, (5) Department of Internal Medicine, Division of Geriatrics, Kirikkale University Faculty of Medicine, 71450, Kirikkale, Türkiye, (6) Department of Internal Medicine, Division of Geriatrics, Istanbul Prof Dr Cemil Tascioglu City Hospital, 34384, Istanbul, Türkiye, (7) Department of Internal Medicine, Division of Geriatrics, Sisli Hamidiye Etfal Training and Research Hospital, 34360, Istanbul, Türkiye, (8) Department of Internal Medicine, Koc University Faculty of Medicine, 34010, Istanbul, Türkiye, (9) Department of Internal Medicine, Division of Geriatrics, Ege University Faculty of Medicine, 35040, Izmir, Türkiye, (10) Department of Internal Medicine, Division of Geriatrics, Istanbul University-Cerrahpasa, Cerrahpasa Faculty of Medicine, 34098, Istanbul, Türkiye, (11) Department of Internal Medicine, Division of Geriatrics, University of Health Sciences, Bursa Yuksek Ihtisas Training and Research Hospital, 16310, Bursa, Türkiye, (12) Department of Internal Medicine, Division of Geriatrics, Marmara University Pendik Training and Research Hospital, 34899, Istanbul, Türkiye, (13) Department of Family Medicine, Baskent University Faculty of Medicine, 06490, Ankara, Türkiye, (14) Department of Internal Medicine, Division of Geriatrics, Baskent University Faculty of Medicine, 06490, Ankara, Türkiye, (15) Department of Internal Medicine, Division of Geriatrics, University of Health Sciences, Gulhane Training and Research Hospital, 06010, Ankara, Türkiye, (16) Department of Internal Medicine, University of Health Sciences, Gulhane Training and Research Hospital, 06010, Ankara, Turkiye

**Objective:** The Turkish Inappropriate Medication Use in the Elderly (TIME) criteria set is an internationally validated explicit tool developed to help the management of pharmacotherapy in older adults. It includes a total of 153 criteria: 112 on the medications that are potentially harmful to use (TIME-to-STOP) and 41 on the potentially beneficial but often overlooked medications (TIME-to-START). Here, we aimed to study the prevalence of inappropriate medication use (IMU) in older inpatients according to the TIME criteria set, and to reveal the criteria most commonly seen in general and causing hospitalization.

**Methods:** This is a cross-sectional study conducted on 13 inpatient clinics (geriatrics and internal diseases) in Türkiye between January 2020–April 2021. Participants aged  $\geq 60$  were evaluated in terms of demographic and clinical characteristics and geriatric syndromes. “IMU in general” and “IMU causing hospitalization” were assessed by using the TIME criteria on the first day of their admission.

**Results:** A total of 405 older inpatients were included (mean age:  $77 \pm 8$ , 55.2% female). The prevalence of “IMU in general” and “IMU causing hospitalization” was 82.5% ( $n = 334$ ) and 34.1% ( $n = 138$ ), respectively. The most common TIME-to-STOP criterion in general was “PPIs for multiple drug use indication (no benefit, potential harm)” (7.2%,  $n = 29$ ) and the TIME-to-START criterion

was “Vaccination for herpes zoster (reduction in risk of shingles infection and post-herpetic neuralgia)” (73.6%,  $n = 298$ ). The most common TIME-to-STOP criterion causing hospitalization was “Strict blood pressure control ( $< 140/90$  mmHg) in patients with orthostatic hypotension/ cognitive impairment (e.g. dementia)/functional limitation/ low life expectancy ( $< 2$  years)/high risk of falling” (2.5%,  $n = 10$ ). The most common IMU causing hospitalization according to the TIME-to-START was “ONS with MN or MNR if nutritional counseling/dietary supplementation are not sufficient to achieve nutritional goals.” (11.6%,  $n = 47$ ).

**Conclusion:** Our findings suggest that the prevalence of IMU both in general and resulting in hospitalization are both remarkably high in older inpatients. Since the criteria leading to hospitalization of the older adults in particular point to the frail and malnourished individuals, it can be realized that the more frequent use of the TIME criteria in validated populations has the potential to protect risky groups from adverse outcomes. Longitudinal studies are needed to determine whether the use of the TIME criteria will be successful in reducing IMU in general and IMU causing hospitalization in older adults.

## Geriatric Rehabilitation

### O-114

#### Physical Activity Timing Associated With The Risk Of Incident Depression: Evidence From The UK Biobank That Timing Matters

Gali Albalak (1), Piraveena Thangarajah (2), David van Bodegom (3), Diana van Heemst (2), Raymond Noordam (2)

(1) Leiden University Medical Center, department of internal medicine, subdepartment of Geriatrics and Gerontology, (2) Leiden University Medical Center, department of internal medicine, subdepartment of Geriatrics and Gerontology, (3) Leiden University Medical Center, and Department of Public Health and Primary Care

**Introduction:** Physical activity (PA) is associated with mental health outcomes. Although there are some indications PA timing is important in mental health, no largescale epidemiological cohort studies have been performed to date. We aimed to investigate the association between PA timing and incident depression in middle-aged and older participants from UK Biobank.

**Methods:** 89,934 European participants ( $56.2 \pm 7.8$  years, 44.8% men) without history of depression were analyzed. Hourly PA levels (derived from accelerometry) were standardized for the total daily amount of PA. Participants were followed until depression occurrence, death or lost-to-follow up over a median of 7 (interquartile range: 6.4, 7.5) years period. Data was analyzed per standardized hourly PA level as well as in groups derived from k-means clustering using cox proportional hazard models, adjusted for confounding factors.

**Results:** 1,748 participants developed depression. Using the hourly standardized PA measures, we observed higher risks for incident depression in people most active during the night and lower depression risks for people most active during the early morning. In line, compared with participants who were most active during the afternoon, participants with most PA in the early morning had a lower risk for incident depression (hazard ratio: 0.83 [95% confidence interval, 0.76, 0.91]). No differences were observed when analyses were stratified for chronotype nor for the overall objective physical activity level.

**Conclusions:** Increased PA during the night and early morning were associated with the risk of incident depression, which suggests time-

dependent PA interventions for mental health might be of added clinical value.

## Multimorbidity

### O-115

#### End stage kidney disease treatments: a difficult choice to elderly patients?

Beatriz Mendes (1)

(1) Centro Hospitalar de Setúbal

**Introduction:** End stage kidney disease (ESKD) treatment choice may be difficult for elderly patients. Dialysis can be burdensome for the frail (more aggressive procedures and less quality of life) and Conservative Care (CC) may shorten life in fit patients. This study aimed to describe our elderly patients' trajectories regarding ESKD treatment options.

**Methods:** We designed a single center retrospective observational, cross-sectional study regarding patients (pts) over 80 years old (yo) who attended the ESKD treatment modalities appointment between July 2015 and December 2021.

**Results:** During 6,5 years, 113 pts over 80 yo were attended. Mean age was 85 yo (range 80–103). 66% were male and mean charlson comorbidity index (CCI) was 7 (sd  $\pm$  1,2). Mean estimated glomerular filtration rate was 14,64 (sd  $\pm$  7,6) ml/min/1.73m<sup>2</sup>. Regarding treatment options, 54% chose dialysis (HD), 38,9% chose conservative care, 2,7% chose peritoneal dialysis and 2,7% refused any treatment. Of those who chose dialysis, 62,3% started on a regular program of HD, 22,95% died before starting HD and 14,75% are still in follow-up. Considering those who chose CC, 54,5% started on a dedicated CC program, 31,8% died before starting that follow-up and 4,5% lately decided for HD. We found no difference between CCI and the treatment chosen ( $p = 0.709$ ). The mean time lived between those who chose HD vs CC was no different too.

**Key Conclusions:** The majority of patients over 80 yo still chose HD. CC should be an alternative to patients who might not benefit from dialysis. Geriatric assessment may help distinguish these groups.

## Stefania Maggi Awards

### Cognition and Dementia

Stefania Maggi Award

#### Delirium: Comparative analysis of detection and therapeutic management in geriatric patients between Spain and the United Kingdom

Gemma Cuesta Castellón (1), Saleta Goñi (1), Lucía Gómez (1), Sagrario Pérez (1), Luisa María Sánchez (1), Clara Hernando (1), Aris Somoano (1), María Madrugal (1), Blanca Garmendia (1), Yanira Aranda (1), Rocío Gómez del Río (1), Antonio Medina (1), Irene Manzanás (1), Carmen Ros (1), David Oliver (1), María Belén Sánchez (1), Eva María Fernández de la Puente (1), Javier Gómez Pavón (1), Arturo Vilches Moraga (1)

(1) Hospital Universitario Central de la Cruz Roja San Jose y Santa Adela (Madrid, Spain)

**Introduction:** Delirium is prevalent in older hospitalized patients. We aimed to establish differences in the management of delirium between Spanish and English acute geriatric teams.

**Methods:** Prospective observational study of all consecutive patients admitted to acute Geriatric wards in Hospital Universitario Central de la Cruz Roja, Madrid (SP) and Salford Royal Hospital, Manchester (UK) between 1 and 31st October 2022. We documented demographic data, triage method, drug and non-pharmacological management strategies.

**Results:** A Total of 200 patients were included in this study. Spanish patients' average age was 86.7 years, 65.9% were females, 30% CFS  $\geq 5$ , 60% severely dependent and 44% dementia. UK patients' average age was 83.4 years, 38.5% were females, 43% CFS  $\geq 5$ , 36% severely dependent and 35% dementia. Main reason for admission was respiratory infections in Spain (36%), and falls in UK (25%). Delirium was present in 24 (26.4%) and 47 (43.1%) patients in SP and UK respectively. Behavioural disorders (3% SP vs 10% UK), antipsychotic use (63.7% SP vs 3.7% UK), and multidisciplinary interventions (35% SP vs 68% UK). 80 patients were discharged into residential care (50% SP vs 32% UK). Average length of stay was 9.7 days SP and 15.9 days UK. The in-hospital mortality rate was 10% vs 4%, respectively.

**Conclusions:** Delirium is common in older patients in geriatric units in both countries. Spanish patients had shorter stays, were older and more dependent, had more respiratory infections, received more antipsychotic medication, and were more likely to be institutionalized. Mortality rates were similar.

### Comprehensive Geriatric Assessment

Stefania Maggi Award

#### Visit-to-visit Blood Pressure Variability and Intrinsic Capacity in older adults

Leonardo Bencivenga (1), Mathilde Strumia (1), Yves Rolland (1), Philippe Cestac (1), Sophie Guyonnet (1), Sandrine Andrieu (1), Philippe De Souto Barreto (1), Laure Rouch (1)

(1) Gérontopôle de Toulouse, Institut du Vieillissement, CHU de Toulouse, France

**Background:** The effectiveness of the body physiological regulatory mechanisms declines in late life, and increased Blood Pressure Variability (BPV) may represent an alteration in neurocardiovascular homeostatic patterns. Intrinsic Capacity (IC) has been proposed by the World Health Organization as a marker of healthy aging, based on individual's functional abilities and intended at preserving successful aging. The IC model reflects the trajectories of biological reserve of each person, through the assessment of key domains. We aimed to investigate the impact of visit-to-visit systolic and diastolic BPV on IC decline in a population of community-dwelling older adults.

**Methods:** The study population consisted of over 1400 community-dwelling participants aged  $\geq 70$  years from the MAPT study evaluated up to 9 times during the 5-year follow-up. Systolic BPV (SBPV) and diastolic BPV (DBPV) were determined through six indicators including the coefficient of variation (CV%) and taking into account BP change over time, the order of measurements and formulas independent of mean BP levels. Cognition, psychology, locomotion and vitality constituted the four IC domains. Total IC Z-score at each time point resulted from the sum of the four domains Z-scores divided by 4.

**Results:** Higher SBPV was significantly associated with poorer IC Z-scores in all linear mixed models [1-SD increase of CV%:  $\beta$  (SE) = -0.010 (0.001),  $p < 0.01$ ]. Similar results were observed for DBPV [1-SD increase of CV%:  $\beta$  (SE) = -0.003 (0.001),  $p = 0.02$ ].

**Conclusions:** Greater BPV is associated with IC decline over time. Our findings support BP instability as presumable index of altered neurocardiovascular homeostatic mechanism, suggesting that BPV might be a potential marker of aging.

### Geriatric Emergency Medicine

Stefania Maggi Award

#### What is the impact of a pre-hospital geriatrician led telephone 'silver triage' for older people living with frailty?

Howell Jones (1), Wakana Teranaka (2), Lyann Gross (3), Patrick Hunter (4), Simon Conroy (1)

(1) Central and North West London NHS Foundation Trust; University College London, (2) Central and North West London NHS Foundation Trust, (3) North Central London Integrated Care Board, (4) London Ambulance Service

**Background:** North Central London Integrated Care System in London, United Kingdom has introduced 'Silver Triage', a pre-hospital telephone support scheme where geriatricians support the London Ambulance Service in their clinical decision making relating to older people at the point of assessment with the aim to deliver more care to older people in the community. As most older people admitted to hospital are conveyed by ambulance services this also presents a focus to reduce hospitalisation and is in keeping with 'The Ageing Well programme' within the 'NHS Long Term Plan' [1,2].

**Methods:** Data from the first fourteen months of the scheme was analysed. Subsequent data will also be presented at the conference. **Results:** Between November 2021 and January 2023 there have been 452 Silver Triage cases with 80% resulting in a decision to not convey an older person to hospital. The mode clinical frailty scale (CFS) score was 6 with no difference in conveyance rates based on CFS. Prior to triage paramedics thought hospitalisation was not needed in 44% of cases ( $n = 72/165$ ). Most paramedics (93%,  $n = 154/165$ ) found it easy to contact the team with all 176 who responded to a post triage survey answering they would use it again. Many (66%,



n = 108/164) felt they learnt something from the discussion, with 16% (n = 27/164) reporting it changed their decision-making process.

**Key Conclusions:** Silver Triage has the potential to improve the care of older people by preventing unnecessary hospitalisation and has been well received by paramedics.

**References:**

1. Maynou L, Street A, Burton C, Mason SM, Stone T, Martin G et al. (2023) Factors associated with longer wait times, admission and reattendances in older patients attending emergency departments: an analysis of linked healthcare data. *Emerg Med J*. <https://doi.org/10.1136/emmermed-2022-212303>.
2. NHS England. The NHS Long Term Plan. 2019; Available from: <https://www.longtermplan.nhs.uk/wp-content/uploads/2019/08/nhs-long-term-plan-version-1.2.pdf> Cited 24 May 2023.

## Posters

### Acute Hospital Care

#### P-001

##### **A Prospective Audit on Outpatient Clinical Activity in a Consultant-led General Medical and Specialist Geriatric Clinic**

Arveen Jeyaseelan (1), Aoife Casey (1), Eoin O'Donnell (1), Alexander Gillett (1), Michael Reardon (1)

(1) Wexford General Hospital, Wexford, Ireland

**Introduction:** It is recognised that there is significant unprecedented pent-up demand on Irish healthcare services due to the COVID-19 pandemic. This has resulted in lengthy acute hospital scheduled care waitlists. We identified a national protocol that provides guidance in the area of outpatient waiting list management. The aim of this audit was to determine if our practice was consistent with national guidance.

**Methods:** We conducted a prospective audit on a consultant-led medical and specialist geriatric clinic between January to March 2023 and collected data in relation to referral reason, triage category, waitlist times, clinic attendance, hospital admissions, inter-specialty communication and resolution of clinical problem prior to outpatient clinic attendance.

**Results:** e included 67 patient appointments in this audit. Median waitlist time was 15.5 weeks. There were 2 urgent referrals, both were not seen within the Clinically Recommended Timeframe (CRT). 94% were seen within the CRT. 11 patients (16.4%) failed to attend their clinic appointment, only 3 of which cancelled beforehand. 5 patients (7.5%) were inpatients during waitlist time and 4 had reason for outpatient referral addressed during their inpatient stay. 8 patients (11.9%) had same referrals sent to a second point of contact, only 5 had correspondence available in medical records.

**Conclusion:** The majority of our waitlist times fall within national target recommendations, however more robust pathways need to be developed to ensure urgent referrals are seen promptly. They also indicate inter-specialty and patient communication need to be enhanced to minimise duplicate or unnecessary appointments that add to waitlist burden.

#### P-002

##### **Usefulness of multiorgan point of care ultrasound (pocus) in older hospitalised patients reviewed by geriatric teams: a pilot study conducted in different care settings in United Kingdom and Spain**

Paola Reinoso Párraga (1), Ivón Rivera Deras (2), Rocío Menéndez Colino (1), Jesús López Arrieta (2), Salman Arain (3), Juan Ignacio González-Montalvo (1), Eleanor Abbot (4), Arturo Vilches-Moraga (5)

(1) Hospital Universitario La Paz, (2) Hospital La Paz-Cantoblanco, (3) Salford Royal NHS Foundation Trust, Manchester. Reino Unido, (4) Salford Royal Hospital Foundation NHS Trust, (5) Salford Royal Hospital NHS Foundation Trust

**Introduction:** Diagnosis in older patients is often challenging particularly in those with atypical presentation of illness, cognitive and functional impairment. Point of Care Ultrasound (POCUS) is helpful in single organ disease but never tested in complex patients reviewed by geriatric teams. We aim to describe the contribution of POCUS to diagnosis, treatment, and monitoring of multimorbid older patients.

**Methods:** Prospective observational study of patients admitted to acute geriatric, rehabilitation, surgical and day hospitals to British and Spanish hospitals between 1st January 2022 to 31st December 2022. Multiorgan and muscle ultrasound were performed, and clinical outcomes documented.

**Results:** 54 individuals, 48,1% female, average age 83,96 years (SD 5,94; range 66-94), Clinical-Frailty-Scale score 4,64 (SD 1,23; range 3-7), Barthel Index 71,33 (SD 23,96; range 0-100); FAC: 3,81 (SD 1,55; range 0-5); Cognitive status: GDS: 2,44 (SD 1,46; range 1-7), body mass index 24,69 (SD 8,39), Mini-Nutritional-Assessment 7,88 (SD 3,11). Delirium was documented in 42,6%. Diagnoses N (%) Acute decrease in muscle mass 28 (51,85) Acute increase in muscle mass 1 (1,85) Ruled out deep vein thrombosis 11 (20,37) Confirmed deep vein thrombosis 1 (1,85) Venous insufficiency 1 (1,85) Confirmed cellulitis 3 (5,56) Soft tissue hematoma 3 (5,56) Bilateral lower limb edema 1 (1,85) Atrial fibrillation 1 (1,85) Heart failure 9 (16,67) Interstitial syndrome 9 (16,67) Bilateral pleural-effusion 7 (12,96) Unilateral pleural-effusion 1 (1,85) Pericardial effusion 2 (3,70) Hypervolemia (vena cava evaluation) 3 (5,56) Hypovolemia 1 (1,85) Acute acalculous cholecystitis 2 (3,70) Ascites 2 (3,70) Walnut appearance of liver 1 (1,85) Hepatomegaly 2 (3,70) Joint effusion knee 2 (3,70) Groin abscess 1 (1,85) Acute urinary retention 1 (1,85) Ruled out acute urinary retention 2 (3,70) Simple kidney cyst 1 (1,85) Cannula placement 1 (1,85) .

**Conclusions:** POCUS proved helpful in confirming and ruling out disease in older persons admitted to hospital, facilitated timely adjustments to treatment and reduced ward moves and procedures that could have resulted in further complications. We advocate the introduction of POCUS into the training syllabus of future geriatricians.

#### P-003

##### **Rendu-Osler-Weber syndrome in elderly: a case report**

Cherif Yosra (1), Derbal Samar (2), Hentati Olfa (2), Chebbi Donia (2), Ben Dahmen Fatma (2), Abdallah Meya (2)

(1) Department of Internal Medicine, regional hospital of Ben Arous, Tunisia, (2) Department of Internal Medicine, regional hospital of ben Arous, Tunisia

**Background:** Rendu-Osler-Weber (ROW) syndrome or Hereditary haemorrhagic telangiectasia is an autosomal dominant genetic disorder characterized by fibrovascular dysplasia that makes vascular walls vulnerable to trauma and rupture, causing skin and mucosa bleeding. The clinical features include mucocutaneous telangiectasias, recurrent epistaxis and visceral arteriovenous malformations and positive family history.

**Case Summary:** We report the case of a 71-year-old woman admitted to our department of Internal Medicine with severe anemia that needed blood transfusion. Her chest x-ray showed a left paracardiac pulmonary opacity. Blood tests showed a hemoglobin of 4.3 g/dl, total leucocyte count of 8750/mm<sup>3</sup>, with 85% neutrophils, and a platelet count of 457000 /mm<sup>3</sup>. Liver and renal function tests were normal and the coagulation profile was also normal. A thoraco-abdominal CT scan revealed well-defined serpiginous lung and liver masses suggestive of arterio-venous malformations. Retrospective enquiry revealed recurrent epistaxis in the past and a family history of bleeding in the form of recurrent epistaxis. Careful skin and mucosa examination revealed telangiectasias over the tongue. So the patient presented with the classic triad of recurrent epistaxis, mucocutaneous telangiectasias and family history of hereditary haemorrhagic lesions and then, diagnosed with ROW syndrome. She was treated with blood transfusion and iron. The hemoglobin improved to 10.5 g/dl. She was

also given the option of coil embolization for the pulmonary and hepatic arterio-venous malformations.

**Conclusion:** Although the skin and mucosa involvement and epis-taxis may be mild features of ROW syndrome, timely recognition of these symptoms can allow the management of potential severe complications especially in elderly.

## P-004

### Towards an Optimized Diagnostic Algorithm for the Etiology of First-Time Catatonia: A Pragmatic Approach

Frank Bijvank (1), Marieke Henstra (1), Lilian Bot (2), Argonde van Harten (3), Eric van Exel (2)

(1) Department of Internal Medicine and Geriatrics, Amsterdam UMC location AMC, University of Amsterdam, Amsterdam, Netherlands, (2) Department of Psychiatry, Amsterdam UMC location VUMC, Vrije Universiteit, Amsterdam, Netherlands and GGZ Ingeest, (3) Department of Neurology, Amsterdam UMC location VUMC, Vrije Universiteit, Amsterdam, Netherlands

**Introduction:** Catatonia is a complex psychomotor syndrome with a poorly understood underlying pathophysiology. It is predominantly observed in psychiatric care settings, but can also manifest in non-psychiatric medical care. Catatonia contributes to increased morbidity and mortality. It is therefore important to diagnose and treat conditions precipitating catatonia. However, the differential diagnosis for conditions precipitating catatonia is extensive and can be broadly categorized into psychiatric, neurological, and a residual group. The purpose of this study is to develop a pragmatic diagnostic algorithm for patients presenting with first-time catatonia.

**Methods:** A literature search was conducted using the PubMed database, using the MeSH term ‘catatonia’, to identify relevant studies on the precipitating conditions of catatonia, published between January 2012 and January 2023. Additionally, commonly used textbooks on catatonia were consulted. A multidisciplinary team comprising experts in psychiatry, neurology, and internal medicine, designed an algorithm for diagnostic steps based on consensus.

**Results:** Eleven studies were eligible for inclusion, supplemented by relevant chapters of three textbooks, resulting in 164 potential precipitating conditions. Based on these sources, a diagnostic algorithm was designed.

**Conclusions:** In order to identify a precipitating condition of first-time catatonia, we recommend a stepwise diagnostic approach to cover the most common precipitating conditions of catatonia. In case of absence of such a condition and further evaluation is warranted, we advise a multidisciplinary approach including expertise in psychiatric, neurological, and internal medicine in order to identify less common conditions. Our combined diagnostic approach is vital to further improve treatment of catatonia and its precipitating factors.

## P-005

### Outcomes among older adults discharged from an acute geriatric unit: an analysis of hospital readmissions and deaths in the DAMAGE cohort

Fabien Visade (1), Genia Babykina (2), Jesús Á. Carretero Bravo (3), Vincent Vandewalle (2), Jean-Baptiste Beuscart (2)

(1) 1- Univ. Lille, CHU Lille, ULR 2694 -METRICS: Évaluation des technologies de santé et des pratiques médicales, Lille, F-59000, France 2-Department of Geriatrics, Lille Catholic Hospitals, Lille, F-59000, France, (2) 1- Univ. Lille, CHU Lille, ULR 2694 -METRICS: Évaluation des technologies de santé et des pratiques médicales, Lille, F-59000, France, (3) 1- Univ. Lille, CHU Lille, ULR 2694 -METRICS: Évaluation des technologies de santé et des pratiques médicales, Lille, F-59000, France 3. Facultad de Enfermería y Fisioterapia

**Background:** The fate of older adults after admission to an acute geriatric unit (AGU) is heterogeneous in terms of hospital readmission and death. This heterogeneity has not been well explained. The objective of the present study was to identify specific subgroups of older patients at risk of repeated hospital readmissions and death.

**Method:** We analyzed the prospective, multicentre, DAMAGE cohort of adults aged 75 and over, hospitalized in an AGU, and who had been followed up for 12 months. We performed a latent class analysis to identify subgroups at risk of repeated hospital readmissions and death, followed by a logistic regression analysis to determine the characteristics associated with the identified subgroups.

**Results:** 3081 patients were included (mean (SD) age: 86.4 (5.5) ) and two subgroups were identified. In subgroup 1 (n = 2169, 70.4%), only 619 (28.5%) patients were readmitted to hospital once during the follow-up, and 495 (22.5%) died. In subgroup 2 (n = 912, 29.6%), all patients were readmitted to hospital at least twice, and 523 (57.8%) died. Subgroup 2 accounted for 29.6% of patients but 74.4% of hospital readmissions, with longer lengths of stay, and 51.6% of deaths. A multivariate logistic regression analysis identified only four characteristics weakly associated with the risk of being in subgroup 2. The area under the receiver operating characteristic curve was 63%.

**Conclusion:** A latent class analysis showed that a population of older adults hospitalized in an AGU is divided into two subgroups with regard to the post-discharge outcomes: one subgroup (70% of the individuals) will have a low rate of hospital readmission and a moderate death rate, whereas the other will have a high rate of hospital readmission and a very high death rate.

## P-006

### New horizons in the analysis of hospital readmissions of older adults

Fabien Visade (1), Genia Babykina (2), Guillaume Deschasse (3), Jean-Baptiste Beuscart (2)

(1) 1- Univ. Lille, CHU Lille, ULR 2694 -METRICS: Évaluation des technologies de santé et des pratiques médicales, Lille, F-59000, France 2-Department of Geriatrics, Lille Catholic Hospitals, Lille, F-59000, France, (2) 1- Univ. Lille, CHU Lille, ULR 2694 -METRICS: Évaluation des technologies de santé et des pratiques médicales, Lille, F-59000, France, (3) 1- Univ. Lille, CHU Lille, ULR 2694 -METRICS: Évaluation des technologies de santé et des pratiques médicales, Lille, F-59000, France 2-Department of Geriatrics, CHU Amiens-Picardie, Amiens, F-80054, France

We propose to highlight analytical methods that can be usefully applied to the problem of hospital readmissions of older adults. The limitations of the models currently used in studies of hospital readmissions are described. In summary, analyses of hospital readmissions face two important methodological and statistical problems not accounted for by the currently used statistical models: the potential recurrence of readmissions, and competition between

readmission and death. We discuss an approach for the analysis of hospital readmission risk and death simultaneously. Understanding the features of this kind of approaches is essential at a time when high-quality data on hospital readmission in older patients are becoming available to a large number of researchers. Models adapted for the analysis of recurrent and competing events are presented, and their application to studies of hospital readmission are explained, with reference to two cohorts of several thousand older individuals.

## P-007

### Project I-GERAS 12: improving continuity of assistance in Spanish nursing homes

Sara Fernández Villaseca (1), Francisco José Soria Perdomo (1), Elena García Gómez (1), Cristina Zaragoza Brehcist (1)

(1) Hospital Universitario 12 de Octubre

**Introduction:** Project i-GERAS 12 applies health information technology (health IT) helping the cooperation between the information systems of nursing homes (also called socio sanitary centers) and reference tertiary hospital making clinically relevant information available for medical staff related to such patients living in nursing homes and optimizing medical attention and continuity of assistance. Designing identification systems of nursing homes residents in the electronic medical records so they can receive specific attention (using the system as a “nursing home resident locator”). Making medical consultation through telematic ways (online services).

**Methods:** Developing information services in the electronic clinical records making such data available for nursing homes teams. Online services of tele-consultation were developed. Patients living in nursing homes (public and private) were included in the electronic medical record information.

**Results:** In 2022, 2925 admissions from nursing homes (mean age 86.7 years). Mean length of stay in the emergency room was 16 h. The mortality rate was < 1% in the emergency room and 44.5% hospitalized in different medical and surgical services. Now, 1889 patients are included in the electronic medical record shared by the hospital and nursing homes. These patients are “located” in the electronic medical record by a sign that can be seen for users of the Hospital.

**Key Conclusions:** Developing strategies identifying nursing homes residents in the hospital allow continuity of assistance and optimizing management in the hospital. Teleconsultations made medical attention more accessible.

## P-008

### Developing medical activities in nursing homes from a tertiary university hospital in Spain

Sara Fernández Villaseca (1), Francisco José Soria Perdomo (1), Cristina Zaragoza Brehcist (1), Elena García Gómez (1)

(1) Hospital Universitario 12 de Octubre

**Introduction:** In the referral area of a tertiary hospital located in Madrid, there are 16 nursing homes (one of them public, the rest of private or concerted administration). Support activity mainly by phone assistance or e-mail, and tele-consultation where complexity requires. We developed an educational program for nursing homes teams designed to assist in medical interest (pressure ulcers, nutrition, congestive heart failure, palliative care, antibiotic therapy, acute confusional syndrome, etc.).

**Methods:** A record of Emergency Room admissions of nursing home residents. Also all activity regarding geriatric service and nursing homes activities was included.

**Results:** There are 1889 nursing homes residents. In the first quarter of 2023 there were 752 admissions of nursing homes residents in the emergency room, mean age 87.5. There are more admissions in smaller nursing homes (considering the ratio between referrals/ residents). In 2022, geriatric team made nine on-line educational sessions (with different services such as Palliative Care Unit, Rehabilitation Department and Cardiology Department and emergency Department). A total of 594 phone calls for assessment and 808 emails: COVID 19 related problems in 44%, clinical doubts 16%, pharmacology decisions 12%, paper work due to different treatments such as wheelchairs 10%, and oral nutritional supplements 9%). Hospital pharmacy supplied antimicrobial parenteral treatment in 40 cases. In addition, 28 sessions of teleconsultations were performed.

**Key Conclusions:** Is important to keep working in cooperation programs between our hospital and nursing homes, including educational sessions. The work of Geriatrics working as a link between the hospital and nursing homes is helpful as a guarantee of nursing home resident’s attention in the hospital.

## P-009

### Rotigotine Patch Dosing in Parkinson’s Disease: Calculator Discrepancies

Thomas Boyle (1), Christina Plowman (1), Mark Rawle (2)

(1) Royal London Hospital, Barts Health NHS Trust, UK, (2) Whipps Cross University Hospital, Barts Health NHS Trust, UK & MRC Unit for Lifelong Health and Ageing at UCL, London, UK

**Introduction:** onverting oral Parkinson’s disease (PD) medications to transdermal Rotigotine is sometimes required when patients have swallowing difficulties. Correct dosing is important to avoid undertreatment and deterioration of PD symptoms. Conversely, excessive dopamine agonist can cause hallucinations and confusion. In the UK, 2 main dose conversion calculators exist: PD Med Calc1 and OPTIMAL2, both utilising different formulae. We compared both to identify any dose discrepancies in their recommendations, and select one for use within revised trust guidelines.

**Methods:** We conducted a retrospective analysis of 22 cases from pharmacy data of 1400 prescriptions issued between January 2021—July 2022 for patients switched from oral PD medications to a Rotigotine Patch whilst admitted to a UK teaching hospital. We calculated the recommended Rotigotine patch dose from each patient’s usual oral medication regimen using both the PD Med Calc[1] and OPTIMAL [2] calculators to identify discrepancies.

**Results:** n 86% of cases (19/22) there was a difference between doses suggested by both calculators. Of these, 95% (18/19) showed OPTIMAL recommended doses 20–200% higher than PD Med Calc. In 5% (1/19) OPTIMAL recommended a marginally lower dose than PD Med Calc.

**Conclusions:** In dopamine agonist naive patients, PD Med Calc recommended a lower starting Rotigotine dose than OPTIMAL. Most admitted PD patients on patch conversion were older adults, and this population is particularly vulnerable to the side effects of excessive dopamine agonist exposure. The authors recommended using PD Med Calc within revised trust guidelines to minimise negative sequelae and ensure dosing consistency.

References.

[1] PD ‘Nil by Mouth’ Medication Dose Calculator <http://pdmedcalc.co.uk/>.

[2] OPTIMAL Calculator—A Guideline for the OPTIMAL management of inpatients with Parkinson's Disease. <http://www.parkinsonscalculator.com/index.html>.

## P-010

### Calcium pyrophosphate crystal arthritis in short bowel syndrome with deficit in magnesium and trace elements

Jean-Jacques LLOVERAS (1)

(1) Hopitaux Luchon 4 Avenue A DUMAS 31110 Bagneres de LUCHON FRANCE

We report another case of microcrystalline arthritis due to calcium pyrophosphate deposition (CPPD) disease with hypomagnesemia and depletion of zinc and selenium in short bowel syndrome (SBS). A 81-year old woman previously treated by small bowel resection and ileostomy after infection of prosthetic material presented tachycardia, fine tremor of extremities, depressive mood and anxiety. Electrocardiogram showed no abnormality. Successive flares of monoarticular arthritis with calcium pyrophosphate (CPP) deposits involving elbow, ankles, knees and metacarpophalangeal joints occurred with low magnesium (0.38 mol/l), zinc (0.63 mg/l) and selenium (41.2 µg/l) serum levels. Despite supplementation and colchicine treatment, recurrent episodes were noticed before fatal outcome occurs due to pneumonia. CPPD is frequent in elderly and association of CPPD disease with hypomagnesemia is established, mostly in the setting of renal losses, but in four cases of SBS, low values of zinc, selenium or copper have also been observed. Prevalence of radiographic chondrocalcinosis is higher in normal subjects with lower magnesium serum level and in patients with intestinal failure. Excess of inorganic phosphate (PPi) induces formation of articular CPP crystals. Its amount is decreased by magnesium acting as a cofactor of pyrophosphatase and PPi is produced from ATP by adenylate-cyclase; trace elements could also interact in these enzymatic systems, as already observed in vitro. Study of magnesium, zinc, selenium and copper could be appropriate in patients with CPPD disease in SBS.

## P-011

### Delivery of the Older Person Assessment Unit Service at Royal Bolton Hospital, United Kingdom

Vee Han Lim (1), Geraldine Donnelly (1), Amarah Khan (1), Rebecca Oates (1)

(1) Royal Bolton NHS Foundation Trust

**Introduction:** The Older Person Assessment Unit (OPAU) service was developed at the Royal Bolton Hospital as a response to the increasing demands and needs of frail, older patients attending the emergency department (ED). The unit complements the existing ED in-reach frailty service provided by consultant geriatricians and Frailty Advanced Nurse Practitioners. The aim of OPAU was to provide early Comprehensive Geriatric Assessment (CGA) and facilitate earlier discharges for frail patients admitted from ED. This in turn will reduce length of stay (LoS) and complications associated with hospital acquired deconditioning. An existing 22 bedded acute medical unit was identified and led by consultant geriatricians supported by the wider multidisciplinary team. Service commenced in October 2022. Method6 months of data were collected and analysed pre and post service commencement with the help of the hospital's Business Intelligence Department.

**Results:** The average age of patients pre intervention was 68.8 compared to 80.2 post intervention. The average CFS score of patients post service was 5.7. There was a reduction in the average LoS from OPAU to geriatric base wards at 3 and 6 months (20.4 and 18.1 days respectively) compared to 22.5 days average LoS pre intervention. There was also a reduction in the average LoS from OPAU to non-geriatric base wards at 3 and 6 months (10.2 and 9.1 days respectively) compared to 10.2 days average LoS pre intervention.

**Key Conclusions:** Early CGA in a designated assessment unit for frail older patients has led to an improved inpatient LoS.

## P-012

### Using Deep Learning Algorithms to Predict the Risk of Functional Decline in Hospitalized Older Adults

Ming-Yueh Chou (1), Yu-Chun Wang (1), Chih-Kuang Liang (1), Ying-Hsin Hsu (1), Mei-Chen LIAO (1), Shang-Lin Chou (2), Yu-Tse Lin (1)

(1) Center for Geriatrics and Gerontology, Kaohsiung Veterans General Hospital, Taiwan, (2) Ping-Tung Veterans General Hospital, Taiwan

**Introduction:** ospital-associated disability (HAD) is prone to occur in hospitalized older people and leads to many poor and severe prognosis.

**Methods:** This retrospective cohort study was conducted in a medical center in southern Taiwan from January 2018 to June 2021. The inpatients aged 65 years and older were admitted were recruited for study. Those with total dependent or terminal illness were excluded. Katz activity of daily life (ADL) was measured while admission and discharge. Demographic characteristics and medical records were obtained from the computer database. The recurrent neural network (RNN) and the feature importance analysis were used to evaluate correlation between functional declines in hospitalization.

**Results:** total of 36,226 participants (mean age  $75.6 \pm 8.1$  years,) were recruited for study, and among them, 8,584 (23.7%) participants were classified as functional decline group during hospitalization. The results found that RNN was accurate in predicting functional decline. External validation showed that the accuracy of RNN was 99.3% and the area under the curve (AUC) was 0.9992. The feature importance analysis showed that the weights of risk factors of functional decline were fall in the past year (28.6%), baseline ADL (23.0%), LOS (12.6%), cancer (9.2%) age (7.6%), frailty index (4.6%), pain score (3.7%), Charlson comorbidity index (3.0%), gender (2.6%) and tube use (2.0%).

**Key Conclusions:** The important risk factors of functional decline were falls in the past year, baseline ADL, LOS, cancer and age. Further intervention should be applied for those at risks of functional decline so as to reduce hospitalization complications.

## P-013

### The Health Status of Older Adults Referred to the Ambulatory Geriatric Unit (AGU) at Landspítali and the Association with Death and Transfer to Long-Term Care (LTC)

Anna Björg Jónsdóttir (1), Ingibjörg Hjaltadóttir (1), Karítas Ólafsdóttir (1), Sigrún Berglind Bergmundsdóttir (1)

(1) Landspítali University Hospital

**Introduction:** The ageing population is not without challenges and appears daily in every emergency room (ER). The ER is a place where seriously ill and injured people are received, but it can be difficult to provide suitable services for the acute ill, multi-morbid and frail elderly. We looked at the health status and functional capability of those who were referred to the AGU at Landspítali from the ER and the associations to death and transfer to LTC.

**Methods:** A retrospective cross-sectional study. The data was obtained from the medical record, the "interRAI Emergency Department Contact Assessment version 9.3" and The Directorate of Health. The data were analysed using logistic regression.

**Results:** The average age was 84.4 years and 71.6% were women. The variables associated with increased probability of the individuals dying or moving to LTC were within one year were: home care the last 90 days (OR 3.44 (CI 1.115–10.592),  $p < 0.032$ ); dressing impairment (OR 5.60 (CI 1.702–18.458),  $p < 0.005$ ); falls in the last 30 days (OR 4.38 (CI 1.333–14.418),  $p < 0.015$ ); and admission to a hospital in the last 90 days (OR 3.79 (CI 1.004–14.295),  $p < 0.049$ ).

**Key Conclusions:** The needs of elderly people are multifactorial, and therefore it is important that service providers diagnose the complex problems of those who are most frail and at the greatest risk, to provide appropriate treatment and support to ensure independent living and the highest possible quality of life.

## P-014

### The presence of a feeding tube as a cause of delirium that affects the weaning process from mechanical ventilation in patients with a tracheostomy

Ksenya Markov (1)

(1) Geriatric center Shoham, Ministry of health

Delirium is an acute state of confusion that is common amongst elderly patients who are hospitalized. The risk of developing delirium is increased in older patients who are hospitalized in a department for those requiring chronic mechanical ventilation, especially patients with acute medical conditions in addition to risk factors such as: frailty, chronic illnesses, polypharmacy, and functional deficits. Patients hospitalized in chronic ventilation departments often require feeding via nasogastral tube (NGT). This feeding method is invasive and is carried out by inserting a tube into the upper respiratory system, which then continues down to the stomach and is used for feeding during the acute phase of the illness. This method is found to be effective in the short term and has a relatively low complication rate, however the feeding tube through the nose can factor in causing delirium. The combination of the NGT and development of delirium can impede the potential for weaning from mechanical ventilation.

**Case study:** We will present a case study consisting of patients receiving mechanical ventilation via tracheostomy who were admitted to the department with feeding by way of NGT and who also suffered from delirium. These are patients who distinctly have the potential to be weaned off the ventilator. Five patients were admitted to the long-term ventilator department for the purpose of continuing the weaning process. Upon admission, they received enteral feedings and after several days developed a state of delirium, as per the Confusion Assessment Method (CAM) scale, thus requiring chemical and/or physical restraint in order to maintain patient safety and prevent harm. In a swallowing test performed by the speech therapist, the potential for weaning from nasogastral tube was established. After weaning from the NGT was completed, the delirium passed and the patients' state of mind was calmer, no longer requiring sedation or restraints, and consequently the weaning process from mechanical ventilation was initiated. In light of what has been stated, there appears to be a

direct relationship between the presence of an NGT and the state of delirium and the success of the weaning process from mechanical ventilation.

**Conclusions:** In the short-term, weaning from the NGT affects the patients' state of mind and success in weaning from mechanical ventilation in those with tracheostomy. Feeding via NGT can be a factor in causing delirium which in turn influences non-responsiveness to treatment and failure in weaning from mechanical ventilation.

## P-015

### Differences in mortality and readmission before and after COVID-19 of older individuals hospitalised in acute geriatric unit

D Mujica (1), G Cuesta (2), J Artero (2), B Neira (2), Y Aranda (2), J Arechederra (1), A Ferrantelli (1), S Blanco (1), M Fernandez (1), S Herrero (1), F Fernandez (1), I Nieto (1), I Gonzalez (1), I Neyra (3), E Abbot (4), H Mohammed (4), R Dewar (4), A

(1) Hospital Universitario de Guadalajara, (2) Hospital Central de la Cruz Roja San Jose y Santa Adela, (3) Universidad Peruana de Ciencias Aplicadas, (4) Salford Royal NHS Foundation Trust

**Introduction:** It is a fact that COVID-19 pandemic was a point of inflection in healthcare systems, because of the collapse of in-hospital system, causing a significant reduction in the referral rate in special way to elderly patients. Our healthcare (National Health Service) was one of those who improve the management of social care support and non-hospital treatment. Based on these premises, we decided to compare mortality and 6-month readmission before (1st to 30th September 2019 with follow-up on March 2020) and after (1st to 30th September 2022 with follow up on March 2023) the pandemic period.

**Results:** ORTALITY We noticed that there was a little increase in 6-months follow-up mortality rate in post-Covid period compared to the pre-Covid one (34% versus 29%). Most of the patients who died in the 6-months follow-up were at the range of age between 80 to 90 years old (63% in pre-covid and 59% in post-covid). In pre-Covid group, 60% of deaths were female in contrast to post-Covid data that showed a complete turn back in percentages due to an increase in male deaths to 65%. Interesting is that in the Pre-Covid period, 62% of the deaths in the next 6 months from admission ( $n = 33$  of 53) occurred during the first hospitalization, while in the Post-Covid group that number is shorter, and just 11% of the deaths ( $n = 4$  of 37) were in the first hospitalization. Most of the patients were in  $CFS \geq 5$  (78% in the pre-Covid group, and 95% in the Post-Covid one), which reflects higher dependency levels of those who died in the immediate six months. It is interesting that 58% of deaths in the Pre-Covid group has not cognitive impairment, while in the Post-Covid group, it was exactly the opposite, with 70% of deaths with mild cognitive impairment (35%) or formal diagnosis of dementia (35%). READMISSION Readmission at 6-months follow-up was founded to be quite fewer in post covid period compared to pre-Covid one (39% versus 58%) maybe due to changes in manage of elder people in nursing homes and prioritization of non-hospital management. Age of readmission patients occurred in 85-90 years range, similar in both groups (36% in Pre-covid and 38% in post-covid). Most of the patients re-admitted in pre-Covid group were female (56%) in contrast to post-Covid group where most of the patients were male (57%). These finding are similar to the proportion we found in Mortality. Again, classifying them by their Clinical Frailty Score (CFS), most of the re-admitted patients were  $CFS \geq 5$  (73% in the pre-Covid group, and 71% in the Post-Covid one), which reflects that higher dependency levels weigh in re-admission rate at six-month follow-up.

**Conclusions:** There were some changes in the management of elderly people after COVID-19 pandemic period, fortifying home care and nursing homes and avoiding admissions in patients with advanced frailty and higher chronological age, as we can see in our results, just 39% of patients were readmitted after COVID-19 instead of those 58% before COVID-19. Furthermore, there were changes in discharge management, and better coordination with Nursing Homes, Social Care Support and Palliative Care support, because we noticed that we have had less deaths during baseline hospitalization (11% post-covid in opposite with 62% pre-covid); nevertheless, in the 6-months follow-up we noticed that most of the deaths occurred in hospital in similar values in pre-covid period (60%) and post-covid one (54%), so we differ that those patients Readmitted in the next 6-months during post-covid follow up died in the second or third readmission. We pretend this information will lead us to improve the quality of our elderly care in order to organize our services to, for doing the best for the elderly patient.

## P-016

### Early Identification And Integration Of Palliative Care Patients In Geriatric Medicine

Langenfeld Stefan (1), Pianta Tanja (1)

(1) St. Marien-Hospital Köln

**Introduction:** The count of geriatric patients requiring palliative care treatment is rising especially in patients with cancer diagnosis. Most important is the identification of these kind of patients to help deciding whether more therapy especially chemo-/ antibody-/ or radiotherapy is indicated or if the control of symptoms should be preferred. Additionally, patients with terminal heart or kidney failure and advanced cognitive deficits were examined. In contrast to younger palliative care patients particularly geriatric patients are often recognized too late to be integrated in palliative care.

**Methods:** since November of 2019, 162 geriatric patients had a medical consultation by a palliative care physician. Besides the admission diagnosis, the main symptoms, the kind of care after discharge from hospital and the causes of death were analyzed. Furthermore, the time interval from admission to request of the medical consultation by a palliative care physician and the time interval until discharge or death.

**Results:** 38% of the examined patients had oncologic diagnosis leading to death, 25% a terminal organ failure. It took almost 58% of the duration of stay until the medical consultation by a palliative care physician. 47% of the identified patients died within their impatient treatment.

**Key Conclusions:** We found the urgent need for much earlier identification and integration of palliative care patients and a change of attitude concerning the earlier integration.

## P-017

### Emergency nurses and physicians perceptions and self-assessed competence in providing care to older patients

Milja Ranta (1)

(1) Mrs

**Aim:** This study examined emergency nurses' and physicians' perceptions and self-assessed competence in caring for older patients.

**Methods:** The data were analyzed by mixed methods approach and quantitative data were supplemented with qualitative responses. There

were 451 nurses and physicians working at the two emergency departments, with 125 responding to the survey; response rate was 27.7%.

**Results:** Physicians and nurses felt that acutely ill older patients are the responsibility of emergency services. Nurses were more critical than physicians ( $p = 0.000$ ) of older patients not being recognized as a special group in the emergency department. Over half (51.8%) of the physicians and 29.0% of the nurses ( $p = 0.027$ ) felt that the special needs of older patients had been considered during facility planning. Nurses and physicians describe problems related to multi-morbidity and aging quite similar way. Both expressed a need for more geriatric and gerontological knowledge.

**Conclusion:** Future facility planning and care processes at the emergency department should better consider the specific needs of older patients. Also, the results emphasize that the competence and educational needs of emergency staff should be prioritized in a more effective way and the care of older patients is a specific competence at the Emergency Department.

## P-019

### Frailty: A prognostic risk factor for pneumonia in older adults

Yuki Yoshimatsu (1), Heledd Thomas (2), Trevor Thompson (3), David Smithard (1)

(1) Elderly Care, Queen Elizabeth Hospital, Lewisham and Greenwich NHS Trust, UK; Centre for Exercise Activity and Rehabilitation, University of Greenwich, UK, (2) Elderly Care, Queen Elizabeth Hospital, Lewisham and Greenwich NHS Trust, UK, (3) Centre for Chronic Illness and Ageing, University of Greenwich, UK

**Introduction:** Pneumonia in older adults is known for its poor prognosis. For optimal management, effectively predicting their outcomes is crucial. However, conventional severity indicators are not effective in the older population. Moreover, little is known about their long-term prognosis. Previously, we revealed a lack of concrete diagnostic criteria for aspiration pneumonia (AP), and the reality that the diagnosis of AP was based on frailty and comorbidities rather than swallow assessments. We now report the results of prognoses and related factors.

**Methods:** We performed a retrospective cohort study of patients aged 75 years old and above, admitted with pneumonia in 2021. We separated patients into two groups according to their initial diagnosis (AP or non-AP) and compared their outcomes. We used logistic regression to identify prognostic factors and compared survival time with Kaplan-Meier curves.

**Results:** 803 patients were included. The median age was 84 years, and 17.3% were initially diagnosed with AP. The rate of death during admission and at 1 year was significantly higher in the AP group than the non-AP group (27.6% vs 19.0%,  $p = .02$ ; 64.2% vs 53.1%,  $p = .02$ ). However, this initial diagnosis was not an independent risk factor of poor prognosis. Higher age and frailty, and cardiac and respiratory comorbidities were among the risk factors independently related with death.

**Key Conclusions:** Older adults admitted with a diagnosis of pneumonia have a poor prognosis. Even those who initially recover have a high risk of becoming increasingly dependent, and many die within the following months. Frailty is a large risk factor. It is crucial to consider patient-relevant outcomes when managing older adults with pneumonia.

**P-020****Noise level comparison between a medical, a surgical, and an intensive care unit ward—prospective study**

Mariana Alves (1), Emilia Monteiro (2), Francisca Torres Sarmiento (1), Filipe Froes (3), Francisco Felix (4), M Manuela Cruz (2), Teresa Fonseca (1), Glória Nunes da Silva (1)

(1) Medicina Interna, Centro Hospitalar Lisboa Norte, (2) 1.Faculdade de Medicina. Universidade de Lisboa. Lisbon. Portugal., (3) 3.Chest Department, Pulido Valente Hospital—Centro Hospitalar Universitário Lisboa Norte, Lisbon, Portugal., (4) 4.Thoracic Surgery Department, Hospital Pulido Valente, CHULN, Lisboa, Portugal

**Introduction:** The patient's exposure to noise in hospitals frequently exceeds the World Health Organization (WHO) recommendations. Noise can lead to health issues, particularly in vulnerable patients. Objectives The present study aims to quantify and compare the noise level throughout the day and night in different wards of the same hospital.

**Methods:** Prospective observational study conducted in an acute internal medicine ward, a surgical ward, and an intensive care unit. The noise was recorded on random days and nights in the different wards, using a smartphone (Apple iOs). Data was gathered on average, minimal, and maximum noise.

Results Noise levels detected in the three wards are significantly higher than those recommended by the WHO, both during the day and at night. During the day, there were no significant differences between the three wards in terms of maximum noise. The average noise level was higher in the ICU (64 dB), followed by the acute internal medicine ward (60 dB), and the surgical ward (59 dB). The highest nighttime noise was recorded in the acute internal medicine ward (101 dB) and the lowest was in the surgical ward (85 dB).

**Conclusion:** Hospitalized patients from all three wards analyzed were exposed to high noise levels during the day and night. Physicians must be aware of this problem and its consequences for hospitalized patients.

**P-021****Real-life study of a physical activity intervention programme in elderly patients after admission to an Intensive Care Unit: ACTIVA-UCI study protocol**

María Juárez España (1), Alicia Noguero García (1), Rafael García Molina (1), Isabel Murcia Sáez (2), Martín Mario Pérez Villena (2), Álvaro Jara Gutiérrez (1), Juan Diego Egido Riscos (1), Isabel de Siles Crespo (1), Marta Sáez Blesa (1), Laura Plaza Carmona (1), Almudena Avendaño Céspedes (1,3,4), Rubén Alcántud Córcoles (1,3,5), Pedro Abizanda (1,3,6)

(1) Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain, (2) Intensive Care Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain, (3) CIBERFES, Instituto de Salud Carlos III, Madrid, Spain, (4) Facultad de Enfermería de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain, (5) Fundación Hospital Nacional de Paraplégicos, Toledo, Spain, (6) Facultad de Medicina de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain

**Introduction:** Older adults that survive a critical illness present with higher functional and cognitive decline than its counterparts hospitalized in a conventional bed, which entails a higher risk of rehospitalization and institutionalization. The creation of multicomponent physical rehabilitation programs—starting from ICU and after

discharge—is a necessity, particularly as a crucial intervention to prevent physical and functional disability secondary to hospitalization. The aim of the study is to analyse whether a multicomponent real-life intervention (nutrition, exercise and geriatric assessment) is effective in reducing the loss of physical function measured by the Short Physical Performance Battery in older patients after ICU admission.

**Methods:** Prospective in real life study. The study population will be 40 frail, sarcopenic or malnourished subjects aged 70 years or older attending the Intensive Care Unit of Albacete Hospital who agree to participate. On discharge, a multidisciplinary intervention will be carried out by the Geriatrics Department that will include multicomponent physical exercise for 16 weeks, nutritional intervention and Geriatric Assessment with management of geriatric syndromes. Other effects caused by physical exercise will be monitored, such as quality of life improvement, body composition and muscle mass changes, balance and gait patterns changes, mental health changes (depression, anxiety, post-traumatic stress responses, cognition and delirium) and feelings of loneliness; as well as if multicomponent interventions improve nutritional state and reduce disability and dependency.

**Key Conclusions:** The following study will carry out a holistic patient evaluation from the point of view of both intensive care and geriatricians, through early follow-up consultations and the development of a physical exercise and nutritional program focused on the patient.

**P-022****Analysis of treatment differences for aspergillosis in elderly patients**

Sara Fueyo Álvarez (1), Elena Valle Calonge (1), Julieth Andrea Caballero Velazquez (1), Irene Santana Hernandez (1), Isabel Diaz Diaz (1), Francisco Carreño Alonso (1), Eva María López Álvarez (1)

(1) Hospital Monte Naranco

**Introduction:** There's been an increase in aspergillosis' diagnosis, related to increased immunosuppressive treatments and chronic diseases. Voriconazole is the treatment of choice.

**Objective:** Analyze the characteristics of patients based on the treatment received for aspergillosis.

**Methods:** Descriptive study in hospitalized patients > 80 years diagnosed with aspergillosis from 01/01/2018 to 06/31/2023. Demographic, geriatric, healthcare-related, clinical, laboratory, and 30-day mortality variables were collected. Quantitative variables were analyzed using Kruskal-Wallis test ( $n < 30$ ) and qualitative were analyzed with Chi-square test.

**Results:** 73 patients. Treated with voriconazole 36.9%, isavuconazole 24.6% and untreated 38.3%. Mean age (voriconazole vs isavuconazole vs untreated) 88.0 vs 88.9 vs 89.6 ( $p0.257$ ); males 77.8% vs 61.1% vs 32.1% ( $p0.00265$ ); mean Barthel basal index 71.9 vs 74.2 vs 65.2 ( $p0.348$ ); mean length of hospital stay 11 days, 28.6 vs 20.2 vs 12.3 ( $p < 0.001$ ), COPD 40.7% vs 55.6% vs 17.9% ( $p0.0262$ ). Mean neutrophil count 32.1 vs 82.2 vs 62.6 ( $p0.0027$ ). Mean lymphocyte 2.92 vs 14. vs 8.98 ( $p < 0.001$ ). Mean albumin level 29.7 vs 34.2 vs 33.7 ( $p0.0694$ ). Positive culture 63.0% vs 38.9% vs 50.0% ( $p0.15$ ), LBA 2.28 vs 3.61 vs 1.80 ( $p0.0274$ ), LFA 1.20 vs 2.43 vs 0.885 ( $p0.16$ ). 30-days mortality 61.5% vs 19.2%, vs 19.2% ( $p0.00426$ ).

**Key Conclusion:** Male patients're treated more frequently with voriconazole. Patients receiving voriconazole treatment have longer hospital stays and higher 30-day mortality compared to those treated with isavuconazole.



**P-023****Mortality in old patients with aspergillosis**

Julieth Andrea Caballero (1), Elena Valle Calonge (1), Sara Fueyo Álvarez (1), Alejandro Rodrigo Cruz (1), Javier Montero (1), Teresa Pelaez (2), Eva Maria López Álvarez (1)

(1) Hospital Monte Naranco, (2) Hospital Universitario Central de Asturias

**Introduction:** There's been an increase in aspergillosis' diagnosis, related to increased immunosuppressive treatments and chronic diseases.

**Objectives:** Review of aspergillosis risk factors associated with mortality in elderly patients.

**Method:** Prospective study since 2018– 2023 involving patients older than 80 years with aspergillosis. Demographic (age, sex), healthcare-related (length of admission), laboratory (absolute neutrophil, lymphocyte percentage) variables and 30-day mortality after hospital were collected.

**Results:** 73 patients. Mean age was 88.5 years and 60% were males. Mortality rate at 30 days was 55.32%, mean hospital stay 16.8 days for non-deceased versus 26.6 days for deceased patients (p0.00353). In both groups respectively, neutrophil count (7700 vs 12100, p0.0144) and lymphocyte percentage (10.2 vs 4.46, p0.0274). 27 received voriconazole, 18 received isavuconazol and 28 untreated. The 30-day mortality rate were in untreated group 19.2%, isavuconazole group 19.2%, and voriconazole group 61.5% (p0.00426). Patients with isavuconazole had a lower risk of death compared to those treated with voriconazole (OR = 0.07, 95% CI[0.00–0.64]), as well as compared to untreated group (OR = 0.07, 95% CI [0.01, 0.45]).

**Key Conclusions:** Mortality in elderly patients with aspergillosis is high. Mortality was higher in patients with neutrophilia, lymphopenia treatment with voriconazole. Furthermore, these patients have longer hospital stays.

**P-024****Point Of Care Ultrasound (POCUS) in The Evaluation of An Older Frail Adult: Case Report**

Salman Javed Arain (1), Paola Reinoso-Párraga (2), Ivón Rivera Deras (2), Eleanor Abbot (1), T Pattison (1), Buthaina Al Balushi (1), Rocio Menéndez Colino (3), Juan González-Montalvo (3), Arturo Vilches-Moraga (1)

(1) Ageing and Complex Medicine, Salford Royal NHS Foundation Trust, Manchester, UK, (2) Geriatrics Department, La Paz University Hospital, Madrid, Spain, (3) Research Institute, La Paz (IdiPAZ), Madrid, Spain

Point-of-care ultrasound (POCUS) is a versatile, portable, diagnostic technique that provides timely bedside information across multiple systems. Delirium is a hospital complication, more frequent in older people and can hinder timely investigation. We report the case of an 87-year-old-gentleman with a diagnosis of dementia and atypical presentation of disease who underwent diagnostic POCUS, that lead to early diagnosis and treatment of acute cholecystitis.

**Case:** 87-year-old-ex-smoker, who has no history of alcohol-excess, presented to the emergency department with a 2-week history of reduced oral-intake, generalised tiredness and lethargy, weight loss and non-specific abdominal discomfort. Past medical history included mild-moderate aortic stenosis with mild left ventricular systolic dysfunction, permanent pacemaker, and peripheral vascular disease.

4A's Test score was 12, appeared clinically dehydrated, with abdominal distension and mild discomfort, but no guarding or rebound, preserved bowel sounds, and examination otherwise unremarkable. Haemoglobin 11.7 g/dl (MCH:29.2pg, MCV:96.8fl), White-Blood-Cells:  $9.8 \times 10^9$  /L, Neutrophils:  $7.7 \times 10^9$  /L, estimated-glomerular-filtration-rate:18mL/min/1.73m<sup>2</sup>, urea:22.3mmol/L, alkaline-phosphatase:553U/L, bilirubin:41umol/L, ALT:57U/L, C-reactive-protein:118mg/L. Chest-X-Ray: dual pacemaker, minimal left pleural effusion with no consolidation, congestion, pneumothorax or cardiomegaly. ECG: paced rhythm. POCUS carried out at bedside revealed bilateral pleural effusions, ascites, hepatomegaly, liver with multiple rounded anechoic and hypoechoic zones and enlarged vena cava (hypervolemia). The gallbladder appeared pyramidal in shape, with smooth well-defined trilaminar thickened wall measuring 6.4mm (range1-4mm), longitudinal and transverse diameter 8 and 3 cm respectively (normal limits), and positive Murphy's sign, in keeping with acalculous acute cholecystitis. Medical treatment for biliary sepsis with intravenous ciprofloxacin and intravenous fluid replacement were commenced and regulated ultrasound confirmed these diagnoses. Computed tomography abdomen and pelvis demonstrated bilateral pleural effusions and moderate ascites with no underlying malignancy. Magnetic resonance cholangiopancreatography ruled out biliary dilatation or large ductal calculi.

**Discussion/Conclusions:** POCUS facilitated timely diagnosis and treatment of an older adult with atypical presentation of biliary disease. The adoption of training and widespread use of POCUS should be fostered in our hospitals and offered to trainees in Geriatric Medicine.

**P-025****Point of care ultrasound (POCUS) for the evaluation of blood volume and alveolar- interstitial syndrome in older patients: Series of cases**

Paola Reinoso-Párraga (1), Salman Javed Arain (2), Ivón Rivera-Deras (1), T Pattison (2), Eleanor Abbot (2), Rocio Menéndez-Colino (3), Buthaina Al Balushi (2), G Cuesta Castellón (4), Juan González-Montalvo (3), Arturo Vilches-Moraga (2)

(1) Geriatrics Department, La Paz University Hospital, Madrid, Spain, (2) Ageing and Complex Medicine, Salford Royal NHS Foundation Trust, Manchester, UK, (3) Research Institute, La Paz (IdiPAZ), Madrid, Spain, (4) Geriatrics Department, Cruz Roja Hospital Madrid, Spain

**Introduction:** arly recognition and response to treatment in older frail patients with blood volumedisorders can be challenging. Point-of-care ultrasound (POCUS) is a versatile, portable, and inexpensive diagnostic technique that provides timely bedside information across multiple systems. We share POCUS images of 3 different patients admitted to our acute geriatric ward.

**Methods:** Case 1: 79-year-old man with a history of metastatic prostate cancer and nephrostomy but no vascular risk factors presenting with abdominal pain, vomiting, diarrhoea, and confusion. Treated for sepsis and E. Coli bacteriemia of urological source complicated by delirium, developed shortness of breath. POCUS revealed bilateral pleural and pericardial effusions, left ventricular hypertrophy, ventricular asynchrony and enlarged vena cava. Treatment for type 2 NSTEMI and new decompensated heart failure with systolic dysfunction was commenced and daily POCUS supported treatment adjustments. Case 2: 84-year-old ex-smoker with a diagnosis of COPD, atrial fibrillation, and heart failure with preserved ejection fraction was admitted to hospital following an unwitnessed fall with long lie. Treated for rhabdomyolysis and acute kidney injury,

exacerbation of COPD and fast atrial fibrillation, daily POCUS proved extremely helpful in adjusting diuretic dose and fluid status with complete resolution of bilateral interstitial syndrome, B line separation and reduction in vena cava size. Case 3: 80-year-old with a prostatic cancer spinal metastases and pulmonary fibrosis presented with breathlessness, fever, and confusion. Physical examination revealed a moist oral mucosa and bilateral crepitations with no other significant findings. Treated for sepsis of respiratory source. POCUS showed collapse vena and excluded interstitial lung syndrome and limb deep vein thrombosis. POCUS was particularly helpful in the titration of maintenance intravenous fluids and confirmed full resolution of hypovolemia.

**Conclusion:** POCUS is an accessible, economical, and portable tool useful beyond physical examination in the diagnosis and monitoring of treatments in confused uncooperative older patients.

## P-026

### Assessment of acute quantitative sonographic changes occurring in muscle mass of rectus femoris muscle in older adults hospitalized in a uk geriatric acute care unit through point of care ultrasound (pocus) : a pilot study

Paola Reinoso-Párraga (1), S Perkisas (2), J González-Montalvo (3), R Menéndez Colino (3), S Bastijns (2), T Pattison (4), Salman Javed Arain (4), Eleanor Abbot (4), Arturo Vilches-Moraga (4)

(1) La Paz University Hospital. Madrid, Spain, (2) University Center for Geriatrics, ZNA/University of Antwerp, Antwerp, Belgium, (3) Research Institute, La Paz (IdiPAZ), Madrid, Spain, (4) Ageing and Complex Medicine, Salford Royal NHS Foundation Trust, Manchester, UK

**Introduction:** Older People are frequent users of hospital services. Loss of muscle mass is associated with functional decline. We aim to describe the impact of hospitalisation in the muscle mass of older patients, and to determine the association between muscle mass changes and functional-status, nutritional-status, frailty and short-term clinical outcomes.

**Methods:** Prospective study of patients admitted to an acute geriatric ward between 1st-November to 30th-December-2022. Muscle ultrasound using bedside POCUS was performed to estimate rectus femoris muscle thickness (MT), area (Ar), pennation angle (PA), and fascicle length (FL) at the time of hospital admission (A) at 3 days and at hospital discharge (D) .

**Results:** 30 patients were included. Median age: 84 years (SD:5.551; 72–93), 63.3% were male and 70% Clinical-Frailty-Scale (CFS)  $\geq$  4. Median values of basal functional status: Barthel-Index (BI) 72.33 (SD 23.369); Functional-Ambulation-Category (FAC) 3.87 (SD 1.676). Cognitive status: Global-Deterioration-Scale (GDS) 2.47 (SD 1.613). Nutritional evaluation:Mini-Nutritional-Assessment-SF 7.40 (SD 2.787), total-proteins 6.35 (SD 0.84330). Median length of hospital-stay 5.79 (SD 3.657), inpatient-mortality 10% and delirium 53.3%. There was a decrease of PA 36.31%, Ar34.30% and MT24.50%, and an increase of FL10.47%. It was evaluated the relationship of Ultrasound-muscle-mass with functionality, frailty and nutritional-status. Comparing sarcopenia classification at admission and discharge, it was observed an increase in the mean index of: 5.04 (SD 1.99) and 7,74 (SD 4,24), which suggests an increase in sarcopenic patients due to hospitalization.

**Conclusions:** POCUS is useful in Geriatric Acute Units because: It allows observing the real changes that occur in the muscle mass, observing a decrease in MT, Ar and PA during hospitalization. There is no relationship between functional tests and muscle mass ultrasound characteristics at discharge, which makes ultrasound evaluation

necessary. It was demonstrated the inverse relationship between muscle-morphology and frailty; the greater frailty quantified by CFS, lower muscle-mass at discharge (Ar). It was demonstrated the direct relationship between the MNA and MTD, PA and FLD-discharge. Ultrasound assessment of muscle-mass could indirectly predict outcomes and allow decisions to correct muscle mass abnormalities.

## P-027

### Compliance With British Thoracic Society Guidance Regarding Follow-up Imaging In Frail Older Adults Treated For Pneumonia In Hospital

Salman Javed Arain (1), Buthaina Al Balushi (1), Paola Reinoso-Párraga (2), Ahmed Ktayan (1), Safia Osman (1), Arturo Vilches-Moraga (1)

(1) Ageing and Complex Medicine, Salford Royal NHS Foundation Trust, Manchester, UK, (2) Geriatrics Department, La Paz University Hospital, Madrid, Spain

**Introduction:** The British Thoracic Society (BTS) has identified age as a risk factor for poorer outcomes in pneumonia patients. Their guidelines recommend follow-up chest X-ray at 6 weeks following discharge to exclude complications and non-resolution. This study aims to assess CXR referral rates in the older patient population as per BTS guidelines.

**Methods:** Retrospective study of patients treated for pneumonia in 4 acute geriatrics wards during two separate time periods: 1st December 2021 to 31st January 2022, and from 1st January to 28th February 2023.

**Results:** 155 out of 200 patients had a diagnosis of pneumonia radiologically and clinically confirmed. 67.1% of patients treated for pneumonia were over the age of 80 and 45.8% had CFS between 7 and 9. In total, 28/155 (18.1%) patients underwent follow-up X-ray as per BTS guidance. 14/72 (19.4%) in 1st cycle and 14/83 (16.9%) in 2nd cycle. 38/127 (29.9%) not receiving follow-up had documented reasoning, this increased from 3.44% in 1st cycle to 52.2% in 2nd cycle.

**Key Conclusions:** Following interventions, adherence to BTS guidelines did not significantly improve. However, there was an increase in the documentation explaining why follow-up did not take place. The main reasons for non-compliance were death of patients before the follow-up period and severe frailty due to limited life expectancy, severe multimorbidity and cognitive impairment, who were felt to be too unwell and would not benefit from follow-up imaging. BTS guideline provides a recommendation, but patient care must be individualised according to patients needs.

## P-028

### Six-week Fatality Following Hospital Treatment For Pneumonia In Older Adults

Salman Javed Arain (1), Buthaina Al Balushi (1), Paola Reinoso-Párraga (2), Ahmed Ktayan (1), Rumaysa Quraishi (1), Gemma Cuesta Castellón (3), Arturo Vilches-Moraga (1)

(1) Ageing and Complex Medicine, Salford Royal NHS Foundation Trust, Manchester, UK, (2) Geriatrics Department, La Paz University Hospital, Madrid, Spain, (3) Geriatrics Department, Cruz Roja Hospital Madrid, Spain

**Introduction:** Pneumonia is characterised by inflammation of lung tissue, typically caused by an infection. We aimed to establish survival in older patients treated for pneumonia in hospital setting.

**Methods:** A retrospective study of patients treated for pneumonia in 4 acute geriatrics wards during two separate time periods: 1st December 2021 to 31st January 2022, and from 1st January to 28th February 2023.

**Results:** 155 of 200 patients had a diagnosis of pneumonia radiologically and clinically confirmed. Average age was 83.0, 58.7% were females, average CFS was 6.1, and 85.8% had a CFS of 5 or higher. Six-week mortality was 38.7%. Patients who died were more likely to be male (37.5% male vs 26.4% female) and frail (34.6% CFS  $\geq$  5 vs 9.1% CFS  $<$  5).

**Key Conclusions:** More than 1 in 3 older patients treated for pneumonia do not survive beyond six weeks. 4 in 5 patients in our cohort lived with frailty and this conferred worse prognosis. A pneumonia diagnosis in hospital should prompt clinicians to consider advance care planning, escalation of care and resuscitation status discussions.

## P-029

### Acute geriatric units in United Kingdom and Spain. Same speciality, different reality?

Gemma Cuesta<sup>3</sup> (1), Daniel Mujica<sup>4</sup> (2), Irene Manzanás<sup>3</sup> (1), Lucía Corral<sup>5</sup> (3), Amaya Capón<sup>6</sup> (4), Juan José Arechederra<sup>4</sup> (2), Alejandro Gómez<sup>2</sup> (5), Eleanor Abbott<sup>1</sup> (6), Helen Lu<sup>2</sup> (5), Kristiana Purchas<sup>2</sup> (5), Saleta María Goñi<sup>3</sup> (1), A Ferrantelli<sup>4</sup> (2), S Blanco<sup>4</sup> (2), S Herrero<sup>4</sup> (2), M Fernández<sup>4</sup> (2), Paola Reinoso<sup>5</sup> (3), F Hunt<sup>1</sup> (6), Javier Gómez Pavón (1), T Pattison<sup>1</sup> (6), Arturo Vilches-Moraga (6)

(1) 3Hospital Central de la Cruz Roja San Jose y Santa Adela (Madrid, Spain), (2) 4Hospital Universitario de Guadalajara (Spain), (3) 5Hospital Universitario La Paz (Madrid, Spain), (4) 6Complejo Hospitalario de Navarra (Pamplona, Spain), (5) 2Warrington and Halton Hospitals NHS Foundation Trust (UK), (6) 1Ageing and Complex Medicine, Salford Royal NHS Foundation Trust (UK)

**Introduction:** Acute Geriatric Units (AGUs) improve outcomes for frail older patients. We sought to compare service delivery and clinical outcomes in government-funded health and social care services between the United Kingdom and Spain.

**Methods:** The study was conducted from September 15th to November 15th, 2022, in two English and four Spanish hospitals.

**Results:** UK and Spain had similar patient populations in terms of age, gender, frailty, cognition, mobility, incontinence, pressure ulcers, and social services participation. However, UK hospitals had higher involvement of Physiotherapists and Occupational Therapy (57.5% and 69.5%) compared to Spain (13.2% and 11%). UK hospitals had longer stays (13.9 days) possibly due to more Spanish population in Care Homes (36.5% vs. 15.7% in the UK). UK had higher prevalence of therapy, care packages, and 24-h facilities. UK had lower inpatient mortality rates, with mobility impairment, incontinence, frailty, and institutionalization increasing the risk. Spain had significantly higher use of antipsychotic drugs (32.5%) compared to the UK (3.4%), despite similar delirium rates.

**Conclusions:** The study found that UK patients had better health outcomes, with lower rates of cognitive impairment, incontinence, and institutionalization. They were younger, more independent, and took fewer medications. UK hospitals provided more therapy and had lower usage of antipsychotic drugs. Despite longer stays, mortality rates were lower in the UK. Further research is needed to understand the differences between healthcare systems, including cost-effectiveness analysis.

## P-030

### Differences in profile and clinical outcomes before and after covid-19 in older individuals hospitalised in an acute geriatric unit

Gemma Cuesta<sup>2</sup> (1), Luis Daniel Mujica<sup>3</sup> (2), Eleanor Abbott (3), H Mohammed<sup>1</sup> (3), Salman Arain<sup>1</sup> (3), Saleta Goñi<sup>2</sup> (1), Lucía Gómez<sup>2</sup> (1), María Madruga<sup>2</sup> (1), Antonio Medina<sup>2</sup> (1), Juan José Arechederra<sup>3</sup> (2), A Ferrantelli<sup>3</sup> (2), S Blanco<sup>3</sup> (2), S Herrero<sup>3</sup> (2), M Fernández<sup>3</sup> (2), Alejandro Gómez<sup>5</sup> (4), Helen Lu<sup>5</sup> (4), Kristiana Purchas<sup>5</sup> (4), Paola Reinoso<sup>4</sup> (5), F Hunt<sup>1</sup> (3), T Pattison<sup>1</sup> (3), Arturo Vilches-Moraga (3)

(1) 2Hospital Central de la Cruz Roja San Jose y Santa Adela (Madrid, Spain), (2) 3Hospital Universitario de Guadalajara (Spain), (3) 1Ageing and Complex Medicine, Salford Royal NHS Foundation Trust (UK), (4) 5Warrington and Halton Hospitals NHS Foundation Trust (UK), (5) 4Hospital Universitario La Paz (Madrid, Spain)

**Introduction:** Acute Geriatric Units (AGU) proved pivotal in caring for frail elderly individuals during the COVID-19 pandemic. We aimed to determine whether baseline characteristics, management strategies and clinical outcomes differed before and after COVID-19 pandemic.

**Methods:** Prospective observational study of all consecutive patients admitted to our AGU, 1st to 30th September 2019 (previous to COVID-19 pandemic), and 1st to 30th September 2022 (after COVID-19 pandemic).

**Results:** Baseline characteristics: no age differences (around 85 y.o.) between pre- and post-Covid groups. Frailty: 70% pre-Covid, 80% post-Covid. Independence in mobility: 25% pre-Covid, 22% post-Covid. Delirium rates: 44% pre-Covid, 43% post-Covid. Female deaths: 70% pre-Covid, 58% post-Covid. Post-Covid group had higher percentages of Dementia (28% vs 35%), living in care homes (23% vs 32%), sphincter incontinence (13% vs 24%), and pressure ulcers (6.5% vs 11%). Discussions on resuscitation status were similar (72% vs 62%). Post-Covid saw increased involvement of Mental Health Team (4.9% vs 6.4%), Occupational Therapists (4.9% vs 6.4%), Social Services (33% vs 44%), decreased participation of Physiotherapists (67% vs 48%). Hospital mortality higher (19% vs 3.7%), length of stay shorter (7 days vs 11 days) before Covid-19, polypharmacy more prevalent during Covid-19. Predictive factors of in-hospital mortality: sphincter incontinence ( $p = 0.039$ ), resuscitation status discussion ( $p = 0.02$ ), dependency on others for mobility ( $p = 0.03$ ), all significant ( $p < 0.05$ ).

**Conclusions:** Higher in-hospital mortality, shorter stay pre-Covid, no significant differences except polypharmacy. Dependency on others linked to poor outcomes. 1 in 3 patients lacked resuscitation discussions. Quality improvement project aims to enhance uptake.

## P-031

### Readmission to emergency room after discharge from intermediate care unit

Eva Alvarez Garcia (1), Maria Pi-Figueras Valls (2), Anna Digon Llop (3), Ana Rodriguez Marcos (3), Miriam Flo Forner (4), Monica Adriana Conti Merli (1), Susana González Jiménez (1), Ingrid Pineda Perez (1), Monica Quesada Vilanova (1), Carla Pales Lozan

(1) Hospital Social Worker, (2) Physician, (3) Nurse, (4) Administrative

**Introduction:** The Geriatric Interdisciplinary Functional Unit (GIU) is in charge of assessing hospitalized elderly patients and coordinating

hospital discharge to Intermediate Care Units (ICU). Comprehensive Geriatric Assessment (CGA) is performed by the Hospital Social Worker (HSW) integrated in the GIU. AIM: Analyze the prevalence and characteristics of patients readmitted to Emergency Room assessed by GIU's HSW in Hospital del Mar.

**Methods:** Observational retrospective study of a cohort of 184 patients from a randomized sample, 20% of the total number of patients (918) assessed by GIU's HSW during 2022. Data collected: Mean age, gender, Gijon Scale (GS), readmission Gijon Scale (RGS), Dependency Assessment (DA), previous social support (PSS), destination at discharge (DD), readmission unit (RU), immediate readmission (72h) (IR), readmission due to complication in Intermediate Care Unit (RC) and readmission before a period of 6 months (R6).

**Results:** 184 patients analysed, 50.05% male. Mean age 79 years. Mean GS10, 46.9% PSS, 33.6% DA. Destination at discharge to ICU 90.7% (167) : (Intermediate Care 65.7%; Long Term Care 19%; others 6%); home 8.2%; died 1.1%. According to the 49.46% of patients readmitted to hospital from ICU: 14.6% IR and 85.4% RC. 24% R6 from all patients assessed (n = 184). Regarding to HAI complication rates, patients' readmission distribution was: IR (85.7% from Intermediate Care; 14.3% from Long Term Care), RC (68.3% Intermediate Care, 31.7% Long Term Care). Patients admitted to Emergency Room had mean RGS9 points and emergency readmission unit was medical 58.6% and 27.6% surgical.

**Conclusions:** Patients discharged to an ICU were readmitted before a period of 6 months very frequently, and medical pathologies were most prevalent. Health Social Determinants that imply clinical frailty aren't related to hospital readmission.

### P-032

#### Blood transfusions in elderly patients: do we follow recommendations?

Sophia Witthaut (1), Anette Hylen Ranhoff (2)

(1) Diakonhjemmet Hospital Oslo, (2) University of Bergen

**Introduction:** General recommendation to give blood transfusion in Norway is hemoglobin below 7-8g/dl, with no differentiation according to age. The aim was to study differences in transfusion practice between elderly and younger patients, and the adherence to Hb-level recommendations for transfusion.

**Methods:** Retrospective analysis of medical patients who received their first blood transfusion during 2022 at a local hospital in Oslo. Data was obtained from the patient administration system and included age, sex, hemoglobin in g/dl (Hb) before and after transfusion, length of stay and diagnoses.

**Results:** 169 patients were included, 119 patients (57 men) 75 + years old and 50 patients (19 men) 20–74 years old. Mean Hb before transfusion was 7.5 (SD 1.8) for patients 75 + years vs 7.2 (SD 1.8) for patients < 75 years (p = 0,36). Mean Hb after transfusion was 8,6 for both groups. Transfusions were given at Hb > 8 to 31% of the older and 26% of the younger patients respectively. Length of stay was mean 6.2 days (range 0–64) for older patients and mean 7.7 days (range 0–66) for the younger. Blood-related diseases (ICD-10: D) were most common, followed by gastro-intestinal diseases (ICD-10: K). Younger patients were more often diagnosed with gastro-intestinal diagnosis, but not statistically significant.

**Key Conclusions:** 70% of the patients that received a blood transfusion were 75 + years, but transfusion practice did not differ between older and younger patients. Adherence to recommendations was given in 69% respectively 74% of the cases.

### P-033

#### Predictors Of In-Hospital Mortality In Older Inpatients With Suspected Infection

Roberto Presta (1), Enrico Brunetti (2), Gianluca Rinaldi (3), Silvio Raspo (3), Christian Bracco (4), Marco Marabotto (3), Luigi Maria Fenoglio (4), Mario Bo (1)

(1) Section of Geriatrics, Department of Medical Sciences, AOU Città della Salute e della Scienza–Molinette, Turin, Italy, (2) Department of Experimental and Clinical Medicine, University of Florence, Florence, Italy, (3) Section of Geriatrics, Department of Medical Specialties, AO Santa Croce e Carle, Cuneo, Italy, (4) Section of Internal Medicine, Department of Medical Specialties, AO Santa Croce e Carle, Cuneo, Italy

**Introduction:** Older subjects are particularly prone to develop infections and sepsis and to suffer its negative consequences, including disability, institutionalization, and death. We aimed to determine the rate and predictors of death in older inpatients with suspected infection at any time during hospital stay in a geriatric acute ward and the prognostic ability of different tools (qSOFA, MEWS, and NEWS) in such population.

**Methods:** Prospective observational single-center cohort study on patients consecutively admitted to an Italian geriatric acute ward presenting > = 1 risk factor for sepsis who had a suspected infection at admission or during hospital stay (defined as antibiotic prescription and associated culture test). All-cause in-hospital mortality was recorded as the primary outcome measure.

**Results:** Among 305 older inpatients (median age 86.0 years, 49.2% female), 21% deceased during hospital stay. Sepsis was diagnosed in 31.8% of the overall sample and in 64.1% of deceased patients. Deceased patients showed a significantly higher prevalence of prior institutionalization, functional dependence, cognitive impairment and multimorbidity. The prognostic accuracy of the qSOFA score at infection onset was only fair (AUROC 0.72; 95% CI 0.65–0.79, p < 0.001) and comparable with that of MEWS and NEWS. After multivariate analysis, along with any of the score considered, male sex, loss of autonomy and abnormal blood test results were independently associated with in-hospital death.

**Key Conclusions:** Prognosis in older inpatients with infection or sepsis appears to be determined both by the severity of the acute event, expressed by recommended tools and blood test results, and by the geriatric characteristics.

### P-034

#### Spontaneous pneumothorax in octogenarian patient

Pamela Carrillo-García (1), Nineth Salvatierra-Bañón (1), Irene Manzanás-Ávila (1), Javier Gómez-Pavón (1)

(1) Hospital Central de la Cruz Roja-San José y Santa Adela

**Introduction:** Spontaneous pneumothorax (SP) occurs more frequently in adults. It occurs preferentially in males in the third decade of life, while secondary pneumothorax affects elderly patients with underlying lung disease [1,2]. Other risk factors include a history of smoking, and a tall, thin body habitus. Case report 82-year-old male patient admitted for heart failure. Functionally independent: Barthel Index 100/100. Previous pathologies: atrial fibrillation After radiological control of pleural effusion, pneumothorax was evidenced, which was confirmed in CT, with a size 12–13 cm in diameter from apex to base of the right lung, no bullae or emphysema. The patient had no respiratory symptoms. The case was discussed with General

Surgery and conservative management was decided: oxygen therapy and analgesia. It was explained because he had a high risk of bleeding (he was anticoagulated). CT control at one week: discrete re-expansion of the pneumothorax. After clinical stability, the patient was discharged from the hospital.

**Discussion:** This report is interesting for many reasons. First of all, SP is rare in elderly without pulmonary disease. The choice of management depends on the size of the spontaneous pneumothorax, the clinical presentation and the number of episodes. Therapeutic options are divided into therapeutic (observation, aspiration and tube drainage) and recurrence prevention (chemical pleurodesis, thoracoscopy and thoracotomy). In our patient, the treatment was conservative, because he had a good baseline situation, with no toxic habits. For this reason, there is a high probability that it was generated as a consequence of an effort after a valsalva maneuver.

### P-035

#### Ho Ho Home Early; Improving Discharge Rates in an Acute Geriatric Medicine Ward at Singapore General Hospital (SGH)

Trina Arifin (1)

(1) Singapore General Hospital

**Introduction:** A key performance indicator tracked in hospitals by Ministry of Health Singapore aims for at least 30% and 80% of patients being discharged by 1130h and 1530h respectively. With multiple factors contributing to the inpatient discharge process, the proportion of discharge rates for SGH Ward 63C patients is just 6% (1130h) and 57% (1530h) (May 2021 to September 2021), requiring improvement.

**Objective:** We undertook a quality improvement project aimed to improve patients discharged by 1130h from 6 to 11% and by 1530h from 57 to 62% within 5 months (November 2021 to March 2022).

**Methods:** Using Plan-Do-Study-Act (PSDA) quality improvement methodology, we aimed to identify ways to improve the patient discharge rates. Fish bone analysis identified the root causes. The importance of each root cause was determined by Pareto vote. We found the main factors contributing to the low discharge rates, then prioritized these interventions using a prioritization matrix and decided that a Discharge Nurse to coordinate ward discharges would be the most cost-effective.

**Results:** ischarge rates improved for discharges before 1130 h and 1530 h, a 4% and 10% improvement respectively post intervention. Other intangible results include improved patient experience and reduced workload on the nurse-in-charge of each cubicle.

**Discussion and conclusion:** Our simple intervention (designated discharge nurse) led to increased discharge rates. This was achievable without additional ward manpower allocation, total cost saved per annum was \$2042.40 and allowed for more available beds for admission.

### P-036

#### Association between the eosinophil blood cell count and acute bacterial infection, a prospective analysis in older patients–The ELISA study

Lea Mesinele (1), Tom Pujol (1), Nicoletta Brunetti (1), Marie Neiss (1), Cecile Souques (1), Nadege Houenou-Quenum (1), Sebastien Verdier (1), Pauline Simon (1), Anne-Laure Vetillard (1), Julie Houde (1), Rocco Collarino (1), Morgane Mary (1), Jean-Seba

(1) Département de Gériatrie, Assistance Publique-Hôpitaux de Paris, Hôpital Paul Brousse, Villejuif, France., (2) Département de Gériatrie, Assistance Publique-Hôpitaux de Paris, Hôpital Paul Brousse, Villejuif, France. Université Paris-Saclay, UVSQ, CESP, Team MOODS, Le Kremlin-Bicêtre, France., (3) Département de Gériatrie, Assistance Publique-Hôpitaux de Paris, Hôpital Paul Brousse, Villejuif, France. Université Paris-Saclay, UVSQ, CESP, Team MOODS, Le Kremlin-Bicêtre, France

**Background:** Incidence of severe sepsis increases significantly with age: less than 5/1000 when aged from 50 to 54 years old (y/o) vs more than 25/1000 when aged 85 y/o and older. Eosinopenia and CIBLE score have been proposed in critical ill adults and in internal medicine wards. This study aimed to assess whether low eosinophil count is associated with acute bacterial infection among a disabled older adults' population, and find the most efficient eosinophil count cut-off to differentiate acute bacterial infection from other inflammatory states.

**Methods:** This is a prospective study from July 2020 to July 2022 in geriatric acute and rehabilitation wards of the university Paul Brousse Hospital (Villejuif, France) including patients aged  $\geq 75$  y/o suffering with fever or biological inflammation. Acute bacterial infection was assessed using French society of infectious diseases guidelines.

**Results:** 156 patients were included. 82 (53%) patients suffered from acute bacterial infection (mean age (SD) 88.7 (5.9) ). Low eosinophil count was independently associated with acute bacterial infection: OR [CI95%] 3.03 [1.04–9.37] and 6.08 [2.42–16.5] for eosinophil count 0–0.07 G/L and 0.07–0.172 G/L respectively (vs eosinophil count  $> 0.172$  G/L). Specificity and sensitivity were for eosinophil count  $< 0.01$  G/L and CIBLE score respectively 84%-49% and 72%-62% with equivalent AUC (0.66 and 0.67).

**Conclusion:** Eosinophil count  $< 0.01$  G/L is a simple, routinely used and inexpensive tool which can easily participate in medical decision to introduce or not antibiotic treatment. Further clinical studies are needed in order to assess clinical benefits.

### P-037

#### Gut Reaction: Faecal Microbiota Transplantation in a Multimorbid Older Patient with Recurrent *C. difficile* Infections

Caoimhe McManus (1), Ruth O'Riordan (1), Frank Kelly (1)

(1) University Hospital Waterford, Ireland

*Clostridium difficile* infection (CDI) is a leading cause of hospital-acquired morbidity and mortality, especially among older adults. Advancing age and in particular those older adults with end-stage kidney disease (ESKD) are at an increased risk for recurrent *C. difficile* Infections due to frequent antibiotic exposure, extended hospitalisations, and compromised immunity. This report presents a unique case of an 85-year-old male with a complex medical history that also includes ESKD on haemodialysis, chronic myelomonocytic leukaemia, hypertension, Barrett's oesophagus, and secondary hyperparathyroidism. He experienced 7 hospital admissions over a period of 12 months due to recurrent CDI, despite treatment with metronidazole, vancomycin and fidaxomicin, as well as prophylactic fidaxomicin. This amounted to a total hospital stay of 53 days. Interestingly his CDI was not associated with antibiotic use. After consultations involving a multidisciplinary team of nephrology, infectious diseases, gastroenterology and haematology specialists, the decision was made to proceed with faecal microbiota transplantation (FMT). Based on the patient's preference the FMT was performed via a colonoscopy. The success of FMT in this case was notable. The patient has experienced no further CDI or immediate complications

post-FMT, demonstrating the effectiveness and safety of this approach even in a complex clinical scenario. In an era where recurrent CDI poses significant challenges to older patient health, especially in those with multi-morbidity like our patient, and where standard antibiotic treatments fail, this report underscores the importance of considering FMT as a potential treatment option as well as highlighting its safety in older adults. Hence, this case adds valuable insights to the growing literature advocating FMT use in managing recurrent CDI in complex older adults, potentially directing future clinical decisions and treatment guidelines.

## P-038

### Personalized management of patients with refractory Parkinson's disease to apomorphine pump treatment: a holistic approach

Hamouchi Khelifa (1), Mechighel-Colloot Aurore (1), Bouffeteau Jean-Claude (2), Dadakpete Joseph (1), Ben Romdhane Rim (1), Minoufflet Alexis (1), Attier Jadwiga (1)

(1) Geriatric, Hospital Centre, Saint-Quentin, France, (2) Neurology, Hospital Centre, Saint-Quentin, France

Managing Parkinson's disease patients, especially those resistant to usual apomorphine pump treatment, can be challenging and requires a holistic, personalized approach. Our case involves a 76-year-old woman, admitted to a geriatric care unit for advanced Parkinson's disease management and respite hospitalization, due to her husband's exhaustion, also a Parkinson's patient. The patient experienced hallucinations, wandering, joint blockages, falls, saliva drainage issues, and refused her apomorphine pump. Her resistance to the pump, coupled with neurocognitive and psychobehavioral disorders like depression, complicated her treatment. We adopted a holistic, personalized approach tailored to the patient's preferences and needs. A comprehensive evaluation, including geriatric, cognitive, physiotherapist, and speech therapist assessments, was conducted. In consultation with her general practitioner, her treatment was modified, including increased L-Dopa, resulting in symptomatic improvement. Saliva drainage issues were treated with botulinum toxin, hallucinations with clozapine, and insomnia with zopiclone. Cognitive and psychological follow-up managed the depressive syndrome. This approach led to considerable improvement: reduced blockages, self-care abilities restored, and gradual disappearance of hallucinations. This case underscores the importance of patient understanding and open-mindedness towards different treatment options for Parkinson's disease, particularly for those resistant to apomorphine pump treatment. A holistic, multidisciplinary approach, tailored to their needs, can significantly improve their quality of life. Thus, it is crucial to adapt treatments according to patients' needs and explore alternative therapeutic options to optimize their care.

## P-039

### Corridor Care for Frail Patients in the Emergency Department (ED)

Lucy Daniels (1), Shazia Baloch (2), Michael Joyce-Knowles (2), Deepa Kuriakose (2), Priya Paul (2)

(1) Peterborough City Hospital, NWAFT, (2) Peterborough city hospital, NWAFT

**Introduction:** Corridor care is a poor experience for patients and lengthy waiting times in ED are associated with increased mortality. At Peterborough City Hospital ambulances wait outside the

emergency department entrance, queuing until space becomes available. To decrease the waiting times in ambulances patients are cared for in the corridor at times of site pressure, after initial assessment in the triage area.

**Methods:** Time in the emergency department was recorded for patients who were cared for in the corridor in April 2023. Age and clinical frailty score (CFS) and causes of delay were recorded for those seen by the frailty team.

**Results:** 490 patients were cared for on the corridor, mean age 76.4 (range 17–100). 191/490 (39%) were discharged from ED without being admitted to a ward, even so these patients spent 13 h in the department. The frailty team saw 140 patients on the corridor, 44/140 were discharged. The mean CFS = 6, mean age 85.4, mean time spent in department was 18.6 h. Reasons for delay were arrival time 21.00–06.00, delays to first assessment, delays in investigations, delays in referral to frailty team.

**Conclusions:** Frail patients who were eventually discharged spent 18.6 h in ED which included time in the corridor. This was due to repeated assessment by junior staff and delays in investigations. Timely assessment by frailty specialists would reduce delays, improve experience for patients and relieve departmental pressure. A member of the frailty team is now stationed in the triage area to commence assessment immediately on arrival.

## P-040

### Comparing different frailty measures in predicting in-hospital mortality for acute cardiac failure in hospitalized older adults

Roberto Daniel Cortés Pestana (1), Carlos Luis Fragachán Khalil (2), Nuria Molist (1), Helen Margarita Valenzuela Leal (3), Emma Puigoriol Juvanteny (4), Joan Espauella Panicot (1), Silvia Montserrat Ortego (3)

(1) Geriatrics—Consorci Hospitalari of Vic, (2) Internal Medicine—Consorci Hospitalari of Vic, (3) Cardiology—Consorci Hospitalari of Vic, (4) Epidemiology—Consorci Hospitalari of Vic

**Introduction:** The frailty role with acute cardiac failure (ACF) is not well defined, especially in mortality predictive scales. Our purpose was to evaluate the relationship between different frailty measure tools, Barthel index (BI), Multiple Estimation of risk based on the Emergency department Spanish Score in patient with acute heart failure (MEESSI-AHF score) and in-hospital mortality by an ACF on hospitalized patients.

**Methods:** A prospective cohort was performed in a secondary hospital for 3 months. Inclusion criteria: > 80 years with ACF, informed consent signed, admitted in Acute Geriatric, Cardiology and Internal Medicine Wards. MEESSI-AHF score, frailty tools (Frailty Index VIG [FI-VIG], FRAIL, Clinical Frailty Scale [CFS], Identification of Seniors at Risk [ISAR]), functional impairment (BI) was measured. Primary outcome: ACF in-hospital deaths. Secondary outcomes: prolonged hospitalization, discharge destination.

**Results:** 89 of 102 patients were included, average age 87.76 + 4.12 years, women (58.4%), 7 days hospital stay, baseline BI (77.25 ± 20.01). Baseline frailty prevalences: FI-VIG (79.5%), FRAIL (34.1%), CFS (48.9%). Previous frailty: FI-VIG (0.29 ± 0.12), FRAIL (2.09 ± 1.04), CFS (4.51 ± 1.38), ISAR (2.53 ± 1.16). MEESSI-AHF median was 11.09%. In-hospital mortality were 6.7% with BI 15 ± 7.74. In-hospital BI, in-hospital frailty tools (FI-VIG, FRAIL) and MESSI-AHF are in-hospital mortality predictors [OR univariant 0.84 (0.74–0.96), 2.09 (1.26–3.45), 4.81 (1.01–22.83), 1.08 (1.03–1.13) respectively]. In-hospital BI and MESSI-AHF have association with in-hospital mortality in the multivariant model. Prevalent discharge destination: home (36%).

**Conclusions:** The MEESSEI-AHF, in-hospital frailty scales (FI-VIG, FRAIL) and BI were related with in-hospital mortality. These results underscore the importance of frail elderly experience high rates of death and functional impairment within ACF hospitalization.

### P-041

#### **Dysphagia: A common symptom in the older person, a rare underlying cause**

Dr Chia Wei Tan (1), Dr Nabila Serudin (2)

(1) Consultant Geriatrician, Geriatrics Department, Raja Isteri Pengiran Anak Saleha Hospital, Brunei Darussalam, (2) Medical officer, Geriatrics Department, Raja Isteri Pengiran Anak Saleha Hospital, Brunei Darussalam

**Background:** Dysphagia is a frequently encountered symptom in the older person and can lead to physical complications such as malnutrition and dehydration, aspiration pneumonia as well as having emotional and psychological impact on patients and their carers [1]. Here, we present a case highlighting a rare cause of dysphagia in the older person. **Case Summary:** An 87-year-old Asian female presented with a 6-month history of intermittent difficulty swallowing, chest discomfort and proximal muscle weakness. A nasogastric tube was inserted for nutritional support whilst investigations were conducted. Serum creatinine kinase (CK) levels were serially elevated (range 29–168, 1338 U/L). Electromyography and nerve conduction study was done which showed evidence of peripheral neuropathy and a necrotic myopathic process. CT of the thorax, abdomen and pelvis showed a spiculated mass in the right middle lobe of the lung. A biopsy was performed and histology confirmed squamous cell carcinoma of the lung. These tests confirmed a diagnosis of dermatomyositis, a paraneoplastic syndrome secondary to squamous cell carcinoma of the lung. **Discussion:** This case highlights the challenge in identifying a rare cause of dysphagia in the older person. Dermatomyositis is a rare systemic condition characterised by skin findings and symmetrical proximal skeletal muscle weakness. It is associated with a sixfold higher risk of malignancy in the older person compared with the general population [2, 3]. This patient presented on multiple occasions with her symptomology to hospital, indicative of the complexity of dysphagia management, which requires a multi-disciplinary approach utilizing the shared decision-making process with the patient at the heart of this.

#### **References:**

- Leder, S.B., Suiter, D.M., Agogo, G.O. et al. An Epidemiologic Study on Ageing and Dysphagia in the Acute Care Geriatric-Hospitalized Population: A Replication and Continuation Study. *Dysphagia* 31, 619–625 (2016). <https://doi.org/10.1007/s00455-016-9714-x>.
- Pautas E, Chérin P, Piette JC, Pelletier S, Wechsler B, Cabane J, Herson S. Features of polymyositis and dermatomyositis in the elderly: a case-control study. *Clin Exp Rheumatol*. 2000 Mar-Apr;18 (2) :241–4. PMID: 10812498.
- Hu T, Vinik O. Dermatomyositis and malignancy. *Can Fam Physician*. 2019 Jun;65 (6) :409–411. PMID: 31189628; PMCID: PMC6738379.

### P-042

#### **Community Outreach Geriatric Service**

Friedbert Kohler (1)

(1) HammondCare Health

**Introduction:** As our population ages, living with one or more chronic disease in the community and with increasing levels of functional decline, providing high quality health care becomes more challenging. Alternative, non-hospital based, models of care need to be further developed, implemented and evaluated.

**Method:** A specialised geriatric outreach service people in residential aged care facilities (RACFs) providing access to medical and nursing care for older people experiencing decline. Referrals to the service were accepted from RACFs, general practitioners, ambulance service, geriatric clinics and emergency departments. Response times of less than 48 h were set as one of the key indicators. Allied health staff were not part of this team, but access was available for allied health staff from other teams.

**Results:** This initiative has resulted in a sustained reduction in of about 40% from RACFs with 2,484 fewer ambulance presentation over a twelve-month period. About 50% of patients were seen within 4 h of referral to the service. Estimated net cost savings to the health service are about ten million Australian Dollars per year. Anecdotal feedback from the RACFs and consumers indicated high satisfaction levels with the service. About 6% of patients referred to the service required hospitalisation.

**Key Conclusions:** A responsive dedicated geriatric outreach service is an effective and cost-efficient method of treating patients in the RACFs with only a small percentage of patients seen by the service requiring hospitalisation. Further evaluation in other populations, including older patients not in RACFs seems warranted.

### P-043

#### **Fluid overload and Association of hidden fluid administration: Improve fluid assessment and management using “FAM” Protocol at Acute geriatric Units**

Alanoud Alfehaidi (1)

(1) HMC

**Fluid overload and Association of hidden fluid administration: Improve fluid assessment and management using “FAM” Protocol at Acute geriatric Units.**

**Introduction:** Acute geriatric units in Rumailha hospital is a 30 bedded provide care 24 h to patients who have multiple comorbidities and behavioral problems, all are high risk of dehydration. On artificial feeding, IV fluids may need to be given urgently and fluid intake through feeding tube will need to be appropriately amended as per the requirements. If managed improperly then it is associated with increased risk of mortality and morbidity.

**Methods:** A multidisciplinary team was formed to conduct a quality Improvement project to improve fluid management using “Plan-Do-Study-Act (PDSA) quality improvement methodology”. All stakeholders were involved and interventions were carried out in three

steps. First step was to establish a FAM (Fluid Assessment & Management) protocol which outlined use of a standard fluid deficit calculator and accordingly manage with appropriate fluid and quantity (1st PDSA). Second step was to educate physicians and early involvement of dieticians and monitoring by nurses (2nd PDSA) and Final step was directed towards family who were also involved in feeding (3rd PDSA).

**Results:** Following multimodal multifaceted intervention by the interdisciplinary team members (Physicians, Nursing, Dieticians) showed compliance with use of a standard protocol from 0 to 35% within 1 month and subsequently increased to 100%, dieticians were involved in all cases started on IV fluid and establishing a guideline on management of fluids.

**Conclusion:** Multidisciplinary approach using standard tools in calculating fluid deficits and managing it with appropriate quantity of fluid replacement has led to better outcomes with no iatrogenic complications.

## P-044

### Risk profiles for 15-year transitions across living and care settings in a population of Swedish older adults

Susanna Gentili (1), Amaia Calderón-Larrañaga (2), Debora Rizzuto (2), Janne Agerholm (3), Carin Lennartsson (4), Åsa Hedberg Rundgren (5), Laura Fratiglioni (2), Davide L. Vetrano (2)

(1) Aging Research Center, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet and Stockholm University, Stockholm, Sweden, (2) Aging Research Center, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet and Stockholm University, Stockholm, Sweden. Stockholm Gerontology Research Center, Stockholm, Sweden., (3) Aging Research Center, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet and Stockholm University, Stockholm, Sweden., (4) Aging Research Center, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet and Stockholm University, Stockholm, Sweden. Swedish Institute for Social Research, Stockholm University, Stockholm, Sweden., (5) Swedish Institute for Social Research, Stockholm University, Stockholm, Sweden

**Introduction:** Older adults are at increased risk of experiencing frequent healthcare transitions between health (hospitals) and social care providers (formal care and institutions). Therefore, our objective was to quantify and characterize older adults' care transition patterns associated with their sociodemographic, clinical, and functional characteristics. Method. The study used data from the Swedish National Study on Aging and Care in Kungsholmen (SNAC-K), in Stockholm, to evaluate living and care transitions in 3,021 older adults 60 years old across home, formal care, nursing home, hospital, and rehabilitation. A multi-state Markov model was used to represent the likelihood of moving between settings.

**Results:** Over 15 years, the average time spent was two years at home, one year with formal care, one year in a nursing home, eight days in a hospital, and 17 days in rehabilitation. Participants were hospitalized an average of ten times over 15 years. Being unpartnered was associated with a higher risk of hospitalization (HR 1.08) and discharge with formal care (HR 1.15) or being institutionalized (HR 2.06). Multimorbidity was associated with an increased risk of hospitalization (HR range 1.14–1.23). Cognitive impairment generally increased the risk of institutionalization (HR range 1.34–3.48). Slow

walking speed increased the risk of hospitalization (HR range 1.11–1.29) and being discharged with formal care (HR 1.21).

**Key Conclusion:** The study shows that different sociodemographic, clinical, and functional factors influence care transition patterns in older adults. Therefore, further studies are warranted to examine the impact of such transitions on patients' health and health system performance.

## P-045

### Expedited Dietary evaluation and interventions within 24 h of acute geriatric admissions leading to better outcomes

Alanoud Alfehaidi (1)

(1) HMC

**Objectives:** To optimize nutritional status of an acutely unwell older adult with early dietary interventions within 24 h. of admission. To complement medical management of acute and chronic diseases by addressing nutritional issues.

**Background:** Elderly presenting to the acute geriatric units (AGU) have significant co-morbidities with multiple risk factors for malnutrition associated with poorer health outcomes and complications in acutely unwell patients. Prompt assessments and management of patients upon admission would significantly improve the general health thus minimizing the hospitalization. According to the policy, clinical dietitian review are acceptable to take place upto 36h from the time of referral following which dietary interventions maybe placed which can be upto 36-72h from the time of admission. Aim was to establish Medical nutrition evaluation and interventions within 24 h of all admissions on AGU.

**Methods:** Prompt evaluation and implementation of medical nutrition interventions within 24 h of admission followed by daily monitoring of dietary parameters. Comprehensive geriatric care plans were created by virtue of direct feedback of dietary issues and recommendations to the multidisciplinary teams (MDT) during daily morning reports on medical management of acute and chronic diseases.

**Results:** All patients were seen promptly ranging from 1 to 16 h. Dietary interventions were implemented within 24 h of dietary evaluation. All patients admitted to the AGU had nutritional issues ranging from malnutrition, dehydration, poor oral intake, dietary deficiencies, and bowel habit disturbance. Malnutrition score improved from severe to moderate. Fluid management requires detailed evaluation and collaborative intervention working in close conjunction with MDT to prevent dehydration and fluid overload. Thorough evaluation, intervention and monitoring has led to significant improvements in oral intake from 30% on admission to 70% upon discharge with perseverance and innovative strategies. Early identification and management of micronutrient deficiencies has led to quicker recovery. Bowel habit disturbance managed efficiently with dietary interventions, patients open bowels within 24 h of admission. By virtue of early interventions, the length of stay consistently remains around 6 days.

**Conclusion:** Early dietary interventions leads to quicker resolution of acute and chronic medical issues in older people. Unique method of collaborative care model was developed wherein clinical dietitians became an integral part of the team.



**P-046****Free from tube: Safe transition from Enteral tube feeding to oral intake**

Alanoud Alfehaidi (1)

(1) HMC

**Introduction:** Acute geriatric units in Rumailha hospital provide care to unwell older patients with a range of complex medical condition with variable degree of severity of frailty weaning patients from tube feeding to oral nutrition is a primary nutrition goal. Transitional feeding refers to the gradual progression from one mode of nutritional therapy to another while attempting to maintain adequate nutritional intake. In this case, patients are “weaned” from enteral nutrition to oral feeding. The ultimate goal of transitional feeding is that the patient’s full nutritional needs will be met with oral intake alone. Ideally, the transition will be a smooth process, which may take a few days or several weeks.

**Methods:** A multidisciplinary team was formed to conduct a quality improvement project to screen of malnutrition and sarcopenia using “Plan-Do-Study-Act (PDSA) methodology”. All stakeholders were involved, and interventions were carried out in three steps. First step was to create Assessment screening tool which would help identify the risk category of weaning from Tube feeding (1st PDSA). Second step was to develop Multidisciplinary Team interventions of safe transition and management (2nd PDSA). Third step was to developed algorithm comprises the Preparatory Phase (medical and nutritional stability, swallowing assessment and implementation of an intermittent tube feeding schedule) (3rd PDSA). Fourth step was to developed Weaning Phase (covering progress from stimulation feeds through to full oral nutrition and tube withdrawal) (4th PDSA). Fifth Step was to developed monitoring tool (monitoring for aspiration, aspiration pneumonia, % of food intake, weight, labs and dehydration ( 5th PDSA). Sixth step was to developed Feeding and swallowing strategies, dietary modifications and behavioural and cognitive characteristics necessary for oral intake (6 PDSA). Seventh step was to standardize the approach by establishing an intervention guideline (7th PDSA) .

**Results:** Following multimodal multifaceted intervention by the interdisciplinary team members (Physicians, Nursing and clinical Dieticians and Speech therapy) showed safe transition from tube feeding to oral intake is enhance quality of life, patient comfort and may maximize options for discharge environments.

**Conclusion:** Implementing safe transition strategy in the acute geriatric care units is really challenging due to the complexity of the medical conditions. However, this project has shown excellent outcome and prevention of nutrition risk factor and malnutrition is possible if early screening and interventions are implemented by multidisciplinary team members. Next steps would be to Establishing Clinical Practice Guidelin (CPG) on safe transition from enteral tube feeding to oral feed in older adult.

**P-047****Postintervention ischemic emphysematous cholecystitis**

Anna Maria Puig Urdiales (1), Maria Laura Britez (1), Patricia Valentina Marquez (1), Pitter Andres Vera Guerrero (1), Alessio Rodolico (1), Jordi Mascaró Lamarca (1)

(1) Hospital de la Santa Creu i Sant Pau

**Introduction:** Emphysematous cholecystitis (EC) is an uncommon, life-threatening complication of acute cholecystitis (1–3%) in case of

delayed diagnosis. It is related to diabetes, immunosuppression, and peripheral vascular disease. Its mortality rate of 25% (only 4% in the uncomplicated one) makes it a surgical emergency challenging to identify in many cases due to its non-specific presentation (especially in long-standing diabetics). Luckily, we have imaging tests with pathognomonic signs to make an early diagnosis and, therefore, treatment based on surgery and empiric antibiotic therapy.

**Methods:** A 91-year-old patient with a relevant background of type 2 diabetes mellitus and advanced Alzheimer’s disease is hospitalized in Orthogeriatrics because of a subcapital fracture of the right femur. Torpid post-intervention happens due to delirium with refusal to intake (with acute renal failure and hypernatremia) and non-specific sepsis. Piperacillin-Tazobactam was started without response in 48h. Furthermore, the patient presented melanic depositions and two points drops in red blood count, so an urgent computerized tomography (CT) angiography was performed.

**Result:** Ischemic EC with acute peritonitis was diagnosed with the CT. The patient did not have surgery because of her basal conditions; she worsened and died.

**Conclusions:** EC is an uncommon and potentially life-threatening complication, which must be included in the differential diagnosis of elderly with sepsis, as it can start atypically and have non-specific symptoms. Imaging tests are essential, as they have pathognomonic signs that allow early and precise diagnosis and surgical treatment.

**P-048****The usefulness and feasibility of Focused acute medical ultrasound (FAMUS) on an acute elderly care ward**

David Woollaston (1), Vipuli Kobbegala (1), Subha Narayanasamy (1), Jake Vaughan (1), Catherine Vant Hoff (1), Andrew Walden (1), Hannah Johnson (1)

(1) Royal Berkshire NHS Foundation Trust, Reading, UK

Many studies of Focused Acute Medicine Ultrasound (FAMUS) in hospitals are concentrated in emergency or intensive care departments or on specific diagnoses rather than the affects on the patients. We wanted a more holistic approach to the feasibility and usefulness in an acute elderly care inpatient ward. The setting is a 28 bedded ward in a District general hospital. Over a month we highlighted patients in which we thought FAMUS would add to our diagnostics and patient care. The scans were performed whilst we also requested imaging as usual practice. Twelve patients were highlighted. All patients tolerated the scan well. Two of the scans were technically difficult due to body habitus. 10 lung scans and 2 vascular scans were performed. 7 patients also had Chest X-rays. The time delay between scan and X-ray was between 30 min and 4 Hours. 1 patient did not receive diuretics when she otherwise might have and earlier decisions about antibiotics were made in 2 cases. We were able to reassess a patient with kidney injury for signs of pulmonary oedema confirming clinical findings. The vascular scan enabled us to assess the patients blood supply and negated the need for a contrast scan. In .

**Conclusion:** FAMUS is well tolerated in older inpatients. Benefits were the immediate answer to aid decision making and that other radiology was not required. It can give a more accurate assessment of a patients response to treatment. The main limitation was body habitus.

**P-049****The characteristics of older inpatients with adverse drug events due to continuous drugs prescribed before admission**

Yuko Takeshita (1), Mizuki Ktsuhisa (1), Chie Hamaie (1), Kasumi Ikuta (1), Yuichiro Saizen (1), Mai Onishi (1), Misaki Kasamatsu (1), Misaki Fujii (1), Yuki Moriki (1), Eriko Koujiya (1), Miyae Yamakawa (1), Yasushi Takeya (1)

(1) Osaka University

**Introduction:** Adverse drug events (ADEs) are defined as adverse symptoms or signs occur after drug use. Previous studies revealed that ADEs are more likely to occur in older people caused by age-related changes in pharmacokinetics, and multiple medications associated with multimorbidity, and so on. However, it is still unclear and difficult to identify older patients with high risk for ADEs.

**Objectives:** We investigated older inpatients in an acute hospital and clarified the risk factors for ADEs focusing on the timing of prescription for suspect drugs.

**Methods:** We registered 1031 inpatients aged 65 years or older in the ward of Department of Geriatric General Medicine between September 1st, 2014 and December 31st, 2020. Patient information was collected from medical records to determine the occurrence of ADEs. This research has been approved by the Osaka University Hospital Ethics Committee (No. 16303–2).

**Results:** We found that 94 ADEs in 81 patients (7.9%). We defined patients with ADEs due to continuous drugs prescribed before admission as continuous treatment group and patients with ADEs due to newly drugs prescribed during hospitalization as newly treatment group. The number of drugs in the continuous treatment group was significantly greater than that in the newly treatment group ( $p < 0.05$ ). Receiver operating characteristic curve analysis showed that the optimal cut-off number of drugs for predicting ADR in continuous treatment group was 9 (AUC = 0.664).

**Conclusion:** We should be careful of the occurrence of ADEs in older inpatients taking more than 9 drugs, even if they are taking them continuously before admission.

**P-050****Hospital-at-Home for older patients with frailty and acute disease—A protocol for a multi-method evaluation study**

Anne Hedegaard Arndt (1), Viola Burau (2), Linda Huibers (3), Merete Gregersen (1), Lone Winther Lietzen (1)

(1) Department of Geriatrics, Aarhus University Hospital, Department of Clinical Medicine, Aarhus University, Denmark, (2) Department of Public Health, Aarhus University, Denmark, (3) Research Unit of General Practice, Aarhus, Denmark

**Introduction:** Hospital-at-Home (HaH) is an alternative to acute hospital admission for selected older patients. Older individuals face the potential risks of functional and cognitive decline, increased risk of delirium, and institutionalization when admitted to hospital. Previous studies have found that HaH reduces these risks. There is limited knowledge concerning HaH for older patients with frailty. We evaluate an existing geriatric-led, admission-avoidance HaH-service for older patients with frailty operated by a multi-disciplinary team. The

aims are to describe the HaH service and explore the components of HaH that work, for whom, how, and in what circumstances.

**Method:** Initial review of HaH and the evaluation of complex interventions

**Results:** Theory-driven evaluation informed by the UK's Medical Research Council guidance will be conducted using multi-. **Methods:** based on a program theory anchored in the local HaH-service: 1. Scoping review—examine research based on mechanisms in delivering HaH. 2. Descriptive cohort study—describing patient characteristics, outcome, operation of the service. 3. Qualitative study—gain an in-depth understanding of the practice of collaboration and the underlying mutual expectations of stakeholders through interviews and an observational case study.

**Conclusions:** For HaH to evolve and impact the broader health system, a greater understanding of how the HaH model produces its outcomes is needed. The findings from this study are expected to generate contextually relevant evidence for improving the HaH integrated care model. With an understanding of how measures produce varying impacts in different circumstances, policymakers and practitioners will be able to successfully implement HaH in other settings.

**P-051****All-terrain vehicle trauma: Injury patterns and outcomes in geriatric patients**

Konstantinos Paschos (1), Christos Tsopozidis (1), Ioanna Kirkenidou (1), Anestis Chatzigeorgiadis (1)

(1) General Hospital of Drama

All-terrain vehicle (ATV) use is widespread nowadays, however most studies focus on younger age and thus little is known about injury patterns and outcomes in geriatric patients.

**Methods:** This study investigates severe injuries following ATV accidents in the elderly and compares geriatric patients and non-geriatric adults after ATV trauma. These patients were admitted in the Emergency Surgical Department (ESD) of a secondary Greek hospital from 2016–2022. A retrospective study was performed using the medical records of ESD comparing non-geriatric (18–64) and geriatric adults ( $\geq 65$ ). Demographic, admission and outcome data were collected, including injury severity score (ISS), abbreviated injury scale (AIS) score, discharge disposition and mortality.

**Results:** Medical record investigation revealed 447 ATV trauma patients, of whom 34 (7.6%) were geriatric. Geriatric patients had higher rates of severe injury (28.5 vs 21.5%,  $p < 0.001$ ), and thoracic injuries (54.2 vs 34.8%,  $p < 0.001$ ), but lower rates of abdominal injuries (12.6 vs 18.2%,  $p < 0.001$ ), compared to non-geriatric adults. Moreover, geriatric patients had overall lower head injury rates (37.8 vs 43.1%), but more severe head injuries (AIS  $> 3$ ) (35.2 vs 29.7%,  $p < 0.05$ ). Helmet use was significantly lower in geriatric patients (22.7 vs 47.8%,  $p < 0.001$ ). On multivariate analysis age increased the odds for both severe injury (OR 1.40, 95% CI 1.21–1.62,  $p < 0.001$ ) and mortality (OR 4.12, 95% CI 2.32–6.1,  $p < 0.001$ ).

**Conclusions:** Although severe injury and mortality after ATV trauma occurred in all adults, geriatric injuries follow distinct patterns, while these patients were at greater risk for severe injury and mortality.

**P-052****Evaluation of geriatric patients with trauma scores after motor vehicle accidents**

Konstantinos Paschos (1), Anestis Chatzigeorgiadis (2)

(1) General of Drama, (2) General Hospital of Drama

Elderly people constantly increase their proportion in the general population and thus increasingly appear as trauma patients after motor vehicles.

**Methods:** This study investigates the factors affecting in-hospital mortality among geriatric trauma patients following a motor vehicle accident who presented to the emergency department (ED) in a Greek secondary hospital. Clinical data were extracted from the general surgery records for all eligible geriatric patients (either driver, passenger or pedestrian) with entries dated between 2016–2022. Multivariate logistic regression analysis was used to evaluate the in-hospital mortality related to variables including demographics, mechanism of trauma, injured body parts and various trauma scores.

**Results:** Medical records revealed 317 geriatric motor vehicle trauma presentations to the ED during the 7-year period. Of these patients, 304 (96%) survived, while 13 (6%) died in the ED, operating room or intensive care unit within 24 h. The multivariate logistic regression analysis included the following variables: cranial trauma, abdominal trauma, thoracic trauma, pelvic trauma, Glasgow Coma Score and Injury Severity Score (ISS). These variables were used because univariate analysis showed that they were potential predictors of mortality. The multivariate logistic regression showed that the presence of cranial trauma (OR: 3.6), abdominal trauma (OR: 26.9), pelvic trauma (OR: 9.9) and ISS (OR: 1.2) were predictors of in-hospital mortality in the study population.

**Conclusion:** In this study, cranial trauma, abdominal trauma, pelvic trauma and ISS were found to be the most important predictors of in-hospital mortality among geriatric motor vehicle trauma patients.

**P-053****Laxative prescribing in inpatients on an elderly care ward: a quality improvement project**

Nancy Osei (1), Gemma Skilton (1), Dzidze Muruu (1), Sidra Hasan (1), Mollie Rowley (1), Hwei Choo (1)

(1) Department of Elderly Medicine, Manchester Foundation Trust, Wythenshawe Hospital, Southmoor Rd, Wythenshawe, Manchester M23 9LT

**Introduction:** Constipation is independently associated with increased mortality[1]. Though common in the elderly, management can vary, resulting in inappropriate prescribing, polypharmacy and non-infective diarrhoea (NID) [2]. This project aimed to standardize constipation management in an inpatient geriatrics ward in a large teaching hospital utilising national guidance[3].

**Methods:** Two interventions were delivered: first, verbal education of the multidisciplinary team; and second, a poster of recommendations with a flowchart on management. Data was collected against 6 process measures including documented diagnosis, digital rectal examination (DRE), laxative prescribed, and prescription review including review following development of NID.

**Results:** Data was collected across two plan-do-study-act (PDSA) cycles between March and May 2023. In those prescribed laxatives,

diagnosis of constipation ranged between 47.0–76.0%. Baseline rates of DRE at diagnosis were 23.0% improving to 62.0%. Daily bowel habit documentation showed modest improvement from 18.8–41.0% throughout the project. Run charts indicate improvement in prescriptions reviewed daily from median 6.25% of all patients to 23.5% following intervention. Weekly laxative review improved from 46% at baseline to 93% following intervention 2. Improvement was also seen in prompt (within 24 h) prescription review following development of NID from 16.7% to 100% following intervention 2.

**Conclusion:** Constipation is common in elderly inpatients and improvement can be seen for most process measures in this project. Areas for development include accuracy of documentation of diagnosis and bowel habit and DRE at the point of diagnosis. These processes may be impacted by balancing measures of staffing and time constraints.

**References:**

1. Keiichi, S. Molnar, M.Z. Potukuchi, P.K. et al. (2019). Constipation and risk of death and cardiovascular events. *Atherosclerosis*, [online] 281, pp.114–120. <https://doi.org/10.1016/j.atherosclerosis.2018.12.021>.
2. Costilla, V.C. and Foxx-Orenstein, A.E. (2014). Constipation: understanding mechanisms and management. *Clinics in Geriatric Medicine*, 30 (1), pp.107–115. doi:<https://doi.org/10.1016/j.cger.2013.10.001>.
3. Constipation. (2023). [online] NICE CKS: National Institute for Health and Care Excellence. Available at: <https://cks.nice.org.uk/topics/constipation/> [Accessed 10 Jun. 2023].

**P-054****Characteristics and Outcomes of Older Patients Presenting to Hospital with Hyponatremia**

Lauren McLean (1), Janahan Ragunathan (1)

(1) Royal Bolton Hospital

**Introduction:** Older adults are at increased risk of hyponatremia secondary to dehydration [1]. Hyponatremia in older adults is associated with increased mortality [1,2]. The authors' experience is of poor prognosis despite treatment in these patients, whilst local guidelines recommend targeted fluid replacement and frequent blood monitoring.

**Method:** All patients aged over 70 admitted to Royal Bolton Hospital, UK with hyponatraemia ( $\text{Na}^+ > 150$ ) in 2021, were retrospectively identified. Electronic patient records were reviewed for baseline characteristics, admission diagnosis, treatment plans, and date of death. Patients with HHS, intracranial events, femoral fractures, and end-stage cancer were excluded.

**Results:** 90 patients were included—49 females (54%), 46 care home residents (51%), 70 with dementia (77.8%), mean Clinical Frailty Score—6.9, and mean patient age—84. 63/90 (70%) patients died within 30 days of admission (Group 1). 15/90 (16.7%) patients were alive after 12 months (Group 2). Group 1 patients were older (mean age 85.3 vs 78.6), more frail (mean CFS—7.0 v 6.3) and more likely to have dementia (76.6% vs 66.7%). 30-day mortality remained high in the youngest group of 70–79 year olds (12/26—46.2%), and those without dementia (15/20—75%).

**Conclusion:** Our results demonstrate high 30-day mortality amongst older adults admitted with hyponatraemia. Patients with the worst outcomes were older and frailer, although mortality remained high in relatively younger and those without dementia. The authors suggest 1)

clinical guidelines for management of hypernatraemia should better reflect this, 2) advance care planning should be considered early in these patients.

#### References:

1. Molaschi M, Ponzetto M, Massaia M, Villa L, Scarafioti C, Ferrario E. Hyponatremic dehydration in the elderly on admission to hospital. *J Nutr Health Aging*. 1997;1 (3) :156–60. PMID: 10995084.
2. Borra SI, Beredo R, Kleinfeld M. Hyponatremia in the aging: causes, manifestations, and outcome. *J Natl Med Assoc*. 1995 Mar;87 (3) :220–4. PMID: 7731073; PMCID: PMC2607819.

## P-055

### Case report: Mesenteric panniculitis in the geriatric patient, diagnosis and treatment. Authors: Romik Méndez Baldeón, Natalia Rodríguez Osto, Carmen Cánovas Pareja

Romik Méndez Baldeón (1), Natalia Rodríguez Osto (1), Carmen Cánovas Pareja (1)

(1) Hospital Nuestra Señora de Gracia

Female patient aged 86 years. History of secondary hypothyroidism, arterial hypertension, melanoma in the chin with cervical adenopathy with several exeresis due to recurrence, tumor in the colon with hemicolectomy and anastomosis, glaucoma, retinal vascular occlusion, osteoporosis, reactive depression. On treatment with esomeprazole, vitamin A, clopidogrel, amlodipine, valsartan, levothyroxine, paracetamol, timolol/bimatoprost and azelastine. Lives at home with husband. Independent for basic activities of daily living. No cognitive impairment. CASE STUDY: She came to the emergency department with fever of 38.5 °C, hypogastric pain, nausea and vomiting of one month's evolution. She was seen by a primary care physician who diagnosed urinary tract infection, prescribing treatment without improvement. Urgent analysis: creatinine 1.23, Na 123, K 4.2, GFR 40, blood count without alterations. Chest X-ray: right basal pneumonia. Admission was decided. Treatment with ceftriaxone was started. Control laboratory tests: creatinine 1, amylase 27, Na 130, K 4.4, FG 51, GOT 38, GPT 36, GGT 86. Abdominal ultrasound was requested and was normal. Urine sediment was normal. She evolves torpidly with worsening of general condition, increased abdominal pain and persistent nausea and vomiting. Intolerance to diet. Given the impression of severity, an urgent body CT scan was requested to rule out abdominal infectious process or neoplasia. Antibiotic therapy with meropenem is scaled up. CT scan showed heart failure and mesenteric panniculitis, possible origin of the digestive symptoms. No findings of malignancy. Methylprednisolone 40 mg IV was prescribed, and depletive treatment with diuretics. Antibiotic therapy was de-escalated to ceftriaxone. The evolution was favorable, with good tolerance to diet, disappearance of nausea and vomiting. It was decided to discharge the patient with a decreasing corticosteroid regimen and subsequent review in consultation at one month. On review, the patient is asymptomatic. DISCUSSION: Mesenteric panniculitis is an infrequent pathology that should be taken into account in the differential diagnosis of chronic abdominal pain, due to the non-specific inflammation. The symptomatology is usually nonspecific. And the diagnosis in most cases is usually incidental, by imaging studies such as CT. It presents a very good response to treatment with corticosteroids, although no standard treatment has been described in the literature.

## P-056

### Nutricion's influence on frailty and sarcopenia in a geriatric day hospital

Ana Lydia Sanchez Aso (1), Guillermo Menendez Fermin (1), Natalia Rodriguez ostos (1), Miranda Doz Arcas (1), Jorge Eduardo Corrales Cardenal (1), Julia Castillo Garcia (1), Rocio Onieva Albañil (1), Oscar Perez Berasategui (1), María Dolores Domingo Sanc

(1) No

**Objectives:** Evaluate the nutritional status and characteristics of patients. Furthermore, follow the improvement of frailty and sarcopenia after the intervention in geriatric day hospital's program.

**Methods:** Descriptive, cross-sectional study of patients included in GDH from October 2019 to 10th February of 2023 who have completed the process of functional recovery. Variables: sarcopenia (SARC-F), frailty (SPPB), nutritional status (MNA), socio-demographic, reason for consultation and place of origin. SPSS v26.

**Results:** 652 patients. Mean age 84.26 (SD 5.94). 33.6% men and 66.4% women. Origin: our hospital 30.1%, MiguelServet Hospital 15.4%, external consultation 30.1%, other 24.4%. Reason for consultation: Hip fracture 33.4%, hospital deconditioning 20.1%, gait alteration 20.1%, stroke 9.8%, other 16.6%. MNA median: admission 9 (SD 2.42), discharged 10 (SD 2.25). SARC-F median: admission 8 (SD 2.12), discharge 5 (SD2.02). SPPB median: admission 3 (SD2.58), discharged 6 (SD2.96). Nutritional status: not malnourished 12%, risk of malnutrition 88%. SARC-F admission (X2p = 0) : no sarcopenia 2.2%, sarcopenia 34.3%. SARC-F discharge (X2p = 0.15) : no sarcopenia 17.9%, sarcopenia 30.6%. SPPB admission (X2p = 0) : non-fragile 10%, mild 23.8%, moderate 26.4%, severe 39.4%. SPPB discharge (X2p = 0.23).

**Conclusions:** After a functional recovery program, improve sarcopenia, frailty and nutrition condition (not significant). Patients at risk of malnutrition present worse results in the measure of sarcopenia and frailty. It is essential to sway the nutrition to improve sarcopenia and frailty.

## P-057

### De novo diagnosis of mild congenital Hemophilia A in a 86-yaer old male

Cottignie Charlotte (1), Janssens Michael (2)

(1) Department of Geriatrics, VITAZ, Sint Niklaas, Belgium., (2) Department of Hematology, UZA, Antwerpen, Belgium

**Introduction:** Hemophilia A is a rare X-linked recessive bleeding disorder, characterized by deficiency in factor VIII resulting in prolonged bleeding. The degree of clinical manifestations is classified as severe, moderate or mild. Case presentation: A 86-year old male with personal history of transurethral resection of the prostate (TURP) presented at the emergency department after a fall. He was not taking anticoagulants or nonsteroidal anti-inflammatory drugs. On examination, extensive hematoma of the upper left limb was present. In the past, easy bruising and excessive nose bleedings were noticed. His medical record showed a complicated course after TURP. Extended hospitalization was needed due to pronounced hematuria. During the current hospitalization, laboratory workup demonstrated a mild prolonged aPTT (39.2 s (24.6–31.2) ) with a normal prothrombin time. An ultrasound of the upper left limb confirmed the presence of an

extensive intramuscular hematoma. Due to the suspicious history and the unusual presentation, further laboratory workup was indicated. Factor VIII coagulans was depleted (19.9% (50–150%) ). Factor XI, Von Willebrand factor and ristocetin cofactor were normal. Mixing test showed a normalization of aPTT which excluded the presence of acquired hemophilia A. Diagnosis of a mild congenital hemophilia A was made.

**Conclusion:** We reported a 86-year-old male who was diagnosed with mild congenital hemophilia A. This case shows the importance of routine checkup of the coagulation tests in patients with increased bleeding tendency. When someone presents with suspect anamnesis/clinical signs, it is always important to think about the possibility of congenital bleeding disorders, also at older age.

## P-058

### Renal profile of centennial patients admitted to a third level hospital

Orlando Siverio Morales (1), Luz Delgado Domínguez (2), María Adela Dávila Jerez (2), Magaly González Colaco Harmand (2), Manuel Macía Heras (1)

(1) Nephrology Department. HU Nuestra Señora de Candelaria. Santa Cruz de Tenerife. Spain, (2) Geriatrics Department. HU Nuestra Señora de Candelaria. Santa Cruz de Tenerife. Spain

**Introduction:** Life expectancy has been increasing significantly in recent decades in Europe, with the presence of centenarians becoming more frequent. Renal function in these patients is usually affected using current estimation formulas. The objective of our work is to identify and quantify the hospital admissions of centenarian patients and reveal their renal profile.

**Methods:** Observational study on a retrospective cohort of 70 hospital admissions over a period of 5 years.

**Results:** The mean age was 101.36 years (100–107 years). 85.71% were women. The most frequent reasons for admission were: 1. Lower respiratory tract infection (12.85%); 2. Bone fractures (11.42%); 3. Decompensated Heart Failure (8.57%); 4. Urinary tract infection (8.57%). The 82.54% of those admitted presented renal failure. Mean creatinine was 1.39 mg/dl. The estimated mean glomerular filtration rate was 44.25 ml/min. No patient was dialyzed. 42.86% had anemia on admission. The 2.86% were diabetic and 80% were hypertensive. No patient was functionally independent. Regarding medication, 58.57% had some antiplatelet agent, 47.14% were on loop diuretics and 27.14% were on a Ca-blocker/IECA. The 24% died during admission.

**Key Conclusions:** The admission of centenarians to our hospitals is becoming more and more frequent. Do we need adapted glomerular filtration estimation formulas? Women make up the majority of those admitted presenting a better percentage of preserved renal function. Prevalence of anemia associated is high, implying taking into account the use of erythropoietin as part of conservative treatment. A high percentage of patients with Ca-blocker/IECA stands out. Are these drugs necessary at these ages?.

## P-059

### Characterisation of the geriatric patient with intracranial hemorrhage admitted to a geriatric department

Katia Jacqueline Avila Rosales (1), Raquel Condon Martinez (1), Maria Dolores Domingo Sanchez (1)

(1) No

**Introduction:** To describe the clinical and epidemiological characteristics of geriatric patients who have suffered intracranial hemorrhage (ICH).

**Methods:** Retrospective descriptive study that included patients admitted to a Geriatrics service in the period from 2021 to 2022 and presenting ICH objectified by cranial computed tomography. Medical records were reviewed and demographic variables, hospital stay, personal history (cardiovascular risk factors, anticoagulation), Charlson index, variables related to haemorrhage location, intraventricular involvement, spontaneous or traumatic aetiology, functional and cognitive status, and mortality during admission and after 6 months.

**Results:** 23 patients, 74% women, mean age 88 years, 34.7% at home with good support, 43.4% institutionalised and 21.7% alone. Previous Barthel Index: independent 4.35%, mild dependence 30.4%, moderate 34.7%, severe 13%, total dependence 17.3%; 34.7% with dementia. Clinical characteristics: 26% obese, 39% diabetic, 69.5% hypertensive and 56.5% with dyslipidaemia. No anticoagulant treatment in 69.5%; of the remaining anticoagulated patients, 17.3% were taking Acenocoumarol. Charlson index > 5 in 69.5%. ICH was traumatic in 65%, intraparenchymal in 47.8% and intraventricular involvement in 4.35%. Mean hospital stay was 12 days, with a mortality at admission of 4.35% and at 6 months 26.09%.

**Conclusions:** Elderly women with mild-moderate functional dependence, high comorbidity and several cardiovascular risk factors living in residential care are those in our sample who present with ICH after trauma. Anticoagulation was not a determining factor in patients suffering ICH. It is necessary to influence and prevent cardiovascular risk factors in order to prevent this pathology, as well as to prevent trauma in these patients.

## P-060

### Levodopa-induced Belly Dancer's Dyskinesia: a case study in Parkinson's disease management

Minouflet Alexis (1), Hamouchi Khelifa (1), Atoko Isaac (1), Dadakpete Joseph (1), Kreisler Alexandre (2), Attier Jadwiga (1)

(1) Geriatrics, General Hospital, Saint-Quentin, France, (2) Neurology, University Hospital, Lille, France

Parkinson's disease (PD) is associated with motor symptoms like bradykinesia, tremor, and rigidity. Levodopa is the go-to treatment, yet in rare cases, it can cause distressing side effects, such as Belly Dancer's Dyskinesia (BDD), identified by uncontrolled abdominal wall movements. Several cases of these involuntary movements, linked to varied etiologies including pregnancy, abdominal surgery, trauma, or iatrogenic causes, have been reported. A significant etiological factor is levodopa, as presented here. We present an 86-year-old male PD patient under Levodopa/Benserazide treatment four times daily. He complained of involuntary abdominal movements approximately 30 min post-midday dose. Uncomfortable but not painful, these movements persisted regardless of position change and faded after a few hours. These observations led to a diagnosis of levodopa-induced BDD, warranting the discontinuation of levodopa. The cessation of treatment halted the uncontrolled movements. The patient is still currently monitored, managing his PD without levodopa. Though rare, BDD is a distressing outcome of levodopa usage, varying from discomfort to significant pain. As shown here, drug-triggered symptoms often improve upon cessation. It is essential to stay alert for this syndrome, as it may require stopping levodopa, a key tool in PD management.

## P-061

### Spondylodiscitis in elderly patient. a disease on the rise

Beatriz Neira Martin (1), Encarna Ulloa Rodriguez (2), Eliana Rios Companiets (3), Yanira Aranda Rubio (4), Eva Heras Muxella (5)

(1) Geriatrician. Ageing and Health Department. Nostra Senyora de Meritxell Hospital. Andorra., (2) Nurse. Ageing and Health Department. Nostra Senyora de Meritxell Hospital. Andorra, (3) Geriatrician. Ageing and Health Department. Nostra Senyora de Meritxell Hospital. Andorra, (4) Geriatrician. Hospital Central de la Cruz Roja. Madrid, (5) Head of Ageing and Health Department. Nostra Senyora de Meritxell Hospital. Andorra

A 76 years-old man was hospitalized with the diagnostic of acute prostatitis. As antecedents highlighted a mitral regurgitation and hyperuricemia. Meropenem was initiated, but after ten days of treatment, the patients started with feverish spikes of 39 °C. Previous urine and blood cultures were positive for *Escherichia coli* sensible of that antibiotic. In the anamnesis, the patient refers a thoracic-lumbar belt-shaped pain since before of being hospitalized. An abdomen computed tomography (CT) was made and a prostatic abscess was observed and confirmed by a Magnetic Resonance Imaging (MRI). Therefore, surgical drainage by a Transurethral resection was performed. However, fever and the thoracic-lumbar pain too, so an spine-MRI was made, confirming a T12-L1 spondylodiscitis. Piperacilina-Tazobactam was initiated with good clinical evolution. Urine and blood cultures were repeated, confirming and *Escherichia coli* resistant to aminopenicillins and quinolones. The treatment with Piperacilina-Tazobactam was continued in hospitalization at Home with MRI seriated that confirmed the improvement. After three weeks, oral trimethoprim sulfamethoxazole was initiated to continue the treatment four weeks more. The incidence of infectious spondylodiscitis is increasing, which has been attributed to the aging of the population and the improved access to MRI, the choice test. It is usually caused by *Staphylococcus aureus* or *Escherichia coli*, and CT-guided percutaneous biopsy is superior to blood cultures in the detection of the microorganism. The insidious onset and long antibiotic cycles (8–14 weeks), makes that knowing the disease will help us to diagnose and treat it earlier to avoid complications.

## P-062

### Elderly urgent care unit: a paradigm shift in enhancing care for the elderly an alternative to emergency department with an innovative way-in to eliminate delays in accessing geriatric focused urgent care for the elderly in Qatar

Irshad Badarudeen (1), Dr Hanadi Khamis Al Hamad (2), Dr SanjeeviKumar Meenakshisundaram (1), Dr Amir Ibrahim Abdalla (1), Dr Prajesh Vikkath (1)

(1) Hamad Medical Corporation, (2) 'Hamad Medical Corporation

**Background:** Over the past few years, the demand for emergency services has progressively increased, particularly among older adults. Health problems of the elderly must be explained by the multi-causality model and resolving them does not come from focusing on a single cause, but from identifying and treating all the factors that contribute to their prognosis. A Geriatric Urgent Care unit in Rumailah Hospital was thus opened for people above the age of 60 years which also reduce the risk or need of an elderly person having to visit the Emergency Department. Objectives: To provide access to essential acute emergency medical care to the frail and elderly in a multidisciplinary daycare setting.

**Methods:** Comprehensive geriatric assessment is one of the individualized systemic approaches with multidisciplinary care approach.

**Results:** s of its opening from April 2020 up to December 2022, EUCU has served 7,428 visits. This number gave ED more room to accommodate more emergency-related cases. Over the last two years, patients from 19 diverse referral sources showed a 71.5 percent increase in service utilization. Also, Customized comprehensive Geriatric assessment Geriatric team also sustained a compliance rate of 90%. An average waiting time of 2.4 h in Urgent care against an average international average of 4 h in ED waiting time, which clearly shows how an alternative to the emergency department setting is beneficial for our elderly in Qatar.

**Conclusion:** Geriatric urgent care in Rumailah Hospital thereby offers standardized multidisciplinary integrated care for the elderly in an age-friendly person-centered manner.

## P-063

### Patients visited in a Geriatric Day Hospital: what are they like and where do they come from?

Santiago Castejon Hernandez (1), Araceli Aguilera Merida (1), Leonor Cuadra Llopart (1), Oscar Miranda Montalvan (1), Georgina Cerdà Mas (1), Mireia Llonch Masriera (1)

(1) Consorci Sanitari de Terrassa

**Introduction:** Geriatric Day Hospital (GDH) are an alternative to hospitalization for frail patients, promoting stay-at-home and avoiding the side effects of the hospitalization in these patients. Aim:— Describe the profile of patients attended at the GDH- Analyse number of admissions avoided because of GDH visits—Identify the main service that refers to GDH.

**Methods:** Prospective study. Recruitment of patients attended at GDH in Hospital de Terrassa (Spain). January-May 2023. Sociodemographic and clinical data (frailty measured by Clinical Frailty Scale and VIG-Frail Index, geriatric syndromes) were collected. Admission avoidance calculated based on the number of visits and the admissions.

**Results:** 71 patients analysed: median age 87 years old (82.5–91), 41 women (57.8%). Only 3 patients needed admission (3.4%). Polypharmacy (n = 53, 74.7%), insomnia (n = 37, 52.1%), constipation (n = 29, 40.9%) and falls (n = 26, 36.6%) were the most prevalent geriatric syndromes. Median of frailty: CFS 5 (mild) and VIG-Frail 0.32 (intermediate frailty). 25 patients had cognitive impairment (35.2%). Patients were most referral by Emergency Department (n = 33, 46.5%), nursing home team (n = 13, 18.3%) and primary care (n = 12, 16.9%). Main diagnosis: behavioural disorders (including delirium) (n = 13, 18.3%), anaemia (n = 9, 12.7%) and pain (n = 5, 7%).

**Key Conclusions:** Profile of HDG patient: mild/intermediate-frail 87-years-old-women with polypharmacy, insomnia and constipation and no cognitive impairment. Only 3 of the 71 patients visited needed a hospitalization: 68 admissions were avoided (95.7%). Behavioural disorders: main reason of referral—The ED, followed by the nursing home team, is the main source of patients visited at GDH.

## P-064

### Analysis of empirical antibiotic treatment in pyelonephritis and the microbiological characteristics of microorganisms isolated from urine cultures in a health care center in Catalonia, Spain in the year 2022

Chiara Elice Paurinotto (1), Susana Fernandez Menendez (1), Mercedes Lopez Amoros (1), Milagros Suyapa Mejía Sanchez (1), Maria Angeles Garcia Conesa (1), Lourdes Guibas Roura (1), Pablo Carmona Muñoz (1)

(1) Fundació Salut Empordà

**Introduction:** Pyelonephritis is a serious infection associated with significant morbidity and mortality in the elderly. Options for initial treatment of pyelonephritis include ceftriaxone or meropenem in case of severe complicated urinary tract infections. Optimization of antibiotic use suggests the implementation of antimicrobial strategies tailored to the local microbiology.

**Methods:** We performed a descriptive retrospective study of the microbiological characteristics of pyelonephritis in a social health center during the year 2022.

**Results:** A total of 279 bacteria were isolated from 264 UTI (urinary tract infections) episodes, the most prevalent being *E. Coli* (*Escherichia coli*) (40.14%), followed by KPN (*Klebsiella Pneumoniae*) (15.77%), *E. Faecalis* (*Enterococcus faecalis*) (12.9%), *P. Mirabilis* (*Proteus Mirabilis*) (12.5%), *Pseudomona A.* (*Pseudomona Aeruginosa*) (5%), *E. Faecium* (*Enterococcus faecium*) (1.79%) and others (11.8%). We found that 54.27% of isolated microorganisms (*E. Coli*, KPN and *P. Mirabilis*) had a sensitivity of almost 70% to ceftriaxone, while 24.9% of isolated microorganisms (*E. Faecalis*, *Pseudomona A.* and *E. Faecium*) were intrinsically resistant. Ceftriaxone coverage reached 53.49%. We found that 54.27% of isolated microorganisms (*E. Coli*, KPN and *P. Mirabilis*) had a sensitivity of 100% to meropenem, while *Pseudomona A.* (9%) was sensitive in 83% of cases and both *E. Faecalis* and *E. Faecium* (15.9%) were not measured because of meropenem's low activity in these microorganisms. Meropenem coverage reached 82.65%. If we add ampicillin to ceftriaxone we will increase coverage to 74.86% and if we add it to meropenem we will increase it to 95.5%.

**Conclusion:** The addition of ampicillin to the empirical antibiotic treatment to all types of acute pyelonephritis would increase the antibiotic coverage of the bacterial flora isolated in our environment.

## P-065

### Is the Geriatric Day Hospital (GDH) a cost-effective alternative to Emergency Department (ED) care or a hospital admission?

Santiago Castejon Hernandez (1), Araceli Aguilera Merida (1), Georgina Cerdà Mas (1), Oscar Miranda Montalvan (1), Leonor Cuadra Llopart (1), Mireia Llonch Masriera (1)

(1) Consorci Sanitari de Terrassa

**Introduction:** Aging population represents a challenge for Emergency Departments (ED) because they require more complex assessment. Therefore, hospital centers should adapt and look for alternatives to hospitalization or ED assistance, as Day Hospitals.

**Aims:** To determine whether the implementation of a Geriatric Day Hospital (GDH) for 8h/week is a cost-effective alternative to hospital admission or stay in the ED.

**Methods:** Prospective study. Recruitment of patients attended at GDH in Hospital de Terrassa (Spain). January-May 2023. Reason for referral was classified: early discharge from ED or from hospital admission and admission avoidance to the ED). Cost-economic analysis: compare cost of hospital admission (ED or geriatric ward) according to the reason for referral to GDH. Costs: GDH visit, €231.17; acute medical discharge, €2090.56; intermediate care discharge, €1963.40 and stay in ED, €105.12.

**Results:** 88 visits were analyzed: 37 (42%) early discharges from ED, 8 (9.1%) early discharges from hospital admission and 33 (37.5%) ED

admissions avoidance and 10 were follow-up (11.3%). Difference between GDH visit and admissions: €-126.05 according to the ED visit, €1859.39 to acute admission and €1732.23 to Intermediate Care. Approximate savings in 5 months: €53.163,13.

**Conclusions:** GDH seems to be a cost-effective alternative with an estimated save of 53,000€ in 5 months (approximately 10,000€/month) working only 8 h/week.- Even so, the impact of GDH could be bigger than the economic one, avoiding adverse outcomes hospitalization-related.

## P-066

### 22nd Century Ideas with 19th Century Resources in an Irish Hospital Group

Lorna Kelly (1), Michael Watts (2)

(1) University Hospital Limerick, (2) Nenagh General Hospital

**Background:** The hospital infrastructure in Ireland is divided into four models—Model 2 hospitals provide in-patient and out-patient care for differentiated, low-risk medical patients [1]. Model 4 hospitals provide 24/7 acute surgery, medicine, and critical care and provide tertiary care.

**Methods:** This is a prospective descriptive study collecting data from all patients admitted to a model 2 hospital via the Medical Assessment Unit (MAU) or stepped-down from a model 4 hospital for six consecutive weeks. Data points include: route of admission, age, Rockwood Clinical Frailty Scale (CFS) on presentation, length of stay (LOS), delirium, known cognitive impairment, medications, recent hospital admissions and discharge destination.

**Results:** 144 patients were recruited to the study—80 via the MAU and 64 stepped down from a model 4 hospital. 95 patients had been in hospital within the previous year. The average age was 72 years with a mean CFS of 4. Delirium was present in 38% of patients, with 14% having an existing cognitive impairment. Over 80% were taking 5 or more medications. Average LOS was 9 days; 8 for MAU patients and 12 for those stepped down. 92% were living in the community prior to admission, 82% of whom returned home.

**Conclusion:** Model 2 hospitals are a vital resource in the Irish healthcare system, particularly catering for the geriatric population. Patients are often multimorbid and admissions are complicated with polypharmacy, delirium and discharge planning. Further exploration is required to assess how best to appropriately staff and resource them.

**Reference:**

1. Securing the Future of Smaller Hospitals: A Framework for Development, Published February 2013.

## P-067

### Typical presentation of an atypical hepatitis

Marta Fernández Esteban (1), Wendy Fuentes Ramos (1), María Alejandra Zambrano Gustin (1), Estel Vall-Llosera (1), Benito Fontecha (1)

(1) Geriatrics Department. Consorci Sanitari Integral. Barcelona. Spain

Marta Fernández Esteban, Wendy Fuentes Ramos, María Alejandra Zambrano Gustin, Benito Fontecha Gómez Geriatrics Service, Consorci Sanitari Integral.

**Introduction:** In 89-year-old man came to the emergency department because of increased intestinal transit without pathological products,

asthenia and choluria during the last 4 days. He denied changes in usual medication, eating out or abroad trips. He was independent for basic and instrumental activities of daily living, he had no cognitive impairment and medical history of hypertension, G2 chronic kidney disease and atrial fibrillation.

**Methods:** and results Physical examination revealed skin and conjunctivae jaundice, soft, compressible non-painful without masses or megalias, Murphy negative. Laboratory tests showed increased levels of bilirubin (3.46 mg/dl), transaminases (AST 3117,0 IU/L, ALT 3788IU/L), LDH (944.4U/L) and INR (1.6). He was admitted to Geriatric Acute Care Unit, where second laboratory tests showed even higher levels of bilirubin (4.71 mg/dl) at the expense of direct bilirubin (3.83 mg/dl), AST (4421IU/L) and ALT (5239IU/L), as well as increase of FA (259IU/L) and GGT (254 IU/L). Abdominal ultrasound and MR cholangiography were used to rule out obstructive and neoplastic etiology. Finally, viral serology showed positive IgM and IgG antibodies for Hepatitis E. Symptomatic treatment and an hepatoprotective diet were started, and hepatotoxic drugs were withdrawn, leading to clinical and analytical improvement.

**Key Conclusions:** Hepatitis E is an etiology to be considered in acute hepatitis differential diagnosis, although it is rare in developed countries. Genotypes 3 and 4 are the most common and affect mostly men and elderly. Complications include cholestatic hepatitis, acute liver failure and chronic hepatitis. Acute hepatitis treatment is symptomatic, whereas ribavirin is used for chronic hepatitis.

## P-068

### Challenging disseminated Varicella Zoster Virus infection with SIADH in an elderly patient

MROUKI Maroua (1), TISSOT Patricia (2), MAILLARD Sylvie (3), BADA Wihed (3), BONHOURE Caroline (4)

(1) Centre Hospitalier Perpignan service de Gériatrie, (2) centre Hospitalier Perpignan Service de Gériatrie, (3) Centre Hospitalier Perpignan Service de Gériatrie, (4) Centre hospitalier Perpignan service de Gériatrie

**Introduction:** After a primary infection with varicella Zoster virus (VZV), it becomes latent in sensitive nerve ganglia and can reactivate with the decline of the cellular mediated immunity in elderly and immunocompromised patients to cause herpes zoster (HZ). Method Herein we present the case of an 89-year-old woman presenting initially with generalized vesicular rash and ophthalmic zoster complicated by VZV meningitis and inappropriate Antidiuretic Hormone Secretion (SIADH).

**Case Report:** An 89-year-old woman was admitted in the geriatric department with 8 days history of right ocular pain with a periorbital painful rash in the territory of the first division of trigeminal nerve dermatome evocating ophthalmic Zoster. Her medical history was remarkable for hypertension, type 2 diabetes without drug treatment, giant urticaria, migraine and a recent diagnosis of follicular lymphoma of low grad. On examination, the patient was confused with no focal neurological deficits. She had a non-itchy diffuse rash with vesicles on limbs and trunk, different from her habitual urticaria. The right eye examination showed conjunctival injection, severe hypertonia and keratitis. A severe hyponatremia at 117 mmol/l with hypo osmolarity consistent with SIADH were noted. Pleocytosis and viral PCR to VZV was detected in CSF. She was given intra venous acyclovir (10 mg/kg) every eight hours for 15 days with local treatment for the ocular involvement. Hyponatremia progressively improved by fluid restriction and the anti-viral therapy, the confusion state resolved and the vesicular rash healed. Only the ocular lesions

persisted. The ophthalmologists advised 15 more days of valaciclovir. The patient was discharged to a rehabilitation unit.

**Conclusions:** Immunosuppression and the age are the main risk factor of VZV reactivation. The simultaneous occurrence of generalized rash, ocular and brain involvement is rare, the patient had 8 days of diagnosis delay maybe explaining the severity of the case. Disturbances of the CNS, including VZV infection, are known causes of SIADH. Hyponatremia management requires fluid restriction as well as treatment of the viral infection.

## P-069

### Prevalence of euthyroid sick syndrome in an acute geriatric ward: An underestimated enemy?

Marta Lorente Escudero (1), Itxaso Marín Epelde (1), Chenhui Chen (1), María Gonzalo Lázaro (1), Karmele Garaioa Aranburu (1), Rodrigo Molero de Ávila (1), Beatriz Echarte Archanco (1), Fracesca Soler Parets (1), Ángela Zulema Hernández Amador (1), Aitor

(1) Hospital Universitario de Navarra (Pamplona, Spain)

**Introduction:** Euthyroid sick syndrome is an asymptomatic condition secondary to the acute stage of a disease. Transient alterations in hypothalamic-pituitary-thyroid axis occur in 75% of hospitalized patients, especially in those with critical illnesses, deprivation of calories, and following major surgeries. The aim of the study is to evaluate whether the prevalence found in older adults admitted to an acute geriatric ward corresponds to that reported in the literature.

**Methods:** This is a retrospective observational study in which we collected demographic and medical data of hospitalized patients between September and December of 2022 in an Acute Geriatrics Unit of a tertiary hospital in Spain.

**Results:** 191 patients, whose average age was 88.54 (61.49% female), were included in the study. Their mean Barthel Index was 59.97 (32.12 SD). 15.52% had previous thyroid pathology and 26.76% had a suppressed TSH with mean TSH levels of 0.22 (0.09 SD). 50% of those with altered levels of TSH had a follow-up value at 6 months, and only 26.32% remained with a suppressed TSH. In the preliminary analysis, suppressed levels of TSH weren't related with functional status or other adverse events such as delirium or in-hospital mortality.

**Conclusions:** The prevalence of subclinical hyperthyroidism was moderately high in our sample, which determines the importance of detecting and monitoring it as soon as possible, since it can be associated with atrial fibrillation, worsening of pre-existing angina and heart failure, and poor response to standard treatment. These findings could support treatment of people with persistently low serum TSH levels.

## P-070

### An Audit Of The Inpatient Course Of Patients With Parkinson's Disease In A Level Four Hospital In 2018

Chris Reidy (1), Tom Farrell (1), Millie O'Gorman (1), Niamh O'Regan (1), John Cooke (1), George Pope (1), Riona Mulcahy (1)

(1) University Hospital Waterford, Waterford, Ireland

**Background:** The literature shows that patients with Parkinson's Disease (PD) have higher admission rates and longer length of stay (LOS) in comparison to age-matched controls. Following a survey of staff in a level four hospital, the management of PD was an area recognised as needing improvement. To identify specific areas, this



chart review was undertaken. MethodData were collected using a retrospective chart review (83 PD admissions coded in 2018). 10 patients were randomly selected from medicine, surgery, and orthopaedics respectively (38 admissions). Key data points recorded included demographics, complications, LOS, outcomes, Emergency Department (ED) management, and readmission at 3 months. Data was analysed using Microsoft Excel.

**Results:** Median age was 79.5 years. 53% were female. Median LOS was 10.5 days. PD was correctly documented in 88% of ED admissions, but 0% of patients received PD medications in ED. 53% of patients had falls history, yet only 22% had documented lying and standing blood pressure. 41% had documented delirium. Of the 47% made NPO during admission, 80% were in the perioperative period. Medications were held in 83% of procedures. 59% of patients had accessible discharge summaries. 8 patients (25%) were readmitted within 3 months.

**Conclusion**This review identified a number of key areas for improvement in the delivery of care to patients with PD in a level four hospital. ED pathways and staff education sessions will be a priority. PD medication protocols will also be reviewed. Inaccessible discharge summaries are also an area for improvement. After these initial steps, we will readmit in 6 months.

## P-071

### Afebrile Endocarditis Presenting as Back Pain and General Malaise

Edison Hugo Azaña Fernandez (1), Yanett Rossana Davila Barboza (2)

(1) Hospital San Juan de Dios Leon, (2) Hospital Universitario de Leon

**Introduction:** Infective endocarditis (IE) is an uncommon infectious disease involving both endocardium and heart valves, which is associated with a high rate of morbidity and mortality.

**Method:** Case-report of a patient with Infective endocarditis.

**Results:** An 83-year-old woman was admitted to the hospital because of general malaise and lower back pain not responding to NSAID and tramadol for one month. The patient was afebrileShe had a history of Hypertension. Bioprosthetic aortic valve. Atrial fibrillation. Heart failure. Treatment: Furosemide. Warfarin. Enalapril. Baseline: Barthel 55/100. No cognitive impairment. Physical examination: BP: 140/60. HR 72 bpm. Examination was normal except pansystolic murmur. Laboratory findings: hemoglobin: 10.6 gr/dl; leukocytes: 14 300; ESR: 120 mm/h; CRP: 137 mg/L; creatinine: 0.5 mg/dlMRI dorsal and lumbar spines: Non acute diseaseCT chest-abdomen-pelvis: Non acute diseaseBlood cultures: Four sets detect *Enterococcus Hirae* sensitive to ampicillin and gentamicin. Transthoracic echocardiography: No signs of endocarditisThe transesophageal echocardiography revealed multiple vegetation attached to the anterior and posterior leaflet of the mitral valve. The longest of 16 × 6 mm attached to the base of the posterior mitral valve leaflet. Multiple vegetation attached to Bioprosthetic aortic. Abscess of mitroaortic junctionThe patient was diagnosed with endocarditis due to *Enterococcus Hirae*. Cardiac surgery decided not to operate. The patient was on ampicillin and gentamicin. After two weeks the patient died.

**Conclusions:** Fever is the most common clinical finding in endocarditis, its absence should not mislead the clinician to discard this diagnosis.

## P-072

### Ultrasound for Diagnosis of Acute Kidney Injury in the Context of Frailty

James Dunn (1), David Smithard (1), Yusuf Karmali (1)

(1) Queen Elizabeth Hospital, Lewisham and Greenwich NHS Trust

**Introduction:** Acute kidney injury (AKI) is a condition commonly encountered amongst older frail hospital inpatients and has a number of potential causes. Ultrasounds of the kidneys are commonly performed in those found to have AKI yet only around 5% of AKIs are post renal in nature, with the vast majority being pre renal or intrinsic. The National Institute of Health and Care Excellence (NICE) advises to 'not routinely offer ultrasound of the urinary tract when the cause of the AKI has been identified' but that if offered should 'be performed within 24 h of assessment'.

**Methods:** A retrospective analysis of patient notes looking at whether ultrasounds of the kidneys, carried out in the context of older frail inpatients with AKI admitted to a South London Hospital, was indicated and occurred within 24 h, in keeping with the above NICE guidance.

**Results:** Over a 2 month period, in 33 (17 male, 16 female) older frail inpatients mean age was 84.2 years, (69–98) who had ultrasound performed for AKI 55% were indicated as per NICE and only 45% occurred within 24 h of assessment. Only 1 scan changed management for the patient.

**Conclusion:** We conclude that ultrasounds for AKI in this older frail inpatient population are over requested and subsequently this high demand for ultrasounds means that they do not happen within the recommended 24 h. We advise that they should only be performed when truly indicated to ensure they happen in a timely fashion for those cases when they are needed.

## Ageing Biology

### P-073

#### The Neuroprotective Effect of Ovalbumin in Experimental Alzheimer Rat Model

Emin Taskiran (1), Mumin Alper Erdoğan (2), Gurkan Yigitürk (3), Oytun Erbas (4)

(1) Specialist in Geriatrics, Isparta City Hospital, Isparta, Turkey, (2) Katip Çelebi University, Physiology, IZMIR, Turkey, (3) Sıtkı Koçman University, Histology and Embryology, MUĞLA, Turkey, (4) Bilim University, Physiology, ISTANBUL, Turkey

**Aim:** We hypothesized that acute and mild systemic inflammation created by ovalbumin, is beneficial for AD pathogenesis in an experimental rat model. Material and method: We used 18 Sprague Dawley albino male rats and divided them into 3 groups: 1: normal, 2: intracerebroventricular streptozotocin (ICV-STZ) administered control group, 3: ICV-STZ and ovalbumin administered treatment group. At the end of treatment period, animals were tested by PAL box, euthanized and brain tissue were removed for measuring choline acetyl transferase (ChAT) activity and histopathological examinations of CA1 and CA3 hippocampal area neuron counts.

**Results:** The highest ChAT activity ( $150.2 \pm 17.01$  U/g protein) and the longest latency time ( $242.8 \pm 32.17$  s) were detected in ICV-STZ ovalbumin treatment group. Also, CA1 and CA3 hippocampal area neuron counts were close to normal group and higher than ICV-STZ saline group in ICV-STZ ovalbumin treatment group. (Figure-1) All

results were significantly better than ICV-STZ saline group in ICV-STZ ovalbumin treatment group ( $p < 0.05$ ).

**Conclusion:** Acute and mild inflammation caused by intraperitoneally administered ovalbumin, as a new antigen may activate microglia via inflammatory cytokines without excessive inflammatory response. Activated microglia may help clearance of amyloid plaques and neurofibrillary tangles in hippocampal area thus lead neuronal survival and preserves ChAT activity in brain.

## P-074

### Telomere length and telomerase activity in patients with arterial hypertension depending on lifestyle risk factors

Anastasiia Radchenko (1), Olena Kolesnikova (1), Olga Zaprovalna (1), Nataliia Yemelianova (1)

(1) L.T. Mala Therapy National Institute of the National Academy of Medical Sciences of Ukraine, Kharkiv

Changes in telomere length (TL) and telomerase activity (TA) are markers of the ageing rate. However, the available data on their changes depending on the lifestyle in patients with arterial hypertension (AH) are quite contradictory. The aim of our study was to evaluate TL and TA in AH patients of moderate cardiovascular risk depending on lifestyle risk factors.

**Materials and Methods:** A prospective cohort study including 122 patients with AH and 26 controls, aged 25–59 years was conducted from 2019 to 2022. TL in blood leukocytes (LTL) and buccal epithelium (BETL) and TA were measured. TL was assayed using real-time quantitative PCR. Spearman's rank correlation was used to determine associations.

**Results.** There were no differences between groups in terms of smoking and alcohol abuse status. 30.6% of patients with AH were obese and 55.6% were overweight when compared with controls of whom 34.7% were overweight ( $\chi^2 = 11.323$ ,  $p = 0.023$ ). In AH patients, an association was found between obesity and LTL ( $r = -0.429$ ;  $p = 0.007$ ), as well as excessive alcohol consumption and TA ( $r = -0.459$ ;  $p = 0.024$ ). Patients with AH and obesity had significantly shorter LTL compared with overweight patients ( $p = 0.031$ ) and patients with normal weight ( $p = 0.019$ ). Patients with AH who currently abuse alcohol had significantly lower TA compared with patients who never abused alcohol ( $p = 0.002$ ).

**Conclusion:** Obesity and excessive alcohol consumption in patients with AH and low/moderate CVR are associated with the shortened LTL and decreased TA, which may indicate an accelerated ageing rate.

## P-075

### Investigating digoxin and bisoprolol as novel senolytic agents: secondary analysis of the RATE control Therapy Evaluation in Atrial Fibrillation (RATE-AF) Randomised Clinical Trial

Helena Lee (1), Daisy Wilson (1), Thomas Jackson (1), Dipak Kotecha (2), Karina Bunting (2)

(1) Institute of Inflammation and Ageing, University of Birmingham, (2) Institute of Cardiovascular Sciences, University of Birmingham

**Introduction:** Cellular senescence is a hallmark of ageing characterised by cell cycle arrest and pro-inflammatory Senescent Associated Secretory Phenotype, SASP. Senolytics are drugs that induce senescent cell clearance. Digoxin has senolytic properties in mice [1] and in-vitro studies support beta-blockers as a senolytic [2]. Despite being routinely prescribed, it is unknown whether they have senolytic effect in humans.

**Methods:** Retrospective multiplex analysis of plasma SASP factors and calculation of frailty index (FI) from 150 participants in the RATE-AF trial, which assessed digoxin vs bisoprolol on quality of life [3].

**Results:** reliminary data:  $n = 40$ , mean age 78.95 years (SD, 9.07), 47.5% female, digoxin  $n = 20$ , bisoprolol  $n = 20$ . Increased IL6 (Wilcoxon signed-rank effect size 0.49,  $p = 0.03$ ), and TNF $\alpha$  (Wilcoxon 0.62,  $p = 0.006$ ) over 6 months was observed in the digoxin group, with decreased CCL3 (Cohen's  $d = 0.54$ ,  $p = 0.026$ ), and GDF15 (Wilcoxon 0.52,  $p = 0.024$ ) in bisoprolol group. FI decreased over 6 months in digoxin (mean difference  $-0.03$  (SD, 0.08),  $p = 0.09$ ) and bisoprolol groups ( $-0.03$  (SD, 0.70),  $p = 0.07$ ) observed. Baseline CCL4 and TNF $\alpha$  in digoxin group correlate with negative change in FI over 6 months (Spearman's  $r + 0.53$ ,  $p = 0.02$ ; TNF $\alpha$   $r + 0.50$ ,  $p = 0.02$ ).

**Conclusions:** This is the first study in a real-world population of older adults assessing digoxin or bisoprolol treatment on SASP output. Repurposing these agents as senolytics to target biological mechanisms of frailty is an exciting prospect. Experimental medicine human studies, with cellular measures of senescence, are needed.

#### References:

- [1] <https://doi.org/10.1038/s41467-019-12888-x>.
- [2] <https://doi.org/10.1016/j.bj.2019.02.003>.
- [3] <https://doi.org/10.1001/jama.2020.23138>.

## P-076

### Expression of immune checkpoint on subset of monocytes in old patients

Royer Luca (1), Chauvin Manon (2), Dhiab Jamila (2), Pedruzzi Eric (2), Boddart Jacques (3), Sauce Delphine (2), Vallet Hélène (1)

(1) 1. Sorbonne Université, Institut National de la Santé et de la Recherche Médicale (INSERM), UMRS 1135, Centre d'immunologie et de Maladies Infectieuses (CIMI) 2. Department of Geriatrics, Saint Antoine hospital, Assistance Publique Hôpitaux de Paris (AP-HP), F75012 Paris. (2) Sorbonne Université, Institut National de la Santé et de la Recherche Médicale (INSERM), UMRS 1135, Centre d'immunologie et de Maladies Infectieuses (CIMI), (3) 1. Sorbonne Université, Institut National de la Santé et de la Recherche Médicale (INSERM), UMRS 1135, Centre d'immunologie et de Maladies Infectieuses (CIMI); 2. Department of Geriatrics, Pitié Salpêtrière Hospital, Assistance Publique Hôpitaux de Paris (AP-HP), F75012 Paris

**Background:** Immune checkpoints (ICs) and their ligands are important actors of lymphocytes and monocytes activation's regulation. Their expression level within T cells changes with aging. Despite the major impact of aging on monocytes, there is no data about the expression of ICs on monocytes from old patients. The objective of our study is to describe the expression of ICs and their ligands on monocytes from young individuals compared to old patients.

**Methods:** We included 18 old control ( $> 75$  years old), 10 young control ( $< 55$  years old) and 45 old patients with hip fracture (HF).

Phenotypical and functional analysis were performed on cryopreserved PBMCs.

**Results:** There is a differential expression of ICs within monocyte subtypes regardless of age at baseline. After stimulation, a differential expression of ICs in young subjects but not in old subjects was observed which would be in favor of a regulation defect in old subjects. This lack of regulation could partially explain the excess production of pro-inflammatory cytokines by the stimulated monocytes in old subjects. In HF, we also observe a differential expression of ICs, especially in old patients with a poor prognosis.

**Conclusion:** Our results suggest that the immune regulation which should take place post-acute stress may be affected in old individuals.

## P-077

### Frailty-related circRNAs are differentially expressed and altered with aging in multiple sclerosis patients

Andrea Iribarren-López (1), Ainhoa Alberro (1), Leire Iparraguirre (1), Saioa GS Iñiguez (1), Maider Muñoz-Culla (2), Tamara Castillo-Triviño (3), David Otaegui (1)

(1) Biodonostia Health Research Institute (Biodonostia HRI), Multiple Sclerosis Group, San Sebastian, Spain, (2) University of the Basque Country (EHU/UPV), Basic Psychological Processes and Their Development, San Sebastian, Spain, (3) Donostia University Hospital, Neurology Department, San Sebastian, Spain

**Introduction:** Multiple sclerosis (MS) is commonly diagnosed at young adulthood and most patients live with MS for decades (24% of the patients are over 60 years). This indicates an overlap of aging-associated processes with those of MS and it is essential to unravel their influence on MS course. In this line, circular RNAs (circRNAs) have been proposed as promising biomarkers of aging, and could have a relevant role in age-related diseases. Indeed, we have previously reported a different circRNA expression pattern in MS and also in frailty. The aim of this work was to investigate characteristics related to aging and frailty in MS. To this end, we analyzed the expression of frailty-related circRNAs in MS patients of different ages.

**Methods:** RNA was isolated from circulating leukocytes of healthy controls (HC) and MS patients. The relative expression of hsa\_circ\_0079284, hsa\_circ\_0007817 and hsa\_circ\_0075737 circRNAs was analyzed by qPCR.

**Results:** We found hsa\_circ\_0079284 and hsa\_circ\_0007817 significantly down-regulated in MS when compared to HCs. The analysis by age ranges showed that the most significant differences were in the 30–39 age range. The age correlation analysis revealed that hsa\_circ\_0079284 expression decreases with age in HCs while it remains stable in MS patients.

**Key Conclusions:** Our results demonstrate differences in the expression of frailty-associated circRNAs between HCs and MS patients. Interestingly, their expression pattern is opposite to the one described for frailty, being more similar to robust elders. These findings are in line with our previous results that suggested MS patients maintain an active immune system.

## P-078

### ALFA Score—Algarve Fit Ageing Score Project, a multidisciplinary approach for ageing assessment

Joana Apolónio (1), Nádia Silva (1)

(1) Algarve Biomedical Center—Research Institute (ABC-RI) ALFA Score Consortium—Joana Apolónio1, Nádia Silva1, Raquel Andrade123, Inês Araújo123, David Brito1, Sofia Calado12, Filipa Esteves1, Marlene Trindade1, Daniela Santos1, Leonor Faleiro134, Nuno Marques123, Ana Marreiros12, Clévio Nóbrega123, Hipólito Nzwaló12, Sandra Pais12, Isabel Palmeirim123, Ana Teresa Rajado1, Vânia Roberto1, Sónia Simão12, Natércia Joaquim5, Rui Miranda5, António Pêgas6, Ana Sardo7, Shafik Norali8, Sandra Silva9, José Bragança123, Pedro Castelo-Branco1231Algarve Biomedical Center—Research Institute (ABC-RI), Campus Gambelas, Bld.2—Faro; 2Faculty of Medicine and Biomedical Sciences (FMCB), University of Algarve, Gambelas Campus, Bld. 2—Faro; 3Champalimaud Research Program, Champalimaud Centre for the Unknown—Lisbon; 4Faculty of Science and Technology (FCT), University of Algarve, Gambelas Campus, Bld.8—Faro; 5USF Balsa-Tavira; 6USF Ossónoba—Faro; 7USFMirante, 8USCP—Olhão9; 10USF SerraMar—Loulé, Portugal

**Introduction:** The ageing of the human population is a paramount societal problem for the coming decades, impacting the economy and increasing the social burden. It is essential to establish and develop strategies to promote and measure healthy ageing, since several debilitating consequences of ageing are modifiable through a healthy and active lifestyle. The ALFA Score project aims to develop a novel ageing score to assess an individual and/or population ageing status.

**Methods:** In this project, a multi-omics dataset: (epi) genetic, transcriptomic, redox and microbiome data, will be acquired together with cognitive, clinical, lifestyle and demographic information in individuals from Algarve (Portugal). These data will be used to construct a novel ageing score, able to stratify the elderly based on their healthy ageing status. Establishment of in-vitro ageing cell models using induced pluripotent stem cells (iPSCs) derived from performant and non-performant individuals, will be used to test geroprotective conditions.

**Results:** The ALFA Score will be applied to individuals from distinct regions of the Algarve (Portugal) to identify regions where healthy ageing is predominant. In order to translate the results of the project to the society, an ALFA Score service and application will be developed, allowing users to monitor their ALFA Score using their tablets or laptops. In partnership with Algarve Tourism Board, we will promote destinations where lifestyle is compatible with better ALFA Scores.

**Conclusions:** Overall, this project will enhance the Algarve as a leading region in Healthy and active Ageing, creating innovative tools and generating an important social and economic impact.

## P-079

### Longer Telomere Length In Balkan Endemic Nephropathy Patients Undergoing Chronic Hemodialysis Is Associated With Lower Cardiovascular Mortality

Simon Toupance (1), Vedran Premužić (2), Allyson Hollander (1), Želimir Stipančić (3), Nikolina Bukal (4), Ana Jelaković (5), Ivan Brzić (6), Athanase Benetos (7), Bojan Jelaković (2)

(1) Université de Lorraine, Inserm, DCAC, F-54000, Nancy, France, (2) Department of Nephrology, Hypertension, Dialysis and Transplantation, University Hospital Center Zagreb and School of Medicine, University of Zagreb, Zagreb, Croatia, (3) General Hospital Dr. Josip Benčević, “Slavonski Brod, Croatia, (4) Department of Dialysis Odžak, County Hospital Orašje, Odžak, Bosnia and Herzegovina, (5) Department of Nephrology, Hypertension, Dialysis

and Transplantation, University Hospital Center Zagreb, Zagreb, Croatia, (6) University of Rijeka, Rijeka, Croatia, (7) Université de Lorraine, Inserm, DCAC, CHRU-Nancy, F-54000, Nancy, France

**Introduction:** Balkan endemic nephropathy (BEN) is characterized with later onset, milder forms of hypertension and lower pulse wave velocity (PWV) than other end-stage kidney disease (ESKD). We hypothesized that telomere length (TL) would be longer in BEN patients and associated with lower PWV and less cardiovascular (CV) mortality.

**Methods:** 124 patients undergoing hemodialysis (HD) (68 BEN, 56 non-BEN; 48.4% men;  $65 \pm 14$  years) were enrolled and followed-up for 72 months. Blood pressure and PWV were determined before mid-week dialysis. TL was measured in leukocytes by Southern blot.

**Results:** Age and sex-adjusted TL was significantly longer in the BEN group (7.19 kb vs 6.79 kb;  $p < 0.001$ ). TL was associated in the BEN group with PWV, and in the non-BEN group with age. BEN patients presented significantly lower CV mortality than non-BEN patients ( $p < 0.001$ ). In the BEN group shorter TL was the only determinant of shorter survival (HR 0.11 [95% CI 0.03, 0.35]). To analyze the diagnostic value of TL for CV mortality we used ROC analysis that revealed TL  $< 6.21$  kb to be useful for prediction of CV mortality in patients undergoing chronic HD.

**Key Conclusions:** Shorter TL is associated with CV mortality in patients undergoing chronic HD. BEN patients had longer TL and longer survival than other ESKD patients. In BEN patients, TL was negatively associated with PWV. This study confirmed our hypothesis that BEN is associated with slower vascular aging and that longer TL may partially explain this phenomenon.

## P-080

### The estimation of eGFR in the geriatric patient. evaluation and comparison of different equations

Stefania Peruzzo (1), Silvia Ottaviani (1), Mariya Muzyka (1), Alessio Nencioni (1), Fiammetta Monacelli (1)

(1) Section of Geriatrics, Department of Internal Medicine and Medical Specialities (DIMI), University of Genoa, Genoa, Italy

**Objectives:** For the estimation of glomerular filtration rate (eGFR) in patients over 70, CKD-EPI (The Chronic Kidney Disease Epidemiology Collaboration) is often used, although there are validated equations for the elderly population like BIS1 (Berlin Initiative Study 1) and FAS (Full Age Spectrum). This paper compares the performance of CKD-EPI, MDRD (Modification of Diet in Renal Disease), BIS1 and FAS in calculating eGFR in a population of patients over 70 recruited from San Martino Hospital in Genoa, Italy.

**Materials and Methods:** A total of 499 subjects (M 130, F 369), mean age 82.6 years ( $\pm 7.44$ ), and mean creatinine of 0.97 ( $\pm 0.71$ ) mg/dl were recruited. GFR was calculated using CKD-EPI, MDRD, BIS1 and FAS, deriving mean, median, standard deviation and interquartile range.

**Results:** The mean value of eGFR is 70 ml/min/1.732 with CKD-EPI ( $\pm 20.6$ ) and MDRD ( $\pm 25.7$ ) and 57 with BIS1 ( $\pm 16.7$ ) and FAS ( $\pm 19.0$ ). The graphical representation showed that BIS1 and FAS estimate lower eGFR values than CKD-EPI and MDRD. All formulas, except MDRD, show a constant decrease with increasing age, greater for FAS and BIS1. The behavior of the equations is shown to be more linear in BIS1 and FAS than in CKD-EPI and MDRD when compared with an eGFR value of 30 ml/min, often chosen as threshold for correction of antibiotic and anticoagulant dosing.

**Conclusions:** From the data analyzed and literature review appears that BIS1 is the most accurate formula in calculating eGFR values in patients over 70 when only creatinemia is available.

## P-081

### The Index of Multiple Deprivation as a risk factor for age acquired skewed X chromosome inactivation

Amy Roberts (1), Nathan Cheetham (1), Claire Steves (1), Kerrin Small (1)

(1) King's College London, United Kingdom

**Introduction:** skewed X chromosome inactivation (XCI-skew) is an age acquired trait of the blood in females. XCI-skew correlates with cardiovascular disease risk and is predictive of future cancer diagnosis, yet is independent of other known markers of biological ageing [1]. Though XCI-skew is affected by both genetic and environmental factors, currently no environmental risks have been identified. The index of multiple deprivation (IMD) captures the relative deprivation (presence or absence of various resources) of areas across the UK and is associated with increased multimorbidity risk [2].

**Methods:** XCI was measured in blood-derived DNA across 1575 females (median age = 61 years) from the TwinsUK population cohort using the HUMARA method. Heritability analysis was carried out using ACE twin modelling. Longitudinal measures of local area deprivation were derived using ~ 20 years of UK address data. Association between longitudinal exposure to different levels of deprivation and XCI-skew as an outcome will be tested with multi-variable logistic and linear regression models, controlling for potential confounding by age.

**Results:** The ACE model revealed 33% of the phenotypic variation of XCI-skew is attributable to the unique environment. Preliminary univariate analysis has shown that a history of living in more deprived areas using our longitudinal measure of deprivation correlates with poorer self-rated health (chi-squared test of independence,  $p = 0.014$ ). We will present results of ongoing analysis testing the hypothesis that increased exposure to deprivation is a risk factor for age acquired XCI-skew.

**Conclusions:** This study could reveal novel insights into the biological mechanisms through which the social determinants of health are mediated.

#### References:

- [1] <https://doi.org/10.7554/eLife.78263>.  
[2] [https://doi.org/10.1016/S0140-6736\(12\)60240-2](https://doi.org/10.1016/S0140-6736(12)60240-2).

## P-082

### Neuroactively acting hormones in cerebrospinal fluid and serum in early prediction of Alzheimer's disease

Hana Vankova (1), Eva Jarolimova (1), Martin Hill (2), Bela Bendlova (2), Robert Rusina (3), Marketa Vankova (2)

(1) Third Faculty of Medicine, Charles University, Czech Republic, (2) Institute of Endocrinology, Prague, (3) Thomayer Hospital, Prague

The core of the project covers validation and refining the existing model based on neuroactive biomarkers [1] and its application for improvement of Alzheimer's disease diagnosis in its earliest phase. The specific goal is to ascertain whether biomarkers detected solely in peripheral blood are applicable for prediction model.

**Methods:** The study uses metabolomic approach. Extended range of steroid hormones examined in cerebrospinal fluid (CSF) of AD patients. Steroidomic data were obtained using gas chromatography-mass spectrometry (GC-MS/MS) [1]. Concentrations of biomarkers in blood and cerebrospinal fluid are compared and differences evaluated.

**Results:** In 56 patients with AD, the levels of 30 unconjugated steroids such as pregnenolone, 17-hydroxypregnenolone, 16 $\alpha$ -hydroxypregnenolone, 20 $\alpha$ -dihydropregnenolone, dehydroepiandrosterone, 7 $\beta$ -hydroxy-DHEA, 16 $\alpha$ -hydroxy-DHEA, 5-androstene-3 $\beta$ , 7 $\alpha$ , 17 $\beta$ -triol, 5-androstene-3 $\beta$ , 7 $\beta$ , 17 $\beta$ -triol, progesterone, 17-hydroxyprogesterone, 16 $\alpha$ -hydroxyprogesterone, 20 $\alpha$ -dihydroprogesterone, cortisol, androstenedione, 5 $\alpha$ -dihydrotestosterone, estradiol, allo-pregnanolone, isopregnanolone, pregnanolone, androsterone, epiandrosterone etc. were measured in cerebrospinal fluid and circulation. In addition, levels of 17 conjugated steroids were assessed, pregnenolone sulfate, 20 $\alpha$ -dihydropregnenolone sulfate, 16 $\alpha$ -hydroxy-DHEAsulfate, androstenediolsulfate, allopregnanolonesulfate, etc. The preliminary results support comparability of outcomes.

**Conclusion:** The results support the assumption of comparable predictive value of steroids in CSF and circulation. Thus, for the purpose of AD diagnosis using steroid hormones, the highly invasive CSF collection could be avoided and replaced by much less invasive blood sampling. Supported by grant NV18-01–00399 of the Ministry of Health of the Czech Republic and by the Charles University research program Cooperatio 34 -Internal disciplines.

**Reference:**

[1]Vankova, M. et al. (2016). Preliminary evidence of altered steroidogenesis in women with Alzheimer's disease: Have the patients "older" adrenal zona reticularis? *Journal Steroid Biochemistry Molecular Biology*, 158,157–177.

## P-083

### Atherogenic Index Association With Metabolic Syndrome In Older Patients

Gianina Ioana Constantin (1), Simona Opris (1), Catalina Monica Pena (1)

(1) "Ana Aslan" National Institute of Gerontology and Geriatrics

**Introduction:** The metabolic syndrome (MetS) represents a complex of cardiovascular and metabolic risk factors (hypertension, abdominal obesity, changes in glucose tolerance, dyslipidemia) involving a series of interactions between genetic, environmental (sedentary, high-calorie diet), hormonal and metabolic factors. Dyslipidemia plays an important role in MetS for both triglycerides (TG) and high density lipoproteins (HDL-C) serving as relevant diagnostic criteria of it. A good indicator used to assess the atherogenic lipoprotein profile and commonly used as an optimal indicator of dyslipidemia and associated diseases is the atherogenic index.

**Methods:** The purpose of this study was to determine the levels of lipid profile and assess atherogenic index in older patients with metabolic syndrome compared to a control group. Serum determinations of biochemical parameters (blood glucose, total cholesterol (TC), HDL-C, low density lipoproteins (LDL-C), TG) were performed by laboratory tests using standardized methods. Atherogenic index was calculated by using the following formula:  $\log(TG/HDL-C)$ .

**Results:** In our study was observed a significantly high levels in atherogenic index in patients with metabolic syndrome compared to control group ( $0.551 \pm 0.31$  vs  $0.139 \pm 0.13$  mg/dl serum).

**Key Conclusions:** These results suggest that high levels of the atherogenic index are significantly associated with an increased risk of developing metabolic syndrome. Taking into account traditional risk factors and the interaction between them, atherogenic index can be considered to be better predictor for MetS. Moreover, it can be an

alternative screening tool, in situations where all atherogenic parameters are normal.

## P-084

### Sleep quality in older people conditioned by demographic and social factors

Puto Grażyna (1), Muszalik Marta (2)

(1) Institute of Nursing and Midwifery, Faculty of Health Sciences, Jagiellonian University Medical College, (2) Department of Geriatrics, Faculty of Health Sciences, Nicolaus Copernicus University in Torun, Collegium Medicum in Bydgoszcz

**Introduction:** he sleep quality in older people results not only from changes in sleep architecture and sleep patterns, but also from comorbidities, demographics and social factors. The aim of the study was to analyze the factors determining the sleep quality of older people.

**Methods:** Sleep quality was assessed using the Pittsburgh Sleep Quality Index (PSQI) .

Results Among the 342 people over 60 years of age, sleep disorders (PSQI > 5 points) were diagnosed in 250 people (83.6%). Sleep disorders have been linked to: marital status (single people experienced sleep disorders more often than married people—83.0% vs 65.1%;  $p < 0.001$ ); the structure of residence (people living alone more often showed sleep disorders than those living only with a spouse—81.6% vs 36.5%;  $p < 0.001$ ); education (people with primary/basic vocational education more often experienced sleep disorders than those with higher education 83.8% vs 64.1%;  $p = 0.002$ ); financial situation (people assessing their financial situation as very bad/bad more often showed sleep disorders than people assessing it as very good—96.9% vs 55.0%;  $p < 0.001$ ). The sex and age of the subjects did not affect the sleep quality.

**Conclusions:** The sleep quality of older people is determined by marital status, structure of residence, education, and financial situation. The sex and age did not affect the sleep quality.

**Keywords:** sleep quality, demographic and social factors, older people.

## P-085

### New Pathophysiological Substrates from the Integrated Study of Skeletal Muscle, Peripheral Nervous System and Cardiovascular Function

Irene Zucchini (1), Fulvio Lauretani (1), Simone Porcelli (2), Martino V. Franchi (3), Alberto Botter (4), Alfonso Mastropietro (5), Rebecca Re (6), Aida Hoxha (1), Roberta Mazzieri (1), Raffaele Federici (1), Agnese Faberi (1), Crescenzo Testa (1), Arian

(1) Geriatric Clinic Unit, University Hospital of Parma, Parma, Italy, (2) Department of Molecular Medicine, University of Pavia, Pavia, Italy, (3) Department of Biomedical Sciences, University of Padova, Padua, Italy, (4) Laboratory for Engineering of the Neuromuscular System (LISiN), Department of Electronics and Telecommunication, Politecnico di Torino, Turin, Italy, (5) Institute of Biomedical Technology, National Research Council, Segrate, Italy, (6) Dipartimento di Fisica, Politecnico di Milano, Milan, Italy, (7) Department of Medicine and Surgery, University of Parma, Parma, Italy

**Introduction:** The reduction in physical performance of aging is linked to the progressive decline in skeletal muscle mass and strength starting during middle age. The pathophysiological changes include histological modifications such as skeletal muscle atrophy, muscle fibers cross-sectional area reduction, decrease in their number [1,2] and satellite cells loss of function [3], as well as reduction and dysfunction of muscle fiber mitochondria [4], reduced protein expression [5] and enzymatic activity, decline of mitochondrial respiration [6], fusion, fission and mitophagy [7]. All these alterations induce poorer skeletal muscle oxidative metabolism [8], oxidative stress increase and inflammation. Recent evidences suggest a number of factors contribute to motor control reduction, including neuromuscular junction instability [9,10], motor neurons loss, denervated muscle fibers death, reinnervation decline, motor units expansion, muscle fibers grouping [11,12].

**Methods:** The Trajector-AGE project aims to study, in a multidisciplinary way, both the temporal, structural, metabolic and functional course of neuromuscular decline with aging, taking into account the individual level of physical activity. Physically and cognitively healthy non-hospitalized patients will be enrolled in two ranges of age, 55–60 and 75–80; each group will be further divided into active and sedentary by accelerometric and anamnestic questionnaire parameters. These subjects will undergo anthropometric evaluations, comprehensive geriatric assessment, bioelectrical impedance analysis, cardiopulmonary exercise testing, echocardiographic and vascular examination, neuromuscular tests, and muscle structure characterization by ultrasound and Magnetic Resonance Imaging. Biomarkers of inflammation, cellular oxidative stress, neuromuscular damage and denervation will be analysed from blood and muscle samples.

**Results:** The longitudinal and prospective design of the study will allow to outline the trajectories of neuromuscular decline and physical performance reduction of aging, analysing not only the reciprocal relationships, but also those with the different age groups and with the level of usual physical activity.

**Key Conclusions:** The prospective, multidisciplinary and longitudinal approach of the project will allow to highlight pathophysiological substrates of the neuromuscular decline observed in elderly, potentially identifying new functional and molecular biomarkers of aging.

#### References:

1. Reid KF, et al. Longitudinal decline of lower extremity muscle power in healthy and mobility-limited older adults: influence of muscle mass, strength, composition, neuromuscular activation and single fiber contractile properties. *Eur J Appl Physiol* 2014; 114:29–39;.
2. Wilkinson DJ, et al. The age-related loss of skeletal muscle mass and function: Measurement and physiology of muscle fibre atrophy and muscle fibre loss in humans. *Ageing Res Rev* 2018; 47:123–132;.
3. Snijders T, et al. Role of muscle stem cells in sarcopenia. *Curr Opin Clin Nutr Metab Care* 2017; 20:186–190;.
4. Habiballa L, et al. Mitochondria and cellular senescence: Implications for musculoskeletal ageing. *Free Radic Biol Med* 2019; 132:3–10;.
5. Short KR, et al. Decline in skeletal muscle mitochondrial function with aging in humans. *Proc Natl Acad Sci U S A* 2005; 102:5618–5623;.
6. Konopka AR, et al. Mitochondrial and skeletal muscle health with advancing age. *Mol Cell Endocrinol* 2013; 379:19–29;.
7. Konopka AR, et al. Markers of human skeletal muscle mitochondrial biogenesis and quality control: effects of age and aerobic exercise training. *J Gerontol A Biol Sci Med Sci* 2014; 69:371–378;.

8. Zampino M, et al. Greater Skeletal Muscle Oxidative Capacity Is Associated With Higher Resting Metabolic Rate: Results From the Baltimore Longitudinal Study of Aging. *J Gerontol A Biol Sci Med Sci* 2020; 75:2262–2268;.

9. Gonzalez-Freire M, et al. The Neuromuscular Junction: Aging at the Crossroad between Nerves and Muscle. *Front Aging Neurosci* 2014; 6:208;.

10. Hughes DC, et al. Age-related Differences in Dystrophin: Impact on Force Transfer Proteins, Membrane Integrity, and Neuromuscular Junction Stability. *J Gerontol A Biol Sci Med Sci* 2017; 72:640–648;.

11. Hepple RT. When motor unit expansion in ageing muscle fails, atrophy ensues. *J Physiol* 2018; 596:1545–1546;.

12. Lexell J, et al. The occurrence of fibre-type grouping in healthy human muscle: a quantitative study of cross-sections of whole vastus lateralis from men between 15 and 83 years. *Acta Neuropathol* 1991; 81:377–381.

## P-086

### Myeloperoxidase-oxidized low-density lipoproteins and serum from old patients with polyvascular disease may induce senescence of endothelial cells: preliminary results

Kézia Korpak (1)

(1) CHU Charleroi

Cellular senescence, an irreversible cell cycle arrest, is a source of chronic low-grade inflammation and contributes to atherosclerosis pathogenesis [1]. Native LDLs (nat-LDLs) or oxidized-LDLs are causative stimuli of endothelial cellular senescence [2,3]. Myeloperoxidase (MPO), a heme-containing enzyme known for the role of defense against pathogens, is one of the main physiological ways by which low-density (LDL) can be oxidized [4]. Senescent cells demonstrate a high level of SA- $\beta$ gal (Senescence associated beta-galactosidase) activity measured classically by cytochemical staining [5]. In our experiment, the SA- $\beta$ gal activity was quantified using b-galactosidase DDAOG substrate (9H-[1,3-dichloro-9,9-dimethylacridin-2-one-7-yl]  $\beta$ -D-galactopyranoside) by flow cytometry, according to a recent method of Adewoye et al.[6]. First, a model was developed with the treatment of endothelial cells (EA.hy926) with 0.5  $\mu$ M of doxorubicin for 24h compared with control cells (75% vs. 4% respectively). Cytokines production (IL8) was higher in supernatant from cells treated with doxorubicin compared with control cells ( $4.62 \pm 0.03$  ng/ml/106cells vs.  $0.30 \pm 0.03$  ng/ml/106 cells  $p < 0.001$ ,  $n = 3$ ). In a further experiment, we incubated endothelial cells with 100  $\mu$ g/ml of myeloperoxidase-oxidized low-density lipoproteins (Mox-LDLs), 1000  $\mu$ g/ml of nat-LDLs, and a combination of both for 24h ( $n = 3$ ). Inflammatory activity, measured by the level of IL8, was significantly elevated in the supernatant of stimulated cells with Mox-LDLs and nat-LDLs (Control cells:  $0.96 \pm 0.23$  ng/ml/106cells; Mox-LDLs:  $3.07 \pm 0.46$  ng/ml/106cells; Mox-LDLs + nat-LDLs:  $8.62 \pm 1.92$  ng/ml/106cells;  $p < 0.05$ ,  $n = 3$ ). We observed a significant increase of SA- $\beta$ gal-activity in endothelial cells treated with Mox-LDLs (8.2%) and with a combination of Mox-LDLs and nat-LDLs (9.5%) compared to control cells (6.9%) with  $p < 0.05$  ( $n = 3$ ). Moreover, serum from old polyvascular patients induced endothelial cell senescence after 72 h of incubation (control cells  $6.8 \pm 0.9\%$  vs. serum  $9.7 \pm 1.3\%$ ;  $p < 0.005$ ,  $n = 6$ ). This preliminary experiment suggests a possible role of Mox-LDLs in stress-induced premature senescence. Preventing endothelial cellular

senescence by interventions may be an interesting therapeutic target in atherosclerosis, particularly in older people.

## Cardiovascular Medicine

### P-087

#### The Role of MR Assessments of Cardiac Morphology, Function, and Tissue Characteristics on Exercise Capacity in Well-Functioning Older Adults

Qiaowei Li (1), Feng Huang (1), Zhonghua Lin (1), Pengli Zhu (1)

(1) Shengli Clinical Medical College of Fujian Medical University, Geriatric Department of Fujian Provincial Hospital, Fujian Key Laboratory of Geriatrics, Fujian Provincial Center for Geriatrics, Fuzhou, Fujian, China

**Background:** The relationship between resting cardiac indices and exercise capacity in older adults was still not well understood. New developments in cardiac magnetic resonance imaging (MRI) enable a much fuller assessment of cardiac characteristics. We aimed to assess the association between exercise capacity and specific aspects of resting cardiac structure, function, and tissue.

**Methods:** A total of 112 well-functioning older adults (mean age 69 years, 52 men) underwent 3.0 T MRI. Demographic and geriatric characteristics were collected. Blood samples were assayed for lipid and glucose related biomarkers. All participants performed a symptom-limited cardiopulmonary exercise test to achieve peakVO<sub>2</sub>. Cardiac MRI parameters were measured with semi-automatic software by an 18-year experienced radiologist. Demographic, geriatric characteristics and MR measurements were compared among quartiles of peakVO<sub>2</sub>, with different .

**Methods:** according to the data type. Spearman's partial correlation and least absolute shrinkage selection operator regression were performed to select significant MR features associated with peakVO<sub>2</sub>. Mediation effect analysis was conducted to test any indirect connection between age and peakVO<sub>2</sub>.

**Results:** Epicardial fat volume, left atrial volume indexed to height, right ventricular end-systolic volume indexed to body surface area and global circumferential strain (GCS) were correlated with peakVO<sub>2</sub> (regression coefficients were 0.040, 0.093, 0.127, and 0.408, respectively). Mediation analysis showed that the total effect of peakVO<sub>2</sub> change was 43.6% from the change of age. The proportion of indirect effect from epicardial fat volume and GCS were 11.8% and 15.1% in total effect, respectively.

**Conclusion:** PeakVO<sub>2</sub> was associated with epicardial fat volume, left atrial volume, right ventricular volume and GCS of left ventricle.

### P-088

#### Relationships between functional physics, cardiovascular variables and quality of life in the elderly

Daniel Pietko Da Cunha (1)

(1) Coimbra University

**Introduction:** The performance of daily activities is crucial to the quality of life in old age, and physical fitness gets significant impact in this context. Cardiovascular variables are very important for morbidity and mortality in the general population, with particular relevance to the geriatric age group. The challenge nowadays is to understand the factors that influence the quality of life, for the human

being to live longer without losing autonomy. **OBJECTIVES:** To study the relationship between functional fitness, anthropometric, hemodynamic and blood variables and quality of life. Furthermore, to investigate how these variables predict quality of life of elderly people. **MATERIALS AND .**

**Methods:** Twenty participants over 60 years old from the geriatric ambulatory of city of Cachoeirinha, in Brazil, had physical fitness tests for elderly people and had blood pressure (BP) and body mass index (BMI) measured. They had blood test to determinate lipid and glucose profiles. The quality of life was assessed with the SF-36v2. Multivariate analysis of techniques of variance and linear regression were also used.

**Results:** Participants with normal glucose levels had lower BMI ( $p < 0.05$ ) than pre-diabetics and diabetics participants. The older adults with normal triglycerides levels showed lower systolic and diastolic blood pressure ( $p < 0.05$ ). Age, sex and BMI explained 31.4% of the SF-36v2. Including systolic blood pressure in the model explanation raised to 43.6% the R<sup>2</sup>, increasing progressively to 53.8% when lower limbs strength was considered and to 64.7% with variable aerobic resistance.

**Conclusion:** BMI and BP, particularly systolic, cause great impact on general and cardiovascular morbidity, as well as in the quality of life for seniors. The lower limb strength and aerobic endurance affect decisively their quality of life. The maintenance and optimization of these physical parameters positively impact the functional autonomy, and the level of independence of the elderly population.

### P-089

#### Prognostic factors of adverse events in acute heart failure in older adults

Bretelle Fannie (1)

(1) Sainte Marguerite CHU AP-HM

**Objective:** Acute heart failure (AHF) is a severe and prevalent disease, especially in older adults. The primary objective of our study was to identify the impact of geriatric factors on adverse events (increased length of hospitalization, death during hospitalization, or transfer to another acute unit) during hospitalization for AHF. The second objective was to identify the impact of geriatric factors on not returning home after hospitalization.

**Methods:** In this retrospective multicenter study in France, older adults  $\geq 75$  years hospitalized in 4 different acute geriatric units in Marseille for AHF were included from January 2018 to December 2019. All the patients included were identified according to the Program for Medicalization of Information Systems (PMSI) coding with the main diagnosis of AHF being referred to as the "Principal Diagnosis".

**Results:** A total of 187 patients with AHF were included. The mean age was 88.2 years ( $\pm 5.5$ ) and 69.5% were women. The death rate was 9.6% and the length of stay was longer for 41.7% of patients. In multivariate analysis, adverse events significantly increased in the case of functional impairment and bedsores. An unfavorable follow-up after hospitalization significantly increased in the case of mood disorders and functional impairment.

**Conclusion:** Our study highlighted functional impairment, mood disorders, and bedsores as impacting adverse events and unfavorable follow-up after hospitalization regarding patients managed for AHF. These geriatric domains should be considered in the management of AHF to improve survival, functional status, and the number of older patients that return home after hospitalization.

**Keywords:** Cardiovascular; Frailty; Geriatric Cardiology; Risk factors; Length of stay in hospital; Heart failure.

**P-090****Treatment with Dasatinib and Quercetin ameliorates age-dependent Cav3.2-RyR axis malfunction in vascular smooth muscle**

Gang Fan (1), Weiming Guo (1), Jingfen Lu (2), Yifei Zhang (3), Lin Jie (4), Haihuan Lin (4), Zhihui Wang (5)

(1) Huazhong University of Science and Technology Union Shenzhen Hospital, (2) The First Clinical Medical College of Guangzhou University of Chinese Medicine, (3) The First Teaching Hospital of Tianjin University of Traditional Chinese Medicine, (4) The first Affiliated Hospital of Wenzhou Medical University, (5) The National Center for Chronic and Noncommunicable Disease Control and Prevention

Hypothesise Aging is one of the major risk factors for cardiovascular diseases. We hypothesise that aging impairs the caveolar T-type CaV3.2-RyR axis for extracellular Ca<sup>2+</sup> + influx to trigger Ca<sup>2+</sup> + sparks in vascular smooth muscle cells (VSMCs). The administration of senolytics, which can selectively clear senescent cells, could preserve the caveolar CaV3.2-RyR axis in aging VSMCs.

**Methods:** We used young (2–4-month old), old (12–14-month old) mice, and Eps15 homology domain-containing protein knockout (EHD2<sup>-/-</sup>) mice, tamoxifen-inducible smooth muscle-specific CaV1.2<sup>-/-</sup> (SMAKO) mice as well as senolytics cocktail (dasatinib + quercetin) to assess CaV3.2-RyR axis in VSMCs.

**Results:** sing VSMCs from mouse mesenteric arteries, we found that both CaV3.2 channel inhibition by Ni<sup>2+</sup> + (50 μM) and caveolae disruption by methyl-β-cyclodextrin or genetic abolition of EHD2 inhibited Ca<sup>2+</sup> + sparks in cells from young (4 months) but not old (12 months) mice. In accordance, expression of the CaV3.2 channel was higher in mesenteric arteries from young than old mice. Similar effects were observed for caveolae density. Using SMAKO CaV1.2<sup>-/-</sup> mice, caffeine (RyR activator), and thapsigargin (Ca<sup>2+</sup> + transport ATPase inhibitor), we found that sufficient SR Ca<sup>2+</sup> + load is a prerequisite for the CaV3.2-RyR axis to generate Ca<sup>2+</sup> + sparks. Next, 10-month-old mice were administered the senolytics cocktail consisting of dasatinib (5 mg/kg) and quercetin (50 mg/kg) or vehicle bi-weekly for 4 months. We found that Ca<sup>2+</sup> + sparks were diminished after caveolae disruption by methyl-β-cyclodextrin (10 mM) in cells from D + Q-treated but not vehicle-treated old mice. D + Q treatment could promote the expression of CaV3.2 in old (14-month-old) mesenteric arteries. Structural analysis using electron tomography and immunofluorescence staining revealed the caveolae remodeling and CaV3.2-Cav-1 co-localization in D + Q treatment old mesenteric arteries. In keeping with theoretical observations, CaV3.2 channel inhibition by Ni<sup>2+</sup> + (50 μM) suppressed Ca<sup>2+</sup> + in VSMCs from the D + Q group, no effect was observed in vehicle-treated arteries.

**Conclusion:** Our data demonstrate that the VSMCs CaV3.2-RyR axis is down-regulated by aging. Age-related caveolar CaV3.2-RyR axis malfunction can be alleviated by pharmaceutical intervention targeting cellular senescence. Our findings may help to support the senolytics potential for ameliorating age-associated cardiovascular disease in vascular smooth muscle cells (VSMCs). The administration of senolytics, which canselectively clear senescent cells, could preserve the caveolar Ca 3.2-RyR axis in aging VSMCs.

**P-091****A body shape index is associated with high cardiovascular risk in Spanish older adults of rural areas**

Sergio Rico Martín (1), Fidel López Espuela (1), Gonzalo De la Osa Andrés (2), Ana Teresa Domínguez Martín (3), Esperanza Santano Mogena (1), Julián F Calderón García (1)

(1) Nursing and Occupational Therapy College. University of Extremadura (Spain), (2) Hospital Clínico Universitario de Valladolid (Spain), (3) Hospital Universitario de Cáceres (Spain)

**Introduction:** A body shape index (ABSI) is a novel anthropometric index to evaluate the general and visceral adiposity using waist circumference (WC) adjusted for height and weight. ABSI has emerged as an alternative to BMI. The objective was to assess the possible association between ABSI and cardiovascular risk (CVR) and determine whether it is a better predictor than BMI.

**Methods:** This cross-sectional study investigated a consecutive sample of 331 older adult patients (48.6% males) without previous cardiovascular event, who had lived in rural areas of Cáceres (Spain). ABSI was calculated as  $ABSI = WC (m) / (BMI^{2/3} (kg/m^2) \cdot Height^{1/2} (m))$  and BMI as  $weight (kg) / height^2 (m^2)$ . The CVR was evaluated by the 10-year coronary event risk (Framingham Risk Score). Uni and multivariate logistic regression analysis were performed to evaluate the relationship between anthropometric indices and high CVR.

**Results:** Of the whole population, 92 (27.8%) participants had a low CVR, 101 (30.5%) moderate CVR and 138 (41.7%) high CVR. BMI and ABSI values were significantly greater in the high CVR group compared to the low and moderate CVR group ( $p < 0.05$ ). According to the univariate analysis, ABSI (OR: 2.28 95% CI 1.36–3.82;  $p = 0.002$ ), but no BMI (OR: 1.46 95% CI 0.93–2.29;  $p = 0.093$ ), was associated with high CVR. Similarly, result was obtained in the multivariate analysis, where ABSI was associated to high CVR (OR: 2.19 95% CI 1.34–3.59;  $p = 0.001$ ).

**Conclusions:** ABSI, but not BMI, was independently associated with high CVR. This new anthropometric index could be an alternative to BMI to overcome its limitations.

**P-092****Relationship between hyperuricemia and novel and traditional anthropometric indices in Spanish older adults**

Sergio Rico Martín (1), Esperanza Santano Mogena (1), Gonzalo De la Osa Andrés (2), Ana Teresa Domínguez Martín (3), Fidel López Espuela (1), Julián F Calderón García (1)

(1) Nursing and Occupational Therapy College. University of Extremadura (Spain), (2) Hospital Clínico Universitario de Valladolid (Spain), (3) Hospital Universitario de Cáceres (Spain)

**Introduction:** Hyperuricemia have been related to cardiovascular risk factors and cardiovascular diseases. Recently, novel anthropometric indices combining traditional measures (height, weight, and waist circumference) have been proposed as alternatives to body mass index (BMI). The aim was to study the relationship between hyper-



uricemia with novel and traditional anthropometric indices in Spanish older adults.

**Methods:** This cross-sectional study investigated a consecutive sample of 324 older adults without previous cardiovascular event (48.1% males; age mean  $70.03 \pm 3.48$ ), who had lived in Cáceres (Spain). Seven anthropometric indexes, including BMI, body shape index (ABSI), abdominal volume index (AVI), body adiposity index (BAI), body roundness index (BRI), conicity index (CI), waist-to-height ratio (WHtR) and waist-adjusted-waist index (WWI) were investigated. Hyperuricemia was defined as serum uric acid (SUA) levels  $\geq 7$  mg/dl.

**Results:** Of the whole participants, 53 (16.4%) subjects had hyperuricemia. Between adiposity indexes studied, SUA levels correlated with BMI ( $r = 0.116$ ;  $p = 0.037$ ), ABSI ( $r = 0.111$ ;  $p = 0.046$ ), AVI ( $r = 0.216$ ;  $p < 0.001$ ), BRI ( $r = 0.115$ ;  $p = 0.039$ ), CI ( $r = 0.152$ ;  $p = 0.004$ ) and WHtR ( $r = 0.132$ ;  $p = 0.018$ ). ABSI, AVI and CI values were significantly higher in the hyperuricemia group compared to de non-hyperuricemia group ( $p < 0.05$ ). Similar results were observed after adjusting by age, sex, smoking and physical activity level. According to the ROC analyses, CI and AVI provided the largest area under the curve (AUC = 0.632;  $p = 0.002$  and 0.621;  $p = 0.005$  respectively), and BMI showed the lowest value (AUC = 0.532;  $p = 0.468$ ).

**Conclusions:** CI and AVI were the best adiposity indices to detect hyperuricemia in older adults.

## P-093

### Remotely monitored physical activity from older people with cardiac devices associates with frailty, physical functioning, hospitalisation and death

Joanne K Taylor (1), Adam S Greenstein (1), Niels Peek (2), Fozia Z Ahmed (1)

(1) University of Manchester, Manchester University Hospitals NHS Foundation Trust, (2) University of Manchester

**Introduction:** Older patients with heart failure and cardiac devices (pacemakers, defibrillators and cardiac resynchronisation therapy) represent a group with high burden of disease and healthcare utilisation. Accelerometer-derived physical activity (PA) data are available via device remote monitoring platforms yet rarely reviewed in clinical practice. This project aimed to investigate association with frailty and all-cause hospitalisation/death.

**Methods:** Data from participants 60 + years enrolled in two UK-based studies were used: PATTErn (NCT03544424) and TriageHF Plus (NCT04177199). Frailty was measured using the Fried criteria, gait speed (m/s) and PRISMA-7, and PA mean hours active/day across 30-days. Multivariate regression analyses and Cox proportional hazards regression.

**Methods:** were utilised (OR = odds ratio, CI confidence intervals and AHR = adjusted hazards ratio).

**Results:** From the PATTErn analysis cohort ( $n = 140$ , median age 73, 70.7% male), PA was associated with gait speed ( $\beta$ -coefficient 0.04, 95% CI 0.01–0.07,  $p = 0.01$ ) but not Fried frailty. PA associated with PRISMA-7 frailty (OR 0.72, 95% CI 0.57–0.90,  $p = 0.004$ ) using the larger TriageHF Plus cohort ( $n = 247$ , median age 72, 80.6% male). PA  $< 1$ h/day was an independent predictor of all-cause hospitalisation and death following adjustment for age, gender, body mass index, device type, New York Heart Association class, frailty, kidney disease and hospitalisations in the 12-months prior to enrolment (AHR 3.57, 95% CI 1.92–6.62,  $p < 0.001$ ).

**Key Conclusions:** PA from cardiac devices strongly associated with elevated risk of hospitalisation and death in older people, and some measures of clinical frailty.

## P-094

### Long-Term Outcomes of Octogenarians with Acute Coronary Syndrome and Percutaneous Coronary Intervention: A 15-Year Cohort Study

Mauricio Vazquez-Guajardo (1), Melissa Galindo-Garza (2), Jose Gildardo Paredes-Vazquez (2), Diego Ramonfaur (3), Raul del Toro-Mijares (3), Carlos de la Cruz-de la Cruz (4), Carlos Jerjes-Sanchez (2), Abel Jesús Barragan-Berlanga (1)

(1) Tecnológico de Monterrey. Escuela de Medicina y Ciencias de la Salud. Servicio de Geriátria, TecSalud, Nuevo Leon, Mexico, (2) Tecnológico de Monterrey. Escuela de Medicina y Ciencias de la Salud. Instituto de Cardiología y Medicina Vascular, TecSalud, Nuevo Leon, Mexico, (3) Tecnológico de Monterrey. Escuela de Medicina y Ciencias de la Salud, Nuevo Leon, Mexico, (4) CHRISTUS MUGUERZA Hospital Alta Especialidad, UDEM, Nuevo Leon, Mexico

**Introduction:** Percutaneous coronary intervention (PCI) effectively treats acute coronary syndrome (ACS) in octogenarian patients[1]. However, managing ACS in this population poses disease-specific complexities and concurrent geriatric syndromes that impact symptom burden, functionality, and quality of life[2]. Long-term outcome studies are vital for optimizing care and well-being in this population. **Methods:** Baseline data of patients aged 80 and older who underwent PCI for ACS in a third-level hospital in Mexico was collected since 2008. 174 of those were telephonically followed up. Median follow-up was 5.5 years. Health status, complications, rehospitalizations, and mortality were assessed during follow-up. Functional assessments, including Barthel Index, Lawton/Brody scale, FRAIL index, NYHA functional class, SF-12 health survey, mMRC dyspnea, and Canada angina scales, were conducted on a subset of 46 patients.

**Results:** Median overall survival was 6.1years (IC 95% 4.8–7.3) with a 5-year survival rate of 59.6%. Surviving patients displayed moderate levels of independence and relatively low levels of dyspnea and angina in the surviving patients. Complications observed in the study encompassed recurrent ACS (22%), major bleeding (24%), heart failure (54%), and cardiac arrhythmia (49%). Non-cardiovascular deaths constituted 60% of the overall mortality, with pneumonia (15%) and cancer (14%) being the primary causes. Notably, 42% of deaths occurred during rehospitalization.

**Key Conclusions:** Despite age and multimorbidity, survivors maintained proper functionality and reported low levels of dyspnea and angina. However, this population exhibited higher mortality, incidence of recurrent ACS, pneumonia, and cancer than younger population. PCI remains effective in elderly, emphasizing the need for monitoring and managing complications.

#### References:

- Morici N, De Servi S, De Luca L, et al. (2022) Management of acute coronary syndromes in older adults. *European Heart Journal* 43:1542–1553. <https://doi.org/10.1093/eurheartj/ehab391>.
- Damluji AA, Forman DE, Wang TY, et al. (2023) Management of Acute Coronary Syndrome in the Older Adult Population: A Scientific Statement From the American Heart Association. *Circulation* 147. <https://doi.org/10.1161/CIR.0000000000001112>.

**P-095****Does cardiovascular frailty exist?**

Melodi Turky (1), Laure Joly (1)

(1) University of Nancy, France

**Introduction:** Frailty is a reversible syndrome that increases with age. In France, cardiovascular diseases (CV) are the second cause of death after 65. Few data are available on specific factors modifying cardiovascular diseases prognosis coupled with frailty in elderly.. Our objective is to define cardiovascular frailty.

**Materials and Methods:** PRISMA method. PUBMED search (publications between 2018–2021) with MeSH terms: "Cardiovascular Physiological Phenomena" OR "Cardiovascular diseases" AND "Aged, 80 and over" AND ("Frailty" OR "Frail Elderly"). Selection by title and abstract.

**Results:** 481 articles assessed, 39 included. 3 clusters are defined: 1) Frailty, per se, is significantly associated with morbi-mortality in heart failure (HF), coronary syndrome (CS), aortic stenosis, rhythm disorders, all-cause CVdiseases. 2) Increase in inflammatory markers were significantly associated with CV morbi-mortality: high sensitivity C-Reactive Protein (CV); neutrophil/lymphocyte ratio (CS); Interleukine-6, serum level of Suppressor of Tumorigenicity 2, adipokines (HF), 3) Other markers were significantly associated with frailty, like:—Decrease in hemoglobin; increase in neutrophil/lymphocyte ratio, Trimethylamine N-oxide, 8-oxo-7,8-dihydroguanosine (CV). Increased Aspartate aminotransferase/ Alanine aminotransferase Ratio, depression, occupational status, sarcopenia, hypoalbuminemia (heart failure) - Anxiety, low education, atrial fibrillation symptoms (rhythm disorders) - Diastolic dysfunction, arterial stiffness, elevated serum levels of Growth Differentiation Factor 15 (CS) - Fewer teeth (CS, HF, rhythm disorders) .

**Conclusion:** 3 clusters of CV frailty are defined: some are eligible to specific treatment, other can be easily detected by care-givers in general population in order to prevent CV diseases in general population. Studies are needed to propose management of these factors and improve CV morbi-mortality.

**P-096****Predictors of the first heart failure hospitalization in elderly patients with myocardial infarction**

Vanessa Lopes (1), Rafaela Fernandes (1), Gil Cunha (1), Nádia Moreira (1), Francisco Gonçalves (1), Sílvia Monteiro (1), Lino Gonçalves (1)

(1) Coimbra Hospital and University Center

**Introduction:** Even improvements in hospital survival after myocardial infarction (MI), there is an increasing number of patients at risk for developing heart failure (HF). This study sought to investigate the incidence and prognostic factors for HF hospitalization among patients older than 65 who survived an acute MI.

**Methods:** We conducted a retrospective, observational cohort study, including patients older than 65 years old who were discharged alive after hospitalization for acute MI. Baseline clinical characteristics, laboratory data, and clinical outcomes at 2 years were analyzed. Multivariate Cox regression was performed to identify independent predictors of HF hospitalization.

**Results:** 445 patients included in the analysis, 38% were female and mean age was  $76 \pm 6.6$  years; 15.5% experienced HF hospitalization during follow-up. Patients who were hospitalized for HF were older ( $77 \pm 6$  vs.  $76 \pm 6$  years,  $p = 0.03$ ), had a higher BMI [median 29 (IQR 6) vs. 27 (5)  $\text{kg/m}^2$ ,  $p = 0.02$ ], a higher prevalence of diabetes (49 vs. 31%,  $p = 0.003$ ), prior coronary artery disease (45 vs. 30%,  $p = 0.012$ ), stroke (22 vs. 10%,  $p = 0.004$ ), Killip class  $\geq$  II (59 vs. 30%,  $p < 0.001$ ), reduced left ventricular ejection fraction (57 vs. 37%,  $p = 0.003$ ), significant mitral regurgitation (33 vs. 18%,  $p = 0.009$ ), and a lower rate of primary percutaneous coronary intervention (65 vs. 83%,  $p = 0.004$ ). They also presented a lower eGFR ( $57 \pm 23$  vs.  $68 \pm 28$   $\text{ml/min/1.73m}^2$ ,  $p = 0.005$ ), and a higher admission NT-proBNP [4905 (9258) vs. 2010 (5182)  $\text{pg/mL}$ ,  $p < 0.001$ ] compared to patients who were not hospitalized for HF. In multivariate analysis, after adjusting for significant confounders, higher BMI, prior stroke, and Killip class  $\geq$  II were independent predictors of HF hospitalization after acute MI.

**Conclusion:** A significant proportion of older patients experience HF hospitalization after an acute MI. Higher BMI, prior stroke, and Killip class  $\geq$  II were found to predict HF hospitalization.

**P-097****Evidence-based disease-modifying drugs in heart failure with mildly reduced and reduced ejection fraction across age strata**

Vanessa Lopes (1), Rafaela Fernandes (1), Gil Cunha (1), Nádia Moreira (1), Lino Gonçalves (1)

(1) Coimbra Hospital and University Center

**Introduction:** The prevalence of heart failure (HF) increases with age and is one of the leading causes of hospitalization and mortality in the elderly. Older patients are often poorly represented in HF clinical trials, but age is not a contra-indication to guideline-directed medical therapy (GDMT). This study sought to investigate the prescription of GDMT at the time of hospital discharge in patients with HF with reduced and mildly reduced left ventricular ejection fraction (LVEF), according to age.

**Methods:** We conducted a retrospective, observational cohort study, including patients with acute decompensated HF and LVEF  $< 50\%$  ( $n = 235$ ) admitted to a tertiary hospital. Patients who died during hospitalization were excluded. Patients were divided into three age categories:  $< 70$ , 70–79, and  $\geq 80$  years. The use of renin-angiotensin system inhibitors (RASI), angiotensin receptor-neprilysin inhibitors (ARNI), beta-blockers, and mineralocorticoid receptor antagonists (MRA), at the time of discharge, were analyzed. Multivariable logistic regression was performed to investigate which factors were associated with the prescription of GDMT.

**Results:** Of 235 patients, 80% were male; 49% were  $< 70$  years old, 29% 70–79 years old, and 22%  $\geq 80$  years old. Use of GDMT progressively decreased with increasing age. Use of RASI/ARNI, beta-blockers, and MRA was 53%, 66%, and 38% in age  $\geq 80$  years; 73%, 71%, and 46% in age 70–79 years; and 79%, 76%, and 73% in age  $< 70$  years, respectively. Only 49% of patients aged  $\geq 80$  years were discharged on at least 2 classes of GDMT, compared to 80% of patients aged  $< 70$  years. Except for beta-blockers, after adjustment for significant confounders, age was inversely associated with the use of RASI/ARNI and MRA.

**Conclusion:** Despite representing a significant proportion of hospitalized patients with heart failure, older patients are less likely to receive GDMT at discharge.

## P-098

### Accuracy artificial intelligence in estimating left ventricular ejection fraction in elderly patients with heart failure

Abdelhakim HACIL (1)

(1) Hôpital Broca Paris FRANCE

**Introduction:** Cardiac ultrasound for evaluation of left ventricular ejection fraction (LVEF) is often difficult to obtain in geriatrics departments or nursing homes. The objective of this study was to evaluate the interest of echocardiography with artificial intelligence (AI) to assess LVEF, by a geriatrician physician not trained in echocardiography.

**Method:** We prospectively included 69 patients hospitalized for cardiac decompensation in a geriatric unit. Each patient underwent echocardiography with AI (Kosmos Echonus) by a geriatrician not trained in echocardiography and standard echocardiography by a cardiologist (reference examination). Ultrasound with AI by the geriatrician was performed blind to the cardiologist's examination. The geriatrician received brief training to learn how to make apical cuts 2 and 4 cavities. The analysis of the correlation coefficients (Pearson) between the LVEFs obtained by ultrasound with AI and by the cardiologist was carried out.

**Results:** The correlation between LVEF obtained from echocardiography with AI and the reference examination by the cardiologist was  $r = 0.941$  (95% CI 0.908–0.962),  $p < 0.0001$ . The sensitivity and specificity for detecting reduced LVEF ( $< 50\%$ ) was 92%/92%.

**Conclusion:** These data indicate the interest of echocardiography with IA in geriatrics, performed by an inexperienced examiner, to detect an alteration in LVEF. The realization of a cardiac ultrasound by a cardiologist remains indicated to evaluate the mechanism and the etiology of the underlying cardiopathy in a second time.

## P-099

### Older adults' attitudes towards treatment of aortic stenosis with co-morbid dementia: a qualitative study of complex clinical and ethical decision-making

Elisabeth Skaar (1), Siri Rostoft (2), Alfonso Cruz-Jentoft (3), Thomas Jackson (4), Øyvind Bleie (1), Erik Jerome Stene Packer (1), Anja Øksnes (1), Margrethe Aase Schaufel (5)

(1) Department of Heart Disease, Haukeland University Hospital, Bergen, Norway, (2) Institute of Clinical Medicine, University of Oslo, Oslo, Norway, (3) Servicio de Geriátria, Hospital Universitario Ramón y Cajal (IRYCIS), Madrid, Spain, (4) University of Birmingham, Birmingham, United Kingdom, (5) Department of Clinical Medicine, University of Bergen, Norway

**Introduction:** The decision to perform TAVI in patients with severe symptomatic aortic stenosis and co-morbid progressive dementia is challenging, due to prognostic uncertainty and limited decision-making capacity. Dementia is a major cause of disability and dependency, but on a continuum, and patients with mild to moderate dementia may be assessed for TAVI. This study explores older adults' perspectives on complex decision-making with regard to TAVI in the hypothetical setting of co-morbid dementia.

**Methods:** Qualitative study entailing semi-structured interviews of a purposive sample of 10 older adults without dementia (range 77–94 years, median 86 years), 8/10 after TAVI. The interview guide addressed their attitudes regarding treatment dilemmas before TAVI in patients with dementia. The study setting was a university hospital performing TAVI. Analysis was by systematic text condensation.

**Results:** 11 patients viewed dementia as a terrible disease, yet deemed the condition unlikely to inflict them. In general, participants found it hard to compare the seriousness of the two conditions, recognizing the dilemma of implanting a new heart valve to get symptom relief while risking severe dementia in the future, due to prolonged life span. Participants tended towards preferring TAVI despite dementia to alleviate the symptoms of aortic stenosis (i.e. breathlessness, angina and syncope), however, at the same time dreading the dependency and loss of autonomy following severe disease (dementia). They advocated for the physician to engage in a thorough conversation describing facts and uncertainty, aiming to protect and support the patient with dementia and their caregivers.

**Key Conclusion:** Older adults with severe aortic stenosis struggle to resolve the dilemmas arising from TAVI and dementia, especially how to deal with the adverse consequences of this choice. There is a need for tailor-made information to support autonomy and decision-making under uncertainty.

## P-100

### Prevalence of biological aspirin non-response in atherosclerotic stroke among elderly aged 75 years and older

BASTIDE Matthieu (1), LAFARGUE Aurélie (2)

(1) Clinical Gerontology Department, CHU Bordeaux, 33000, Bordeaux, France, (2) Clinical Gerontology Department, CHU Bordeaux, 33000, Bordeaux, France

**Introduction:** Aspirin non-responders have a greater risk of atherosclerotic cardiovascular morbidity and mortality. Although stroke is an age-related disease, few studies investigated the association between aspirin non-response and age  $\geq 75$  years in strokes. The aim of this study was to compare the prevalence of biological aspirin non-response in patients  $\geq 75$  years with atherosclerotic strokes against younger ones.

**Methods:** In this retrospective study, we enrolled 331 patients with atherosclerotic strokes on daily doses of 75–160 mg aspirin, recruited in the stroke unit of the Bordeaux University Hospital from 2018 to 2022. The study cohort was divided into 2 groups: patients aged  $\geq 75$  years ( $n = 160$ ) and  $< 75$  years ( $n = 171$ ). Biological aspirin response was assessed using ASPItest. Non-response was defined as a cut-off  $> 400$  AU min.

**Results:** Of the 160 elderly patients, 53 (33%) were aspirin non-responders whereas, of the 171 younger patients, 46 (27%) were non-responders, with no significant difference ( $p = 0.24$ ). Aspirin non-responsive older women were more prevalent ( $p = 0.03$ ). Elderly aspirin non-responders exhibited higher Rankin scores ( $p = 0.01$ ) and longer hospital stay ( $p = 0.003$ ). Diabetes was associated with biological aspirin non-response only in elderly (OR = 2.6,  $p = 0.007$ ). Regarding the study population, ASPItest values were correlated with CRP ( $p = 0.013$ ), NIHSS score at admission ( $p = 0.004$ ) and Rankin score ( $p = 0.011$ ).

**Conclusion:** Biological aspirin non-response is frequently found in atherosclerotic strokes both in comorbid elderly patients  $\geq 75$  years and younger ones. Elderly aspirin non-responders experience more adverse events and diabetes is associated with biological aspirin non-response only in these patients.

**P-101****How can we reduce mortality in haemorrhagic stroke patients?**

Sophie Blummers (1), Timothy Chau (1), Aharabie Jeyabavan (1), Mojolaoluwa Olarinmoye (1), Dr Katja Adie (2)

(1) Medical School, University of Exeter, UK, (2) Stroke and Eldercare Consultant, Royal Cornwall Hospital Trust, UK

**Introduction:** aemorrhagic stroke (HS) has a high mortality rate. Implementation of the Acute Bundle of Care (ABC) for Intracerebral Haemorrhage reduced the 30-day mortality rate. The bundle includes rapid anticoagulation reversal, blood pressure lowering and immediate neurosurgical referral on admission. The aim of this audit was to assess the efficacy of our hospital implementing ABC.

**Methods:** Data was collected from 01/01/22 to 31/12/22 for all stroke admissions and included anticoagulation reversal within 90 min, systolic BP < 140 mmHg, needle to target time within 60 min, discharge destination and mortality. We compared to previous audit from 2018.

**Results:** total of 965 patients were admitted with stroke, of which 146 were diagnosed with HS (15.1%). 75 of the HS patients were female (51.4%) and the mean age was 75 years. 30 patients were on anticoagulants on admission (21%) and 27 received reversal of anticoagulation within 24 h (90%). 69 patients were given blood pressure lowering medication within 24 h (47.3%) and 58 achieved a systolic blood pressure of 140 mmHg or lower within 24 h (39.7%). 39 patients reached the stroke unit within 4 h (26.7%). Comparing the 2022 and the 2018 audit results of ABC bundle application: fewer patients reached the stroke unit within 4 h and fewer patients received BP lowering therapy in 2022. Mortality was higher in 2022 compared to 2018 (36 vs 32%).

**Key Conclusions:** Faster access to the stroke unit and blood pressure-lowering on admission may help reduce mortality rates.

**P-102****Longer-Term Blood Pressure Decline: A Post-Hypertension Syndrome?**

Jane Masoli (1), Joao Delgado (1), David Melzer (1)

(1) University of Exeter

**Background:** Blood Pressure (BP) trials of healthier populations report benefits to < 120mmHg, resulting in revised clinical guideline targets into older age (eg. Australia, Canada). We have shown that systolic (S) BPs < 130mmHg were associated with excess mortality compared to 130–139 mmHg, and that BP declines for 15 years prior to death in observational data of people aged over 75. We hypothesised that BP declines could help to identify those at higher mortality risk with lower measured BP.

**Methods:** We analysed two independent and distinct cohorts: the InCHIANTI study (n = 1067) and participants aged over 60 with primary care data in UK Biobank (n = 85,958). We estimated individual level BP declines using post-estimation models. We tested associations between individual-level BP trend and all-cause mortality using Cox models, stratifying by baseline BP ( $\geq 140 / < 140$ mmHg).

**Results:** Group level SBP declined for 9–12 years prior to death in InCHIANTI and 13–16 in UK Biobank, with higher baseline and accelerated declines in those who died versus survived. SBP decline was associated with reduced mortality with baseline hypertension, but excess all-cause mortality with baseline < 140 mmHg (decline  $\geq 10$  mmHg vs  $\pm 5$  mmHg InCHIANTI HR 2.54 95% CI 1.59–4.04; UK

Biobank HR 2.72, 95% CI 2.40–3.08). When excluding the highest quartile of BP decline, SBP < 140 mmHg was associated with reduced all-cause mortality compared to  $\geq 140$  mmHg.

**Key Conclusions:** Longer-term BP trends may help to understand the difference between trial and observational findings in the association between low BP and outcomes. Further research is needed to refine the definition, causes and clinical implications of a potential post-hypertension syndrome and to understand the clinical utility of BP trends.

**P-103****Edoxaban and dabigatran in older patients with non-valvular atrial fibrillation: efficacy and safety**

CG Alvarez-Pinheiro (1), E Gemeno-López (2), CC Marroquín-Castillo (2), S Rodríguez-Tierno (2), V Lavilla-Gracia (2), C Corral-Tuesta (2), S Lippo (2), B Montero-Errasquín (2), E Delgado Silveira (2), AJ Cruz-Jentoft (2)

(1) Hospital Ramón y Cajal, (2) Hospital Ramon y Cajal

**Introduction:** trial fibrillation (AF) is a common arrhythmia in elderly. Antithrombotic treatment reduces the risk of stroke. We evaluate the efficacy, safety and pharmacological interactions of edoxaban and dabigatran in patients aged  $\geq 75$  with non-valvular AF during the first year of treatment.

**Methods:** Retrospective descriptive study of patients aged  $\geq 75$  with non-valvular AF who started edoxaban and dabigatran in 2019. Sociodemographic data, comorbidities, chronic medications, mortality and follow-up data were collected through electronic medical record and electronic prescription.

**Results:** 291 patients were included, mostly with edoxaban (196). 58.8% women, mean age  $84.9 \pm 4.8$  years. The mean number of prescribed drugs was  $8 \pm 3$ . 84.2% had polypharmacy, relevant interactions in 46.4% (51.9% edoxaban 48.1% dabigatran), increasing the risk of bleeding (68.7%) and thrombotic risk (23.1%). Edoxaban interacted with metamizol increasing the risk of bleeding most frequently (47.1%), and proton pump inhibitor (PPIs) with dabigatran as a prothrombotic agents. Polypharmacy was associated with bleeding events ( $p = 0.02$ ). During the first year of treatment, 71.1% visited the emergency department (66.7% edoxaban and 33.3% dabigatran, non-significant difference,  $p = 0.57$ ). 20.3% had a related event (13 thrombotic and 46 bleeding). 60.7% required hospitalization, mostly due to major bleeding (gastrointestinal or intracranial). The type of anticoagulant was not associated with bleeding ( $p = 0.169$ ) or thrombotic events ( $p = 0.331$ ). 13.9% died in a year, 9 with a related event.

**Conclusions:** Almost all patients with those anticoagulants had already polypharmacy, with drug interactions that increase the risk of bleeding commonly and higher rate of bleeding events. Metamizole and PPIs interact frequently.

**P-104****Outcomes of transcatheter aortic valve replacement in elderly patients with coexistent cardiac amyloidosis**

Vanessa Lopes (1), José Paulo Almeida (1), Rafaela Fernandes (1), Gil Cunha (1), Maria Ferreira (1), Nádia Moreira (1), Lino Gonçalves (1)

(1) Coimbra Hospital and University Center

**Introduction:** oth the prevalence of aortic stenosis (AS) and cardiac amyloidosis (CA) increase with age, which is why their association is

not uncommon in the elderly. Outcomes of concomitant AS-CA undergoing transcatheter aortic valve replacement (TAVR) are unknown. This study sought to investigate the outcomes of concomitant AS-CA compared with lone AS undergoing TAVR.

**Methods:** We prospectively recruited consecutive patients referred for TAVR in a single center. All patients underwent echocardiography, DPD bone scintigraphy, and blood and urine monoclonal immunoglobulin testing before TAVR. Baseline clinical characteristics, laboratory data, and clinical outcomes were analyzed. The primary endpoint was all-cause mortality.

**Results:** total of 60 consecutive AS patients undergoing TAVR were recruited: median age was 83 years (IQR 7), and 55% (n = 33) of patients were male. DPD scintigraphy was positive in 6 patients (10%; grade 1: 3 patients; grade 2/3: 3 patients). Light-chain CA (AL) was diagnosed in 1 patient with grade 3. AS-CA patients were older [88 (IQR 7) vs. 83 (IQR 6) years;  $p = 0.03$ ], more often male (100% vs. 50%;  $p = 0.03$ ), and more often pacemaker carriers (67% vs. 24%;  $p = 0.048$ ), compared to AS patients without CA. There were no significant differences in the baseline comorbidities and laboratory data among groups. Regarding prognosis, after a median follow-up of 26 months post-TAVR, 11.7% of patients died. All-cause mortality during follow-up did not differ between groups (lone AS 9% vs. AS-CA 33%; HR = 3.65, 95% CI 0.71–18.8;  $p = 0.12$ ). None of the patients died during hospitalization for TAVR. Rehospitalization for heart failure at 30 days did not differ between groups (lone AS 9.3% vs. AS-CA 16.7%,  $p = 0.48$ ). Rates of complications post-TAVR, such as stroke, acute kidney injury, vascular complications, and need for pacemaker, were also similar among groups.

**Conclusion:** Concomitant severe AS and CA is common in older patients undergoing TAVR. AS-CA survival post-TAVR did not differ from lone AS.

## P-105

### “Time is life”. How do we manage to diagnose cardiac decompensation early in the elderly? HELP-echo study

Abdelhakim HACIL (1)

(1) Hôpital Broca Paris FRANCE

**Introduction:** Acute heart failure (AHF) is the leading cause of hospitalization in elderly patients. Atypical clinical representations as well as the standard diagnostic approach in geriatric units can delay the diagnosis of AHF and alter the prognosis. The objective of our study is to evaluate the interest of thoracic ultrasound in the diagnosis of ICA and this in an early way.

**Method:** We prospectively included patients hospitalized in acute geriatrics for acute dyspnea. A thoracic ultrasound (pulmonary, pleural, and inferior vena cava) was performed on admission using a portable ultrasound device by a geriatrician trained in the technique (short training of 4 h). The initial ultrasound diagnosis of AHF was compared to the final diagnosis confirmed by two experts based on clinical/biological/radiological data, treatment, and evolution. The time of performing the thoracic ultrasound was recorded, the accuracy and the concordance of the diagnoses were calculated.

**Results:** 105 patients were included consecutively. The average age was 88.7 years, 60% were over 85 years old and 45% were women. The average time needed to do the ultrasound was 10 min. The main etiology of dyspnea was cardiac decompensation (74.8%). Initial ultrasound diagnoses and final AHF diagnoses showed good agreement with a Kappa coefficient of 0.92. Sensitivity and specificity were 98% and 92% respectively. The presence or absence of 3 ultrasound abnormalities were sufficient with a good diagnostic performance to

affirm or invalidate the diagnosis of AHF: Pulmonary B lines, bilateral pleural effusion and dilated inferior vena cava.

**Conclusion:** Thoracic ultrasound is increasingly used in geriatric units and could become an essential diagnostic complement of AHF in the elderly. We now wish to develop and validate an ultrasound score for AHF (HELP-echo) based on these 3 incidences to provide more elements in the diagnostic approach of AHF.

## P-106

### Anticoagulation and venous thromboembolism in patients aged 90 years and older: data from the RIETE registry

Lafaie Ludovic (1), Géraldine Poenou (1), Olivier Hanon (2), Luciano Lopez Jiménez (3), José A. Nieto (4), Alicia Lorenzo (5), José A Porras (6), Marina Lumbierres (7), Laurent Bertoletti (1), Manuel Monreal (8)

(1) CHU de Saint-Etienne, (2) Hôpital Broca, Paris, (3) Département de Médecine Interne, Hospital Universitario, Reina Sofía, Cordoue, Espagne, (4) Département de Médecine Interne, Hospital General Virgen de la Luz, Cuenca, Espagne, (5) Département de Médecine Interne, Hospital Universitario La Paz, Madrid, Espagne, (6) Département de Médecine Interne, Hospital Universitario Joan XXIII de Tarragona, Tarragone, Espagne, (7) Département de Pneumologie, Arnau de Vilanova-Santa Maria University Hospital, Lérida, Espagne, (8) Médecine Interne, Hospital Universitario Germans Trias i Pujol de Badalona, Barcelone, Espagne

**Background:** Age is a major risk factor for venous thromboembolism (VTE), but older patients aged  $\geq 90$  years are under-represented in clinical trials of anticoagulant therapy.

**Objective:** To describe and compare clinical characteristics, treatments and outcomes (VTE recurrence, bleeding and mortality) during the first 3 months of anticoagulation in VTE patients aged  $\geq 90$  years versus those aged  $< 90$  years.

**Methods:** We analyzed data from the RIETE (Registro Informatizado Enfermedad TromboEmbolica) registry, an ongoing global observational registry of patients with objectively confirmed acute VTE.

**Results:** From January 2001 to October 2022, 3,262 patients in RIETE (3.4%) were aged  $\geq 90$  years. In the overall population, half the patients aged  $< 90$  years were male, compared to 25% of those aged  $\geq 90$  years. PE (with or without DVT) was the most frequent clinical presentation of VTE (56.6% of cases). During the first 3 months of anticoagulation, 564 (17.3%) patients aged  $\geq 90$  years died, compared to 5,687 (6%) patients aged  $< 90$  years (Risk Ratio [RR] 3.16; 95% CI 2.90–3.44). Patients aged  $\geq 90$  years were at higher risk of fatal PE than younger patients (RR 3.6; 95% CI 2.83–4.53) or fatal bleeding (RR 3.22; 95% CI 2.18–4.63). Major bleeding was also more frequent in these patients (RR: 2.05; 95% CI 1.69–2.47), whereas recurrent VTE was less common (RR: 0.58; 95% CI 0.38–0.84). In this population, bleeding events occurred continuously during the first 3 months of anticoagulation, whereas recurrent VTE and fatal PE were more frequent during the first month, particularly in patients initially presenting with PE.

**Conclusion:** Older patients aged  $\geq 90$  years are at increased risk of major bleeding or death (owing to either fatal PE or fatal bleeding) compared to patients  $< 90$  years old. Clinical trials evaluating the optimal duration of anticoagulation, according to initial VTE presentation, are warranted to avoid this excess risk of bleeding.

**P-107****ECG screening in older adults with intellectual disabilities: feasibility and prevalence of abnormalities**

Marleen J. de Leeuw (1), Mylène N. Böhmer (1), Alyt Oppewal (1), Maarten J.G. Leening (2), Jan A. Kors (3), Patrick J.E. Bindels (1), Dederieke A.M. Maes-Festen (1)

(1) Department of General Practice, Intellectual Disability Medicine, Erasmus MC—University Medical Centre Rotterdam, the Netherlands, (2) Department of Epidemiology and Cardiology, Erasmus MC—University Medical Centre Rotterdam, the Netherlands, (3) Department of Medical Informatics, Erasmus MC—University Medical Centre Rotterdam, the Netherlands

**Introduction:** Older adults with intellectual disabilities (ID) have a high cardiovascular risk due to increased prevalence of somatic and psychiatric conditions, genetic syndromes, lifestyle factors and polypharmacy. However, little is known about the prevalence of ECG abnormalities in this population. Therefore, the aim of this study was to determine the feasibility of ECG screening in older adults with ID and the prevalence of ECG abnormalities.

**Methods:** Cross-sectional study within a cohort (2020–2022) of older adults ( $\geq 60$  years) with ID as part of the Healthy Ageing and Intellectual Disability (HA-ID) study. A resting 12-lead ECG was scheduled for all participants. ECG recording was considered feasible if the participant underwent ECG and if the ECG could be interpreted by a cardiologist and Modular ECG Analysis System (MEANS).

**Results:** ECG recordings were feasible in 134 out of 205 participants (65.4%). Of the 134 participants ( $70.4 \pm 5.8$  years; 52.2% female), 103 (76.9%) had one or more ECG abnormalities, including T-wave abnormalities (27.6%), QTc prolongation (17.9%), myocardial infarction (6.7%) and left bundle branch block (3.7%).

**Key Conclusions:** ECG screening was feasible in about two-thirds of older adults with ID. The high prevalence of multiple ECG abnormalities found in older adults with ID stresses the importance of ECG screening in this population. Further research is needed to determine whether ECG screening may contribute to changes in cardiovascular care and subsequently improve cardiovascular outcomes for this high-risk population.

**P-108****Incremental prognostic value of the geriatric nutritional risk index in non-diabetic patients more than 90 years old with heart failure with preserved ejection fraction**

Chiyo Kiriba (1), Yasuhiko Mitsuke (1), Atsushi Kuwata (1), Nozomi Ootsuki (1), Kazuhiro Itoh (1), Hiroshi Tsutani (1)

(1) National Hospital Organization Awara Hospital

**Background:** Malnutrition, assessed by geriatric nutritional risk index (GNRI), have been reported to predict adverse prognosis in patients with heart failure with preserved ejection fraction (HFpEF). However, few studies have explored the clinical significance of nutritional risk assessment in non-diabetic HFpEF patients more than 90 years old.

**Methods:** We studied consecutive 76 Japanese non-diabetic HFpEF patients more than 90 years old (46 females, mean  $93 \pm 2$  years) who were hospitalized with HFpEF at the authors' institution. The impact of nutrition, assessed using GNRI at discharge was calculated as follows:  $14.89 \times \text{serum albumin (g/dl)} + 41.7 \times \text{body mass index} / 22$ . None had evidence of unstable angina, chronic inflammatory disease, collagen disease, or cancer at the time of evaluation.

**Results:** Patients were followed up for an average of 26.2 months, and 22 of 96 patients had all death. By multivariate Cox proportional hazard analysis, GNRI, BNP, and cystatin C were significant predictors for all death in those patients.

**Conclusions:** These findings indicate that the assessment of nutritional status using GNRI may provide a complementary prognostic option for those HFpEF patients.

**P-109****Benefits of transcatheter aortic valve implantation in geriatric patients**

Izaro Garaizabal Sagastigordia (1), Carlota Herrerías Velilla (1), Carlos Muñoz Pindado (1), Valentina Santacoloma Cardona (1), Reina Antonieta Sñani Camacho (1), Nuvia Jannette Fuertes Yandún (1), Elena Ubis Diez (1)

(1) Hospital Sagrado Corazón de Jesus

**Introduction:** Transcatheter Aortic Valve Implantation (TAVI) is an alternative for patients with Aortic stenosis not up to classic surgery. **OBJECTIVES** To study the characteristics of patients subsidiary to TAVI and compare mortality in 1 and 2 years. **MATERIALS AND .** **Methods:** We conducted a prospective longitudinal study of patients in which Comprehensive Geriatric Assessment was performed. Individuals subsidiary to TAVI placement were selected since 2016. Several characteristics were registered, such as Frail- VIG Index, Barthel, Pfeiffer, Lawton and MiniMNA, time until intervention and mortality.

**Results:** N: 108, 77 approved for TAVI. 44 of them underwent surgery. Average age 84. 48.7% were men. 71.8% had Barthel Index  $> 90$ ; 65.5% had Lawton Index; 84.6% had Pfeiffer  $< 2$ ; 65.5% had Frail-VIG Index  $< 0.28$  and 84.6% had  $> 11$  MiniMNA. Mortality at one year from intervention was 0% and in 2 years 8.4%, whereas in patients without TAVI placement was 35% and 65% respectively. 35.85% were intervened in less than a year, 39.6% in 1- 2 years and 5.66% later than 2 years. 7 of the 77 patients died before the intervention.

**Conclusion:** In our study Comprehensive Geriatric Assessment proved to be a useful tool to select patients subsidiary to TAVI. Resources should be optimized to avoid delays from Comprehensive Geriatric Assessment to surgery since TAVI replacement has demonstrated to improve long term survival.

**P-110****Predictors And Clinical Impact Of Deprescribing Oral Anticoagulant Therapy In Older Patients With Atrial Fibrillation: Preliminary Analysis Of A Multicenter Retrospective Observational Cohort**

Enrico Brunetti (1), Chukwuma Okoye (2), Roberto Presta (3), Claudia Filippini (4), Valeria Calsolaro (2), Marco Marabotto (5), Fabio Monzani (2), Mario Bo (3)

(1) Department of Experimental and Clinical Medicine, University of Florence, Florence, Italy, (2) Geriatrics Unit, Department of Experimental and Clinical Medicine, University Hospital of Pisa, Pisa, Italy, (3) Section of Geriatrics, Department of Medical Sciences, AOU Città della Salute e della Scienza–Molinette, Turin, Italy, (4) Department of Surgical Sciences, University of Turin, Turin, Italy, (5) Section of Geriatrics, Department of Medical Specialties, AO Santa Croce e Carle, Cuneo, Italy

**Introduction:** The benefit-risk balance of oral anticoagulant therapy (OAT) in older atrial fibrillation (AF) patients with limited life

expectancy is uncertain, as acknowledged by recent European guidelines. We thus investigated prevalence, predictors and clinical implications of OAT deprescribing in geriatric inpatients.

**Methods:** Retrospective study on AF patients aged  $\geq 75$  years discharged from three geriatric acute wards receiving OAT at admission. Comprehensive geriatric assessment data and OAT status at discharge were collected. One-year vital status and incidence of stroke/systemic embolism (SSE) and major and clinically relevant non-major bleeding (MB/CRNMB) requiring hospitalization were collected from regional archives. Correlation among clinical variables, OAT deprescribing and major outcomes was explored with mixed-model multivariate and multilevel analyses.

**Results:** Among 1578 patients (median age 86 years, 56.3% female, at high cardioembolic risk), 21.6% were deprescribed. OAT deprescription was independently associated with moderate-severe cognitive and functional impairment and high risk of bleeding. At 12 months from discharge 41.7% of patients was dead, more so in older, functionally and cognitively impaired, and OAT-deprescribed patients (OR 1.41, 95% CI 1.68–1.85). Cumulative incidences of SSE and MB/CRNMB were extremely lower (2.6% and 4.7% of patients, respectively) and OAT deprescribing was not associated with neither.

**Key Conclusions:** OAT deprescribing is frequent in geriatric AF inpatients and is mainly driven by functional and/or cognitive impairment and increased bleeding risk. The increased mortality in OAT-deprescribed patients is not due to an increase of SSE, suggesting that the clinical benefit of OAT in patients with reduced life expectancy is hindered by a disproportionate competing risk of death by other causes.

## P-111

### Importance of cardiovascular diseases awareness in elderly population

Diana Fernandes Gomes (1), Bruno Miguel Morgado Morrao (1)

(1) USF Mimar Mèda, ULS Guarda

**Introduction:** Cardiovascular disease is a general term for conditions affecting the heart or blood vessels. It's usually associated with a build-up of fatty deposits inside the arteries or atherosclerosis, cumulative during life and consequently more common in the elderly and can lead to blood clots. Cardiovascular diseases are the leading cause of death globally. Heart disease is the leading cause of death for men, women, and people of most racial and ethnic groups. Identifying those at highest risk, and ensuring they receive appropriate treatment can prevent premature deaths.

**Methods:** This is a case report of a 73 year old women, with past medical history of hypertension, medicated and controlled, observed in Primary Health Care Center by her family doctor due to a 3-week history of intermittent chest pain at resting, no radiation, 5 min duration, sudden onset and gradual relieve. No other symptoms.

**Results:** After an extensive study of the complaint, a myocardial scintigraphy was performed with normal result. Being an unstable angina as main diagnostic, a second scintigraphy was made with the very same result. After that, the patient looked for a cardiologist, where an angiography showing a significant stenosis of coronary artery was found.

**Key Conclusions:** Giving up of prevention and treatment of cardiovascular diseases is giving up of life. Scintigraphy is the gold standard exam to assess for symptoms that raise suspicion of heart arteries obstruction, because it reflect the heart blood irrigation during effort and at rest. Should not be forgotten.

## P-112

### Association between triglyceride-glucose index and arterial stiffness in the Chinese middle-aged and older coastal population

Fan Lin (1), Yin Yuan (1), Pengli Zhu (1)

(1) Fujian Provincial Hospital

**Introduction:** Arterial stiffness has been considered to be an early indicator of atherosclerosis and an independent predictor of cardiovascular events. The triglyceride glucose (TyG) index is a convenient and reliable surrogate marker of insulin resistance. This study aimed to explore the association between TyG index and arterial stiffness in the Chinese middle-aged and older coastal population.

**Methods:** This cross-sectional study included 1,935 population aged 50 and older from Xiapu County, Fujian Province in 2013. The biochemical indexes and brachial-ankle pulse wave velocity (baPWV) were measured. TyG index was calculated by  $\ln(\text{fasting triglycerides [mg/dl]} \times \text{fasting plasma glucose [mg/dl]}/2)$ . Spearman correlation analysis was used to evaluate the correlation between TyG index and cardiovascular metabolic indices. Multivariate linear regression and binary logistic regression were applied to evaluate the association between TyG index and baPWV. The restricted cubic spline was fitted.

**Results:** TyG index was significantly correlated with age, BMI, blood pressure, blood lipids, HbA1c and serum creatinine (all  $P < 0.01$ ). Multivariate stepwise linear regression suggested that TyG index ( $\beta$ , 31.76; 95% CI 8.24 ~ 55.28) and age, LDL-C, as well as HbA1c were significantly associated with baPWV (all  $P < 0.01$ ). After adjustment for covariates, binary logistic regression indicated that the risk of increased arterial stiffness (baPWV  $> 1400\text{cm/s}$ ) was elevated by 1.20 times for every 0.01 increase in TyG index ( $P = 0.038$ ). Restricted cubic spline yielded a progressive elevation in the risk of increased arterial stiffness with increasing TyG index levels, with a rapid increase in risk at TyG index greater than 8.21 (linear  $P = 0.74$ ). In the relationship between TyG index and increased arterial stiffness, no significant interaction in subgroup analysis between TyG index and age, gender, history of hypertension/diabetes, and BMI levels was found.

**Key Conclusion:** In the Chinese middle-aged and older coastal population, TyG index is an independent risk factor for increased arterial stiffness. Keywords Triglyceride-glucose index, Arterial stiffness, Insulin resistance.

## P-113

### Association between triglyceride-glucose index and arterial stiffness in the Chinese middle-aged and older coastal population

Fan Lin (1), Yin Yuan (1), Pengli Zhu (1)

(1) Fujian Provincial Hospital

**Introduction:** Arterial stiffness has been considered to be an early indicator of atherosclerosis and an independent predictor of cardiovascular events. The triglyceride glucose (TyG) index is a convenient and reliable surrogate marker of insulin resistance. This study aimed to explore the association between TyG index and arterial stiffness in the Chinese middle-aged and older coastal population.

**Methods:** This cross-sectional study included 1,935 population aged 50 and older from Xiapu County, Fujian Province in 2013. The biochemical indexes and brachial-ankle pulse wave velocity (baPWV) were measured. TyG index was calculated by  $\ln(\text{fasting triglycerides [mg/dl]} \times \text{fasting plasma glucose [mg/dl]}/2)$ . Spearman correlation analysis was used to evaluate the correlation between TyG index and

cardiovascular metabolic indices. Multivariate linear regression and binary logistic regression were applied to evaluate the association between TyG index and baPWV. The restricted cubic spline was fitted.

**Results:** TyG index was significantly correlated with age, BMI, blood pressure, blood lipids, HbA1c and serum creatinine (all  $P < 0.01$ ). Multivariate stepwise linear regression suggested that TyG index ( $\beta$ , 31.76; 95% CI 8.24 ~ 55.28) and age, LDL-C, as well as HbA1c were significantly associated with baPWV (all  $P < 0.01$ ). After adjustment for covariates, binary logistic regression indicated that the risk of increased arterial stiffness (baPWV  $> 1400$ cm/s) was elevated by 1.20 times for every 0.01 increase in TyG index ( $P = 0.038$ ). Restricted cubic spline yielded a progressive elevation in the risk of increased arterial stiffness with increasing TyG index levels, with a rapid increase in risk at TyG index greater than 8.21 (linear  $P = 0.74$ ). In the relationship between TyG index and increased arterial stiffness, no significant interaction in subgroup analysis between TyG index and age, gender, history of hypertension/diabetes, and BMI levels was found.

**Key Conclusion:** In the Chinese middle-aged and older coastal population, TyG index is an independent risk factor for increased arterial stiffness. Keywords Triglyceride-glucose index; Arterial stiffness; Insulin resistance.

## P-114

### Vasculitis a differential diagnosis in patients with acute renal failure

Wendi Romina Cossio Jimenez (1), Priscilla Matovelle (2), Aura María Maldonado Guaje (3), Carmen Espinosa Val (2), Irene Herranz Llano (3), Juan Diego Ayala Ayuso (3), Nesly Catolin (3), María Concepción Ortíz Domingo (2)

(1) Geriatrics Department, San Juan de Dios Hospital, Zaragoza, Spain, (2) 1. Geriatrics Department, San Juan de Dios Hospital, Zaragoza, Spain; 2. Geriatrics Department, Zaragoza University, Zaragoza, Spain, (3) 1. Geriatrics Department, San Juan de Dios Hospital, Zaragoza, Spain;

**Introduction:** Antineutrophil cytoplasmic antibody (ANCA) -associated vasculitis is a disorder characterized by inflammation and small-medium vessel involvement with the presence of circulating ANCA and specificity against myeloperoxidase (MPO) or proteinase 3 (PR3). Medical history: 73-year-old woman. Allergic to amoxicillin. Ex-smoker. Intrinsic asthma, allergic rhinitis. Bronchiectasis with previous isolation of *P. aeruginosa*. Breast carcinoma (IQx + RT + QT in 2008). Treatment: furosemide, Bisoprolol, amitriptyline, beclomethasone/formoterol, Acetylcysteine. Comprehensive Geriatric Assessment Functional: Independent for ADLs. Barthel Index (BI) 100/100. At admission At admission: BI: 35/100, bed-chair life. Cognitive: no cognitive impairment. Social: single, good family support. Case report Admitted for fever, asthenia and arthromyalgia, suspected superinfected bronchiectasis. Complementary tests: acute renal failure (creatinine: 2,90 mg/dl), p-ANCA  $> 700$ UR/mL. Body CT: bronchiectasis and mucosal impactions. PET-CT: pulmonary infiltrates with bilateral pseudonodules. EMG: peripheral polyneuropathy. She was evaluated by Nephrology, was prescribed methylprednisolone, and continued with prednisone. Renal biopsy showed extracapillary proliferative glomerulonephritis with pauci-immune crescents, without deposits (immunofluorescence). Global glomerular sclerosis of 13.3%. Acute tubular damage. Cyclophosphamide IV monthly, then Rituximab (previous chemoprophylaxis with Isoniazid) and voriconazole for isolation of *Aspergillus* in bronchial aspirate. She was transferred to our hospital for

rehabilitation due to functional deterioration; she presented functional improvement after 3 months. She was discharged ambulating independently and with a BI: 85/100.

**Conclusions:** Vasculitis is frequent in the elderly with poor short-term prognosis (50% mortality at one month after diagnosis). High suspicion and timely diagnosis provide optimal treatment with a decrease in the complications of the disease and those associated with immunosuppression.

## P-115

### Vasopressor drugs may cause digital necrosis? a report of two cases

Priscila Matovelle Ochoa (1), Carmen Espinosa Val (1), María Concepción Ortíz Domingo (1), Irene Herranz Llano (2), Wendi Romina Cossio Jimenez (2), Nesly Catolin (2), Juan Diego Ayala Ayuso (2)

(1) 1. Geriatrics Department, San Juan de Dios Hospital, Zaragoza, Spain; 2. Geriatrics Department, Zaragoza University, Zaragoza, Spain, (2) 1. Geriatrics Department, San Juan de Dios Hospital, Zaragoza, Spain

**Introduction:** Vasopressor drugs are indicated in the treatment of shock (septic, cardiogenic and hypovolemic). These drugs can cause significant vasospasm and favor the development of ischemia, especially in the acral areas of the upper and lower extremities. Predisposing factors are peripheral vascular disease and sustained hypotension.

**Cases report:** A 70-year-old woman, ex-smoker, hypertensive, poorly controlled diabetic and with familial hyperlipidemia, who suffered a urinary septic shock (*E. coli*) and was treated with norepinephrine and vasopressin. Vasopressin could be withdrawn at 12 h and norepinephrine reduced, but despite this, at 24 h she presented severe ischemia of all fingers and toes, as well as necrosis of the sole and heel of the right foot and left heel. Cases report: a 74-year-old man with arterial hypertension, diabetes and dyslipidemia, who suffered a urinary septic shock (*Pseudomonas aeruginosa* and *enterococcus faecalis*) that required treatment with noradrenaline and dobutamine, presenting signs of necrosis in the hands and feet after 48 h. He required amputation of the left forearm and the rest of the necrotic lesions were treated conservatively. Outcome: During the stay in the recovery unit the woman regained assisted ambulation and the man did not walk again. Months later, necrotic tissues that persisted were debrided in both patients.

**Conclusions:** Vasoactive drugs save lives but can produce serious complications. Early detection and treatment are essential to minimize them.

## P-116

### Under the Skin

João Barbosa Barroso (1), Pedro Madeira Marques (1), Andreia Machado Ribeiro (1)

(1) Hospital de Vila Franca de Xira

**Introduction:** eart failure is a clinical syndrome that arises from loss of cardiac function. Symptoms are a significant source of motor, cognitive and nutritional decline in the elderly. Loop diuretics are still used for treating congestive symptoms which have proved efficiency. The gastrointestinal tract is one of the most affected systems,



lowering drug and nutrient absorption, rendering oral administration not feasible. In advanced stages, even in post-acute stages, this route is not an option obliging health care professionals to find alternatives. In Portugal, intravenous drug administration is not commonly used in nursing homes, which often lack the means necessary to maintain parenteral route, compromising patient discharge when oral therapy fails. Subcutaneous furosemide is a good alternative, with minimal side effects.

**Methods:** An 88-year-old female nursing home resident with advanced heart failure, presenting with pleural effusion and respiratory insufficiency justifying four admissions in the previous six months, nonresponsive to oral furosemide therapy, was discharged after symptom stabilization, medicated with subcutaneous furosemide. She was radiographically evaluated one month later.

**Results:** Stabilization of pleural effusion level and symptomatic control were achieved. Six months later she was again admitted due to an unrelated issue and subcutaneous furosemide proved efficient in stabilizing and diminishing the pleural effusion.

**Key Conclusions:** When failure of oral furosemide therapy is identified, in selected cases, subcutaneous drug administration is a good alternative, bypassing gastrointestinal edema. This may be particularly relevant in cases where intravenous administration is not practical.

## P-117

### Impact of Skeletal Muscle Area on Left Ventricular Mass Regression after Transcatheter Aortic Valve Implantation

anne sophie Boureau (1), Helene Eltchaninoff (2), Eric Durand (2)

(1) CHU Rouen, Department of Cardiology, F-76000 Rouen, Nantes Universite, CHU de Nantes, Geriatric Departement, (2) CHU Rouen, Department of Cardiology, F-76000 Rouen, France

**Objective:** Sarcopenia and skeletal muscle area are known to be associated with poorer outcomes after transcatheter aortic valve implantation (TAVI). We hypothesized that this was related with specific adverse left ventricular (LV) mass regression in patients with low skeletal muscle area.

**Methods:** Among all patients treated with TAVI for severe aortic stenosis included in a prospective single-centre database between 2011 and 2021, we paired measurements of indexed left ventricular mass (LVMI) at baseline and 1 year. Total skeletal muscle area, measured by pre-procedural computed tomography, was normalized to height-squared (SMI). The associations between LVMI regression (percent change LVMI between baseline and 1-year follow-up) and SMI were examined.

**Results:** In the overall population, LVMI decreased from  $146.7 \pm 40.7 \text{ g/m}^2$  at baseline to  $133.9 \pm 38.8 \text{ g/m}^2$  1 year after TAVI ( $p < 0.001$ ). No significant association was found between lowest SMI patients and 1-year LVMI regression ( $p = 0.11$ ). The only significant difference on echocardiographic data between lowest and normal SMI groups was the LV size at baseline and 1 year. After multivariate analysis, lowest SMI was associated with long-term mortality (HR = 1.44 [1.1–2.0],  $p = 0.03$ ).

**Conclusion:** Our study does not report any association between SMI and LV mass regression despite a confirmed association with long-term prognosis. Other LV geometry changes could explain this observation as a small LV in patients with lowest SMI. New studies analysing the presence, extent and evolution of fibrosis as well as a more precise study on remodelling based on cardiovascular magnetic resonance are needed to explore this hypothesis.

## P-118

### Age and Improvement in Health-Related Quality of Life After Percutaneous Coronary Intervention

Laura Lappalainen (1), Piia Lavikainen (2), Risto P. Roine (3), Harri Sintonen (3), Janne Martikainen (2), Anna-Maija Tolppanen (2), Juha Hartikainen (1)

(1) Kuopio University Hospital, (2) University of Eastern Finland, (3) University of Helsinki

**Introduction:** Symptom relief and improved health-related quality of life (HRQoL) are more emphasized treatment goals of percutaneous coronary intervention (PCI) among older patients. We assessed changes in generic and disease-specific HRQoL after elective PCI in different age groups.

**Methods:** Altogether 301 patients undergoing PCI were divided into three age groups:  $\leq 65$  ( $n = 94$ ),  $66\text{--}74$  ( $n = 117$ ), and  $\geq 75$  ( $n = 90$ ). One-year changes in generic (15D) and disease-specific (SAQ-7) HRQoL instruments between groups were compared.

**Results:** The median ages in groups were 60, 69, and 79 years, and the proportions of women were 19.1%, 32.5%, and 35.6%, respectively. Baseline instrument scores were lower in the oldest group compared to the youngest groups (15D  $p < 0.001$ , SAQ-7  $p = 0.006$ ). 15D and SAQ-7 improved significantly in all age groups at 1 month. 15D score decreased at 12-month follow-up but remained higher compared to baseline in all groups. A clinically significant one-year difference was observed in the two youngest groups, and the difference was nearly clinically significant (threshold 0.015, observed difference 0.013) in the oldest group. In this group, the 15D dimensions “mobility”, “vision”, and “excretion” declined during the one-year follow-up. Significant improvement in SAQ-7 score at the one-year follow-up was observed in all groups. The improvement of 15D and SAQ-7 scores at 12 months did not differ between the age groups.

**Key Conclusions:** There was no difference in the improvement of generic or disease-specific HRQoL after PCI between the age groups. Importantly, both 15D and SAQ-7 improved equally in the oldest groups as in the younger patients.

## P-119

### The Role of Hypertension Control With Antihypertensive Medications in the Occurrence or Progression of Frailty in Community Dwelling Older People Aged 80 Years Old and Over

Orgesa Qipo (1), Aziz Debain (1), Veerle Knoop (1), Axelle Costenoble (1), Ivan Bautmans (1)

(1) Vrije Universiteit Brussel (VUB), Laarbeeklaan 103, B-1090, Brussels, Belgium

**Background:** Hypertension control has been hypothesized as one of the frailty/healthy aging markers. Several studies have found that frailty and hypertension often coexist, but whether hypertension treatment modifies frailty remains unclear. The aim of this study was to investigate the relationship between hypertension control with antihypertensive medications and frailty decline.

**Methods:** This was a prospective cohort study. 494 community-dwelling older people aged 80 years and older were recruited. They were reassessed every 6 months for potential early markers of frailty. Data on hypertension control and frailty at baseline and after one year follow-up was used and their relationship was modelled using multiple logistic regression analyses.

**Results:** After baseline measurement, 91 participants were excluded according to the in- and exclusion criteria and another 80 participants, could not further continued after one year follow-up. 101 participants (31.3%) had a decline in frailty status, whereas 222 participants (68.7%) had not. Controlling hypertension was associated with a decreased likelihood of exhibiting frailty decline, with an odd ratio of 0.34 and a significance level of 0.002. Age and sex were not added significantly into the model but comorbidity index and cholesterol, appeared to have a significant predictive value for the occurrence of frailty or maintenance of robustness after one year follow-up ( $p = 0.007$  and  $p = 0.01$  respectively).

**Conclusion:** Controlling hypertension with antihypertensive medications could significantly prevent frailty progression or occurrence in older people aged 80 and over.

## P-120

### Low systolic and pulse blood pressure increase 5-year mortality risk in very old patients: results of Moscow 90 + observational study

Natalya Vorobyeva (1), Irina Malaya (1), Yulia Kotovskaya (1), Olga Tkacheva (1)

(1) Pirogov Russian National Research Medical University of Ministry of Healthcare of the Russian Federation, Russian Gerontology Clinical Research Center

**Background:** Several studies showed that low systolic blood pressure (SBP) could serve as a predictor of mortality in very old patients. However, data of pulse blood pressure (PBP) influence on the mortality is still controversial.

**Aim:** To evaluate the blood pressure influence on 5-year mortality in very old patients in Moscow population.

**Methods:** Sixty-eight patients (18 men) aged 90–98 (mean  $91.7 \pm 2.1$ ) years were included in observational prospective study during their planned hospitalization from 2011 to 2013. All patients was stable without acute illness or decompensation of chronic diseases. We measured SBP, diastolic blood pressure (DBP) and PBP. Endpoint was all-cause mortality.

**Results:** Median follow-up period was 3,17 years (min 40 days, max 5,79 years, IQR 1,97 to 4,23 years). Thirty-three patients (48,5%) died. Kaplan–Meier analysis showed that 5-year mortality was higher in patients with SBP < 140 mmHg (Chi-square = 5,3;  $p = 0,022$ ) and PBP < 55 mmHg (chi-square = 6,6;  $p = 0,010$ ). DBP did not influence on 5-year all-cause mortality. For further analysis, SBP and PBP were distributed into intervals:  $\geq 140$ , 139–120, 119–110, < 110 mmHg for SBP; and  $\geq 55$ , 54–50, 49–40, < 40 mmHg for PBP. Univariate Cox regression showed that SBP decrease per each 1 rank was associated with 2, twofold increase for 5-year mortality risk (HR 2.22; 95% CI 1.14–341;  $p < 0,001$ ), and PBP decrease per each 1 rank was associated with an increase for mortality risk on 73% (HR 1.73; 95% CI 1.20–2.51;  $p = 0.004$ ).

**Conclusion:** Low SBP and PBP increase the 5-year mortality risk in very old patients in Moscow population.

## P-121

### Cardiac Frailty: QT Interval Prolongation and 1-Year Mortality in Older Adults Admitted to the Acute Geriatrics Department

Dan Justo (1), Meital Zohari (2), Nadav Yehoshua Schacham (2)

(1) Geriatrics Division, Sheba Medical Center, Tel-Hashomer, Ramat-Gan, Sackler School of Medicine, Tel-Aviv University, Israel, (2) Geriatrics Division, Sheba Medical Center, Tel-Hashomer, Ramat-Gan, Israel

**Introduction:** We studied the association between QT interval prolongation and 1-year mortality in older adults admitted to the acute Geriatrics department.

**Methods:** A retrospective cohort study. Medical charts were reviewed of consecutive older adults admitted to one acute Geriatrics department in tertiary medical center during 15 months. Age, gender, chronic co-morbidities, functional status, corrected QT (QTc) interval length upon admission according to the Bazett's formula, and 1-year all-cause mortality rates were recorded. QTc interval ratio was calculated by dividing the actual QTc interval by the pathological QTc interval (450 ms in males, 470 ms in females), and then it was divided into quartiles—the upper three quartiles (study group) were compared to the lower quartile (control group) representing a cut-off of 414 ms in males and 432 ms in females.

**Results:** Included were 526 patients: 334 (63.5%) females, mean age  $84.0 \pm 7.0$  years. Mean admission QTc interval length was  $446.6 \pm 34.2$  ms, and 388 (73.7%) patients were included in the study group. Overall, 147 (27.9%) patients died within one year: 120 (30.9%) in the study group and 27 (19.6%) in the control group (Kaplan–Meier Log-rank  $p = 0.009$ ). Cox regression analysis showed an association between the upper three quartiles of the QTc interval and 1-year mortality (HR 1.60, 95% CI 1.03–2.48,  $p = 0.034$ ) independent of age, gender, chronic co-morbidities, and functional status.

**Conclusions:** QT interval prolongation is associated with 1-year mortality in older adults admitted to the acute Geriatrics department. Lower cut-offs should be used in this population in order to define QT interval prolongation.

## P-122

### The Association Between First Procaspace Activating Compound (PAC-1), Muscle Power And Strength In The Population Of Younger Seniors

Bartłomiej K. Sołtysik (1), Kamil Karolczak (1), Cezary Watała (1), Tomasz Kostka (1), Joanna Kostka (1)

(1) Medical University of Lodz

**Introduction:** PAC-1 is the factor facilitating the apoptosis of cells by activating procaspase -3. The level of PAC-1 is connected with reactivity of platelets. Still, physical activity is acknowledged as antiaging and antiplatelet factor. The impact of muscle power and strength on the PAC-1 concentration is still unknown.

**Methods:** PAC-1 concentration was measured in three different conditions, in resting platelets, stimulated with arachidonic acid or collagen. Muscle strength of lower extremities was quantitatively determined by the bilateral leg extension and leg press (Keiser Sports Health Equipment, Fresno, CA). Muscle power was measured with two different .

**Methods:** Keiser pneumatic resistance training equipment and the friction-loaded cycle ergometer (Monark type 818E Stockholm, Sweden). The PAC-1 was correlated with muscle strength and power.

**Results:** 141 women and 143 men aged 60–65 years old from Central Poland were enrolled into the study. In men expression of PAC-1 in platelets stimulated by collagen was negatively associated with majority of tested domains of muscle power and strength. In women the correlations are similar but (besides power of left leg) not signif-

icant. No relation was found for PAC-1 stimulated by arachidonic acid and unstimulated.

**Conclusions:** It seems that good physical condition of younger seniors may be connected with lower levels of PAC-1, especially in men. This may be connected with lower activity of platelets and interrelate aging deceleration.

**Key words:** Seniors, PAC-1, Muscle strength, Muscle power.

## P-123

### Functional Status and Adequacy Prescription in Older Patients in a Heart Failure Unit: Randomized Controlled Trial of the SENECOR Study

Marta Herrero-Torres (1), Nuria Farre (2), Berta Areny (3), Maria Isabel Martínez-Fernández (3), Sonia Ruiz (2), Neus Badosa (2), Laia Belarte-Tornero (2), Sandra Valdivielso-Moré (2), Cristina Roqueta (4)

(1) Geriatric Medicine Department. Hospital del Mar. Hospital de la Esperanza. Centro Fórum. Barcelona, (2) Cardiology Department. Hospital del Mar. Barcelona., (3) Geriatric Medicine Department. Hospital del Mar. Centro Fórum. Hospital de la Esperanza. Barcelona., (4) Geriatric Medicine Department. Hospital del Mar. Centro Fórum. Hospital de la Esperanza. Universitat Pompeu Fabra. Barcelona

**Introduction:** Polypharmacy and functional impairment are common in older patients with heart failure. We compare functional status and adequacy prescription in a Heart Failure Unit after a recent heart failure hospitalization.

**Methods:** we use a prospective, single-center, randomized, open, controlled trial (Intervention group: multidisciplinary intervention by a geriatrician and a cardiologist. Control group: cardiologist alone). We recorded functional (Barthel and Lawton index) and cognitive status (Pfeiffer), number of drugs, and polypharmacy, at baseline visit and one-year follow-up. Another geriatrician performed a blind review of medical records at baseline visit and one-year follow-up in order to identify potentially inappropriate prescriptions (PIPs) and potential prescribing omissions (PPOs) using the Screening Tool of Older Persons' Prescriptions (STOPP) and the Screening Tool to Alert doctors to the Right Treatment (START) criteria. We compare functional status and appropriate drug treatment. We excluded from the analysis the patients who died or refused to continue the study.

**Results:** In total, we randomised 150 patients, 75 per group. Mean (range) age was 82.2 (75–94) years, and 50% were female. After 1 year, the intervention group had improved their functional status: mean (standard deviation) Barthel was 3 (10.5) points; the control group showed functional impairment: -5.2 (8.3);  $p = 0.06$ . STOPP criteria ( $p < 0.001$ ) and START criteria ( $p < 0.001$ ) were significantly reduced in the intervention group compared with the control group at the one-year follow-up. There were no differences in the rest of the variables studied.

**Key Conclusions:** A follow-up by geriatrician and cardiologist improve the adequacy prescription in older patients in a Heart Failure Unit.

## P-124

### Anticoagulation and Cognitive Impairment: Impact on Mortality in Elderly Patients with Atrial Fibrillation

Jorge Eduardo Herrera Parra (1), Lucía Antuña Montes (1), Sara Fueyo Álvarez (1), Julieth Caballero Velásquez (1), Monserrat González Delgado (2), Elena Valle Calongea (1), Natalie Burgos Bencosme (1)

(1) Hospital Monte Naranco, (2) Hospital Universitario Central de Asturias

**Introduction:** The therapeutic decision of anticoagulation in patients with cognitive impairment and atrial fibrillation (AF) poses significant challenges due to their increased risk of falls and bleeding. In this study, we explored the relationship between cognitive impairment, therapeutic decision, and mortality.

**Methods:** Prospective observational study. 200 AF patients admitted between 2019–2021 were evaluated. Demographic variables, comorbidities, functional, cognitive and frailty status (SPPB) were collected. Groups were compared based on antithrombotic prescription and therapeutic adequacy, using the Student's t-test and Chi-square as appropriate. Hazard Ratios (HR) were calculated for mortality.

**Results:** 65% were women with a mean age  $89.23 \pm 0.63$  years with mean Barthel index  $65.23 \pm 27.4$ .

**Background:** Valvular heart disease (36%), anemia (31%), stroke (31.5%). The thromboembolic risk measured by CHADS<sub>2</sub>-VASc was  $5.74 \pm 0.17$  and the bleeding risk by HAS-BLED was  $2.94 \pm 0.6$ . The prevalence of CD was 39% (16.5% mild, 11% moderate and 11.5% severe). Anticoagulation in patients with and without cognitive impairment was 58.4% and 76.4%, respectively. In the comparison of overall mortality, patients with cognitive impairment and without anticoagulation had a crude HR of mortality of 2.68 (95% CI 1.49–4.82,  $p = 0.001$ ). This finding lost its statistical significance after adjusting for factors such as age, sex, Barthel, SPPB, HASBLED and CHA<sub>2</sub>DS<sub>2</sub>-VASc.

**Conclusion:** Although cognitive impairment and the absence of anticoagulants were associated with increased mortality in patients with AF, this association was lost after considering other risk factors. These data suggest that therapeutic choice in these patients should be meticulously evaluated.

## P-125

### Blood pressure effects of trazodone in hypertensive older adults

Ludovica Ceolin (1), Giulia Rivasi (1), Marco Capacci (1), Giada Turrin (1), Lorenza Rossi (1), Silvia Menale (1), Alessandra Liccardo (1), Maria Francesca Bisignano (1), Enrico Mossello (1), Andrea Ungar (1)

(1) Referral Centre for Hypertension Management in Older Adults, Division of Geriatric and Intensive Care Medicine, Careggi Hospital and University of Florence and Azienda Ospedaliero Universitaria Careggi, Largo Brambilla 3, 50139 Florence, Italy

**Introduction:** Trazodone is commonly prescribed in older adults and may have hypotensive effects due to the inhibition of  $\alpha$ -adrenergic receptors. The present study aimed to investigate the effects of tra-

zodone on blood pressure (BP) and its related risk of syncope and falls in hypertensive older adults.

**Methods:** A longitudinal observational study involving patients aged  $\geq 75$  was conducted at the Hypertension Clinic and Memory Clinic of the Division of Geriatric and Intensive Care Medicine, Careggi Hospital, Florence. Participants underwent a multidimensional geriatric assessment including office BP measurement, 3-min active stand test (BP measurement immediately after standing [T0] and at 1 [T1] and 3 min [T3]), home and ambulatory BP monitoring. The composite outcome of syncope and falls was assessed at 12 months and its association with trazodone was analysed using multivariate Cox regression analysis.

**Results:** Among 123 participants (mean age 81 years, 59% female), 10% reported regular trazodone use. Participants receiving trazodone showed lower office diastolic BP (71.8 mmHg vs. 80.1 mmHg,  $p = 0.042$ ) and a greater systolic and diastolic BP reduction immediately after standing ( $\Delta$ systolicT0 16.2 mmHg vs. 9.7 mmHg,  $p = 0.038$ ;  $\Delta$ diastolicT0 11 mmHg vs. 1.7 mmHg,  $p = 0.003$ ). Incidence of syncope and falls at 12 months was 25%, with a significantly higher rate in patients receiving trazodone (58.3% vs. 21.2%,  $p = 0.005$ ). Trazodone was associated with an increased risk of syncope or falls independently of physical performance (HR 2.654, 95% CI 1.104–6.378). This association was not confirmed when multivariate Cox analysis was adjusted for dementia diagnosis (HR for trazodone 1.874, 95% CI 0.736–4.773; HR for dementia 2.556, 95% CI 1.018–6.419).

**Conclusions:** In older adults with hypertension, trazodone is associated with a greater orthostatic BP drop and might increase the risk of syncope and falls.

## P-126

### An exploration on the relationship between frailty status, functional status and mobility on mortality outcomes post-TAVI

Emel Demirpolat (1), Dr Rebecca Winter (1), Dr Tom Levett (1)

(1) Brighton and Sussex Medical School

**Background:** Patients with frailty and aortic stenosis are at a higher risk of negative health outcomes, thus are considered as high-risk patients for transcatheter aortic valve implantation (TAVI). This study aims to explore the relationship between age, frailty status, functional status and mobility on outcomes post-TAVI, focussing on mortality and discharge destination in a local population.

**Methods:** 1893 consecutive patients undergoing TAVI in a single centre were assessed for frailty status, functional status and mobility based on Rockwood Clinical Frailty Score, Katz score, Karnofsky score and the Brighton Mobility Index respectively. Mortality tracking was obtained via the NHS Spine Portal in October 2022. Continuous and categorical data were compared using the Mann–Whitney U test and Chi-squared test respectively. Data were analysed using Stata Version 16.

**Results:** The mean age of patients was 82 years (IQR 77–87); 41.9% of patients had frailty. 63.5% needed assistance to function and 7.7% were unable to care for themselves. 25% mobilised with 1-stick and 7.8% required higher aid. Overall 30-day and 90-day mortality post-TAVI was 3.28% and 4.76% respectively. 95.1% of patients were discharged back home.

**Conclusion:** Objective assessment of frailty, functional status and mobility predicts short and long-term survival rates in patients undergoing TAVI. Risk of mortality post-TAVI is higher in those with frailty. Increased age, increased frailty, reduced functional status and decreased mobility is associated with worse prognosis post-TAVI.

## P-127

### Associations between health risk behaviours and health-related work ability among older employees in Europe: A cross-sectional study of SHARE data

Annele Urtamo (1), Inna Lisko (2), Olli Kurkela (3), Jenni Kulmala (4), Leena Forma (5)

(1) 1. Laurea University of Applied Science, Vantaa, Finland, 2. Department of General practice and Primary Health Care, University of Helsinki, Helsinki, Finland, (2) 3. Faculty of Sport and Health Sciences and Gerontology Research Center (GEREC), University of Jyväskylä, Finland, 4. Division of Clinical Geriatrics, Center for Alzheimer Research, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet, Stockholm, Sweden, (3) 1. Laurea University of Applied Science, Vantaa, Finland, 5. Faculty of Social Sciences (Health Sciences) and Gerontology Research Center (GEREC), Tampere University, Finland., (4) 4. Division of Clinical Geriatrics, Center for Alzheimer Research, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet, Stockholm, Sweden, 5. Faculty of Social Sciences (Health Sciences) and Gerontology Research Center (GEREC), Tampere University, Finland, 6. Population Health Unit, Finnish Institute for Health and Welfare, Helsinki, Finland, (5) 1. Laurea University of Applied Science, Vantaa, Finland, 5. Faculty of Social Sciences (Health Sciences) and Gerontology Research Center (GEREC), Tampere University, Finland

**Introduction:** Research on factors that influence older employees' workability and health is necessary to prolong working lives. Previous studies with national databases have shown associations between healthy lifestyle and work ability. However, there is a lack of studies with international data. This study investigates whether lifestyle-related risk factors are associated with health-related work ability among employees ( $\geq 50$  years of age) in Europe.

**Methods:** Data on health-related work ability (measured as health problems that limit paid work), and lifestyle factors were obtained from Survey of Health, Ageing and Retirement in Europe (SHARE, wave 8) in year 2019 among European older employees ( $n = 8360$ , mean age 59.4 years). Complete data on lifestyle variables (physical activity, BMI, smoking, vegetable consumption) and health-related work ability were obtained from 2252 respondents. Logistic regression analyses were performed to investigate the associations between health risk behaviours with health-related work ability. Adjustments were made for age and sex.

**Results:** Physically inactive participants were more likely to have health problems that limit paid work than physically active individuals (OR 1.6; 95% CI 1.2–2.1). Obese participants (BMI  $\geq 30$ ) and participants with history of smoking were more likely to have health problems that limit paid work than those with normal or overweight (OR 1.8; 95% CI 1.4–2.3) and without history of smoking (OR 1.4; 95% CI 1.1–1.9).

**Conclusions:** Obesity, low physical activity, and smoking were related to low health-related work ability measured as health problems that limit paid work. To maintain or improve work ability, interventions that promote healthy behaviours are needed.

## P-128

### Profile Of Elderly Patients Undergoing Treatment With New Oral Anticoagulants (NOACs) Admitted To The Geriatrics Service During The Year 2022

Dionis Carolina Fernández Minaya (1), Magdalena Linge Martín (1)

(1) Servicio de Geriátria, Hospital San José, Teruel

**Introduction:** The use of NOACs represents a therapeutic alternative for elderly patients in need of anticoagulation, not only because of its greater simplicity of use, but also because of its efficacy and safety profile.

**Methodology:** Retrospective descriptive study of patients admitted during 2022 in the Geriatric Service of the Hospital San José (Teruel) in treatment with NOACs. Sociodemographic, functional, clinical and therapeutic variables were recorded.

**Results:**  $n = 50$  patients under treatment with NOACs (64% apixaban, 14% rivaroxaban, 14% edoxaban, 8% dabigatran). 60% women. Average age: 87.26. Place of residence: 66% domicile, 34% residence. Functionality: 16% independent for basic activities of daily living, 32% total or severe dependency, 14% moderate dependency, 38% mild dependency. Reason for admission: respiratory tract infection (16%), urinary tract infection (20%), congestive heart failure (24%), stroke (14%), pulmonary thromboembolism (6%), others (20%). Comorbidities: 40% neurocognitive disorder, 36% dysphagia, 100% polypharmacy, 92% arterial hypertension, 68% heart failure, 48% renal failure, 2% carrier of heart valve, 36% stroke, 92% atrial fibrillation, 6% pulmonary thromboembolism, 12% history of bleeding. Concomitant medication: 20% home oxygen therapy, 8% oral antiaggregants, 94% proton pump inhibitors. Only 16% required stopping oral anticoagulation (4% for bleeding, 8% for major neurocognitive disorder). Average HAS-BLED: 3.8. Average CHADS-VASC: 5.32. Discharge destination: 48% home, 38% residence, 2% other hospital, 12% death.

**Conclusion:** The profile of those admitted to treatment with NOACs would be an 87-year-old patient, resident at home, with mild dependency, polymedicated, anticoagulated due to atrial fibrillation or pulmonary thromboembolism, who continues with her treatment upon discharge.

## P-129

### Key Needs, Quality Performance Indicators and Outcomes for Clinical Management of Atrial Fibrillation in the Context of Multimorbidity: International Online Survey and Delphi Process

Donato Giuseppe Leo (1), Caterina Trevisan (2), Adele Ravelli (3), Trudie C.A. Lobban (4), Deirdre A. Lane (5), on behalf of the AFFIRMO Study investigators (6)

(1) 1.Liverpool Centre for Cardiovascular Sciences, University of Liverpool and Liverpool Heart and Chest Hospital, Liverpool, United Kingdom; 2.Department of Cardiovascular and Metabolic Medicine, Institute of Life Course and Medical Sciences, Faculty of Health and Life Sciences, University of Liverpool, Liverpool, L7 8TX, United Kingdom, (2) 1. Department of Medicine, University of Padova, Padua, Italy; 2. Department of Medical Sciences, University of Ferrara, Ferrara, Italy; 3.Aging Research Center, Department of Neurobiology, Care Sciences and Society (NVS), Karolinska Institutet-Stockholm University, Stockholm, Sweden, (3) Department of Medicine, University of Padova, Padua, Italy, (4) Arrhythmia Alliance, Celixir House, Stratford Business & Technology Park, Innovation Way, Stratford upon Avon, Warwickshire, CV37 7GZ, United Kingdom, (5) 1. Liverpool Centre for Cardiovascular Sciences, University of Liverpool and Liverpool Heart and Chest Hospital, Liverpool, United Kingdom; 2.Department of Cardiovascular and Metabolic Medicine, Institute of Life Course and Medical Sciences, Faculty of Health and Life Sciences, University of Liverpool, Liverpool, L7 8TX, United Kingdom; 3.Department of Clinical Medicine, Aalborg University, Aalborg, Denmark, (6)

**Introduction:** Patients with atrial fibrillation (AF) often have other co-existing long-term conditions that impact their clinical management and quality of life. The AFFIRMO study aims to examine ways of optimising care and self-management for AF patients with multimorbidity identifying key needs, quality performance indicators (QPIs), and outcomes relevant to patients, caregivers and healthcare professionals (HCP).

**Methods:** An online survey, distributed between June 2022 and January 2023, open to AF patients, their caregivers and HCP from five countries (UK, Italy, Denmark, Romania and Spain) collected relevant needs, QPIs, and outcomes. The results of the survey formed the basis for the three-round Delphi consensus meetings, involving patient, caregiver, and HCP representatives.

**Results:** In total, 659 patients (% male, mean  $\pm$  SD age: 47.2%, 70.9  $\pm$  10.2 years), 201 caregivers (26.9%, 58.3  $\pm$  15.2 years) and 445 HCP (57.8%, 47.4  $\pm$  10.6 years) participated in the survey. Twenty-seven needs, nine QPIs, and 17 outcomes were identified. The Delphi process involved 21 participants (8 patients, 2 caregivers, and 11 HCP). ‘Consensus in’ was reached on 19 (70%) needs, 8 (89%) QPIs, and 13 (76%) outcomes. Key needs and QPIs included items such as ‘stroke prevention’; ‘controlling heart failure symptoms’; ‘appropriate treatment to reduce/avoid hospitalisation and adverse events’; ‘patient and caregiver education/information’, etc. Outcome domains included ‘long-term consequences of disease’; ‘complications of treatment’; and ‘patient-reported outcomes’.

**Key Conclusions:** The key needs, QPIs and outcomes consensus from the Delphi will inform the AFFIRMO clinical trial and help develop better management pathways for AF patients with multimorbidity. Keywords: AFFIRMO; Atrial Fibrillation; Delphi process; Multimorbidity; On-line Survey. Acknowledgements: The AFFIRMO project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 899871.

## P-130

### Risk factors for cerebrovascular disease in the elderly

Ovidiu-Lucian Bajenaru (1), Catalina Raluca Nuta (1), Gabriela-Cristina Chelu (1), Sinziana-Georgeta Moscu (1), Anna Marie Herghelegiu (1), Nicolae Ovidiu Penes (1), Gabriel-Ioan Prada (1)

(1) Carol Davila University of Medicine and Pharmacy

**Introduction:** Aging is a complex process accompanied by many inevitable changes so that they are considered “normal“. These changes may explain the higher prevalence of cardio and cerebrovascular diseases in the elderly compared to the young. Therefore, old age itself can be considered a risk factor for various diseases.

**Material and Methods:** A total of 240 subjects, age range of 50–90 years, with or without a diagnosis of cerebrovascular disease were included. Patients were divided into several categories according to age, sex, place of origin, economic status, and the presence or absence of the following risk factors such as smoking, arterial hypertension, diabetes mellitus, and atrial fibrillation. The reference age groups were: 50–64 years (group A), and 70 + years (group B) .

**Results:** In our study, we found that in men over 70 years of age, the most prevalent risk factor for cerebrovascular disease is dyslipidemia and in elderly women, it is atrial hypertension. Our results were different from those presented in the consulted literature, which finds that dyslipidemia arising as a consequence of the aging process is more prominent in women. This fact can be due to two aspects: the small number of subjects and the fact that the patients were selected only from the patients hospitalized at “INGG Ana Aslan“ and not from the general population. According to the results of our study,

atrial fibrillation, which is an important risk factor for cerebrovascular diseases, is more common among elderly patients compared to adults, but without a statistically significant difference, which may be due to the small number of subjects. These results are in accordance with those demonstrated in the consulted literature.

**Conclusions:** The most prevalent risk factor for cerebrovascular disease in elderly men was dyslipidemia while in adults it was hypertension. In the female sex, the situation was reversed: the most prevalent risk factor for cerebrovascular disease in the elderly was atrial hypertension, while in adults it was dyslipidemia. The prevalence of atrial fibrillation, a risk factor for cerebrovascular disease, was higher in the elderly than in adults, without reaching statistical significance.

## P-131

### Differential Characteristics of Acute Heart Failure in Octogenarians and Nonagenarians: The Prospective OCTA-HF Study

María Noemí García-Calderón Díaz (1), Alba Martínez Moreno (1), María Belén Sánchez Rubio (1), Antonio Medina Nieto (1), Mónica Ramos Sánchez (1), Cristina Herrera Rodrigo (1), Javier Jaramillo Hidalgo (1), Javier Gómez Pavón (1)

(1) Hospital Universitario Central de la Cruz Roja San José y Santa Adela

**Introduction:** The occurrence of Acute Heart Failure (AHF) rises as individuals age. It is important to characterize, describe, and effectively treat these patients.

**Objective:** To compare the baseline characteristics of octogenarian and nonagenarian patients with AHF.

**Methods:** Prospective longitudinal observational study. The sample was divided into two groups: 80–89 and  $\geq 90$  years. Sociodemographic data, clinical history, comprehensive geriatric assessment (CGA), pharmacological treatments with prognostic benefit in HF, analytical variables, and evaluation of clinical and radiological parameters were collected.

**Results:** N = 65 patients (72% females, median age 89 [86–94]). Nonagenarian group had a higher prevalence of severe frailty (CFS  $\geq 7$  40.6% vs. 30.3%;  $P = 0.31$ ), comorbidity burden (CI  $\geq 3$  81.3% vs. 48.5%;  $P = 0.02$ ), and malnutrition (MNA-SF  $\leq 7$  43.8% vs. 21.2%;  $P = 0.13$ ). Clinical history showed a higher prevalence of chronic kidney disease (CKD) in nonagenarians (53.1% vs. 30.3%;  $P = 0.06$ ). Preserved ejection fraction (pEF) predominated in both groups with high prevalence rates (97% vs. 90.6%;  $P = 0.295$ ). There was a significant burden of congestion at admission, with no significant differences between groups. Beta-blockers (BB) (63.6% vs. 40.6%;  $P = 0.06$ ) and sodium-glucose cotransporter-2 inhibitors (SGLT2) (18.2% vs. 6.3%;  $P = 0.14$ ) were predominantly prescribed in octogenarians. Other prognostic treatments were prescribed with similar rates in both study groups.

**Conclusions:** Nonagenarians with AHF have a higher prevalence of severe frailty, malnutrition, comorbidity and CKD. There is a clear prevalence of the pEF phenotype in both groups. BB and SGLT2 were predominantly prescribed in octogenarians.

## P-132

### Clinical profile of Acute Heart Failure in the oldest old population: The prospective OCTA-HF study

Antonio Medina Nieto (1), María Noemí García-Calderón Díaz (1), María Belén Sánchez Rubio (1), Alba Martínez Moreno (1), Mónica Ramos Sánchez (1), Cristina Herrera Rodrigo (1), Javier Jaramillo Hidalgo (1), Javier Gómez Pavón (1)

(1) Hospital Universitario Central de la Cruz Roja San José y Santa Adela

**Introduction:** Heart failure (HF) is a highly prevalent condition in elderly patients and is associated with high mortality risk and readmission.

**Objective:** To identify the baseline characteristics of a population of very elderly patients admitted for acute HF.

**Methods:** Prospective longitudinal observational study. Patients over 80 years old admitted to acute care unit for HF were included (preliminary analysis of the OCTA-HF cohort sample). Sociodemographic data, clinical history, comprehensive geriatric assessment (CGA), pharmacological treatments with prognostic benefit in HF, analytical variables, and evaluation of clinical and radiological parameters were collected.

**Results:** N = 65 patients (72% females, median age 89 [86–94], average hospital stay  $11.1 \pm 5.06$  days). Preserved ejection fraction (pEF) 75.4%. Severe-total dependency 36%, median Barthel Index (BI) 84 [29–93], median Charlson Index (CI) 3 [2–5], frailty 80%, median Clinical Frailty Scale (CFS) 6 [5–7], risk of malnutrition or malnutrition 73.8%, median Mini Nutritional Assessment-Short Form (MNA-SF) 9 [6.5–12], 93.8% polypharmacy. Analytical variables (median): creatinine 0.99 [0.85–1.55], NT-proBNP 6149 [3613–11180], Ca125 51.4 [25.5–112.5]. Median diameter of the inferior vena cava (IVC) 23.2 [20.1–25.5], edema 78.5%, jugular distention 52.3%, orthopnea 52.3%, pleural effusion 85.1%. Previous treatment: Angiotensin-converting enzyme inhibitor (ACEI) 52.3%, mineralocorticoid receptor antagonists (MRA) 23.1%, beta-blockers (BB) 52.3%, angiotensin receptor-neprilysin inhibitor (ARNI) 0%, sodium-glucose cotransporter-2 inhibitors (SGLT2) 12.3%.

**Conclusions:** The population exhibits a high rate of frailty, comorbidity, polypharmacy, and malnutrition, presenting with a high burden of congestive symptoms at admission. The phenotype of pEF predominates, and the use of ACEI and BB stands out as treatment.

## P-133

### Anticoagulant use for atrial fibrillation in geriatric inpatients: an observational study

Julie Hias (1), Esther Vanderstuyft (1), Laura Hellemans (2), Lucas Van Aelst (3), Jos Tournoy (4), Lorenz Van der Linden (1)

(1) Department of Pharmaceutical and Pharmacological Sciences, KU Leuven, Leuven, Belgium, (2) Research Foundation Flanders, Brussels, Belgium, (3) Department of Cardiovascular Sciences, KU Leuven, Leuven, Belgium, (4) Department of Public Health and Primary Care, KU Leuven, Leuven, Belgium

**Introduction:** Atrial fibrillation (AF) is common in geriatric patients and is a significant contributor to ischemic stroke. Direct acting oral anticoagulants (DOACs) can substantially mitigate stroke risk. However, geriatric AF patients are often underdosed with DOACs. Hence, we aimed to characterize anticoagulant use among geriatric inpatients with AF.

**Methods:** An observational study was performed at the acute geriatric wards of the University Hospitals Leuven, Belgium. The first 90 AF

patients for 2020, 2021 and 2022 who received at least one oral anti-coagulant were included. Anticoagulant use at discharge and therapy appropriateness were assessed. Determinants for underdosing were evaluated using multivariate logistic regression. Temporal associations for appropriateness (yes or no) and anticoagulant class (Vitamin K antagonist (VKA) vs. DOAC) were assessed using Fisher Exact analysis. **Results:** Mean age was 86.5 ( $\pm$  5.3) years with median CHA2DS2-VASc score 5 [4–6]. At discharge, 256 (94.8%) patients used DOAC, 9 (3.3%) used VKA, 1 (0.4%) used DOAC-antiplatelet combination, and in 4 (1.5%) anticoagulant use was discontinued. Apixaban was most commonly prescribed (40.7%) and a majority of patients (64.4%) received a reduced DOAC dose. Thirty-nine (14.4%) patients received inappropriate therapy and for 23/39 (59.0%) no deviation rationale was documented. The year ‘2022’ (odds ratio 0.104; 95% confidence interval, 0.012–0.878) was the only determinant for underdosing. There was no temporal association regarding appropriateness ( $P = 0.533$ ) or anticoagulant class ( $P = 0.479$ ).

**Key Conclusions:** Nearly all AF patients received anticoagulation at discharge. At our institution, only a minority was managed inappropriately. A majority of patients received a reduced DOAC dose.

### P-134

#### Medication-related harm for heart failure specific medications in older people with multimorbidity

Gemma Fargas-Baella (1), Joan Espauella-Panicot (1), Helen Valenzuela-Leal (2), Silvia Montserrat Ortego (2), Emma Puigoriol-Juventeny (3), Montserrat Codony-Arques (2), Clàudia Pujol-Lucas (1), Mariona Espauella-Ferrer (4), Núria Molist-Brunet (4)

(1) Geriatric Department, Hospital Universitari de Vic, Barcelona, Spain, (2) Cardiology Department, Hospital Universitari de Vic, Barcelona, Spain, (3) Epidemiology Department, Hospital Universitari de Vic, Barcelona, Spain, (4) Geriatric Department, Hospital Universitari de la Santa Creu de Vic, Spain

**Introduction:** Heart failure (HF) is a frequent morbidity among older people. There is a lack of evidence about medication-related harm (MRH) of the new specific medications for HF with reduced or mildly ejection fraction (HF<sub>r</sub>EF, HF<sub>m</sub>rEF) in patients with frailty and multimorbidity. The objectives were: I-To analyse the baseline situation of older patients with HF; II-To determine the prevalence of MRH of specific medications for HF<sub>r</sub>EF or HF<sub>m</sub>rEF (beta-blocker (BB), mineralocorticoid receptor antagonist (MRA), sodium-glucose co-transporter-2- inhibitors (SGLT2i) and sacubitril/valsartan (SAC/VAL) after a 12-month follow-up.

**Methods:** Retrospective, descriptive, and observational study of patients  $\geq$  80 years treated at the Heart Failure Unit, carried out from April 2021 to April 2022. Data collected: Frailty index (VIG-Frail), Barthel Index (BI), chronic medications, morbidities, HF<sub>r</sub>EF or HF<sub>m</sub>rEF prevalence's, and MRH.

**Results:** 72 patients (mean age was 84.12 (SD 2.36); 47.2% female). The mean number of morbidities is 5.81 (SD 1.86). Mean VIG-Frail 0.22 (SD 0.098). Mean BI 92.64% (SD 0.098). Mean use of drug per patient 10.80 (SD 3.67). The prevalence of HF<sub>r</sub>EF or HF<sub>m</sub>rEF is 67.3% ( $n = 47$ ) 0.4.1% ( $n = 3$ ) mortality. After a 12-month follow-up, 45.5% ( $n = 20$ ) of patients with an indication of specific medications for HF<sub>r</sub>EF or HF<sub>m</sub>rEF presented at least one MRH (50.0% ( $n = 11$ ) symptomatic hypotension, 31.8% ( $n = 7$ ) impairment of renal function, 13.7% ( $n = 3$ ) hyperkalemia and 4.5% ( $n = 1$ ) others). The prevalence of MRH related to specific drugs were 11.4% for BB, 32.1% for MRA, 14.3% for ISGLT2, and 47.7% for SAC/VAL.

**Conclusions:** SAC/VAL and MRA were the medications with the highest prevalence of MRH in older patients. Symptomatic hypotension was the most prevalent MRH.

### P-135

#### Trajectories of walking speed in older adults with atrial fibrillation: a 15 year-follow-up population-based study

Chukwuma Okoye (1), Amaia Calderon-Larranaga (1), Chengxuan Qiu (1), Xin Xia (1), Davide Liborio Vetranò (1)

(1) Aging Research Center, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet and Stockholm University, Department of Geriatrics, Sweden

**Background:** Atrial fibrillation (AF), the most common arrhythmia in older adults, has been associated with frailty. However, the role exerted by AF in the long-term trajectories of functional decline still needs to be elucidated. This study aimed at evaluating AF clinical impact on walking speed (WS) over 15 years of follow-up in a population-based cohort of older individuals.

**Methods:** This population-based cohort study included 3141 non-institutionalized participants (age  $\geq$  60 years; 63.6% women) from the Swedish National Study on Aging and Care in Kungsholmen (SNAC-K) carried out in Stockholm, who were regularly examined from 2001–2004 to 2016–2019. The association between AF and WS trajectories was tested by multivariable joint models accounting for the longitudinal dropouts due to death.

**Results:** At baseline, 285 (9.1%) participants were ascertained to have prevalent AF. Upon accounting for several potential confounders, we observed a faster annual WS decline in AF participants than in non-AF peers ( $\beta$  coefficient per year =  $-0.012$ , 95% confidence interval [CI]:  $-0.017$  to  $-0.007$ ). The association was stronger in those without stroke, heart failure and higher physical activity ( $p$  per interaction  $< 0.05$ ). In a secondary analysis carried out among AF participants who were free of heart failure, stroke, and dementia at baseline, incident heart failure, stroke, and dementia were independently associated with WS decline.

**Conclusion:** AF is independently associated with a faster physical performance decline in older individuals. Incident HF, stroke, and dementia emerged as predictors of WS decline over time in AF participants free of these conditions at baseline.

### P-136

#### New Method Of Heart Rate Variability Determination In Old People

Ana Maria Turcu (1), Adina Carmen Ilie (1), Raluca Brodocianu (2), Sabinne Marie Tăranu (1), Ramona Ștefăniu (1), Ioana Dana Alexa (1)

(1) CI Parhon Hospital, Iasi, Romania, University of Medicine and Pharmacy "Grigore T. Popa" Iasi, Romania, (2) CI Parhon Hospital, Iasi, Romania

**Introduction:** Heart rate variability (HRV), the result of the succession of the sympathetic and parasympathetic nervous system, represents an important screening biomarker of cardiovascular pathology, up to ventricular tachycardia and sudden cardiac death. It proved to be involved in the guidance of antidepressant treatment, the presence of neurocognitive disorders or frailty. The determination of HRV by modern methods tries to offer an easier, cheaper and adapted alternative for both, young and old patients.

**Methods:** In this study we included patients over 65 years old who gave their consent. We compared a wrist-worn photoplethysmography (WWPPG) device to the classical ECG Holter monitoring. We also wanted to determine the relationship between the presence of geriatric

syndromes and HRV and to confirm that HRV can be a prognostic factor in old patients.

**Results:** The data obtained till now confirm the fact that, HRV parameters from the determination of WWPPG can be compared with Holter ECG monitoring. Furthermore, in certain situations, HRV can be considered a prognostic factor in old patients who associate geriatric syndromes.

**Conclusions:** The wrist-worn photoplethysmography can be considered a simple, easy and cheap method, which does not require a trip to the hospital in old patients with geriatric syndromes. Thus, the determination of HRV can be considered a method of evaluation and prognosis of old patients.

**Key words:** heart rate variability, HRV, biomarker, wrist-worn photoplethysmography.

## P-137

### SAS-old study: factors influencing the management of sleep apnea syndrome by continuous positive airway pressure in elderly patients

Mathilde MALIGNAC (1), Kiyoka KINUGAWA (2)

(1) Assistance publique des hôpitaux de Paris, (2) AP-HP, Hôpital Charles Foix, Unité d'explorations fonctionnelles du sujet âgé, Ivry-sur-Seine, France

**Introduction:** Sleep apnea syndrome (SAS) is a sleep disorder which is very common in the elderly. (Martinez-Garcia MA Sleep medicine 2022) The health status of the elderly population is highly heterogeneous. The management of SAS can therefore be affected by these comorbidities, but few data exist in the very elderly. (Posadas et al. Journal of Clinical Medicine 2020). The aim of the SAS-OLD study is to investigate factors that may impact the management of sleep apnea syndrome (SAS) by continuous positive airway pressure (CPAP) in elderly patients.

**Methodology:** This is a single-center retrospective study: clinical data from patients diagnosed and followed up in the department for SAS (AHI  $\geq$  15/h, diagnosed by ventilatory polygraphy). 241 patients were analyzed. The characteristics of patients treated with CPAP were compared with those of patients not treated with CPAP. Reasons for non-proposal or refusal were analyzed.

**Results:** The mean age was  $85.5 \pm 6.4$  years. The patients included were polymedicated, frail and polypathological. SAS was predominantly obstructive and severe. 140 patients (58%) were treated with CPAP and 101 (42%) not. The main reasons for not treating were: 26.8% non-proposal by the physician and 73.2% non-acceptance by the patient. Treated patients were statistically more symptomatic than un-treated patients, had a higher BMI, more hypertension, less renal failure.

**Conclusion:** In this preliminary analysis of 241 elderly patients with SAS and an indication for CPAP, 58% were treated. Symptomatic nature and the presence of cardiovascular risk factors (high BMI and arterial hypertension) were associated with the use of CPAP.

## P-138

### Age As A Factor In The Quality Of Oral Anticoagulant Therapy

Hristina Leskaroska (1), Biljana Petreska-Zovic (2), Biljanka Koleva (3), Anita Toseva (4)

(1) G.P office Dr. Hristina, (2) PHI Specialized Hospital for Geriatric and Palliative Medicine, Skopje, (3) PHI Diagnostic Centre -Skopje, (4) GP office Vodnjanska, Skopje

**Introduction:** Vitamin K-antagonist (VKA) acenocumarol is the most prescribed medicine for oral anticoagulant therapy (OAT) in patients with atrial fibrillation (AF) in R. of N. Macedonia, even if NOAK are strongly recommended according to the present guidelines, mostly from economic reasons. Inadequate anticoagulation with Time in Therapeutic Rang (TTR)  $< 70\%$  increases the risk of stroke, major bleeding and overall mortality.

**Methods:** Retrospective, cross-sectional study for the period of January 2020 till December 2022, statistical analysis of the International Normalized Ratio (INR) results, Rosendaal method for calculating TTR. The quality of OAT in patients with AF we determinate by TTR, detecting the causes of inadequate anticoagulation and acting toward them (age-related, adherence to therapy and interactions with food and medicine) .

**Results:** We proceeded 90 patients with AF on acenocumarol with average age of  $76 (\pm 7.9)$  years. The average number of INR results per patient was  $20.9 (\pm 4.4)$ , and average days between two INR results was 54. The highest value of TTR 56.82% was recorded in population of 60–69 years with mean INR  $2.33 (\pm 0.08)$ , while the lowest TTR was 43.01% at population of 80–89 years with mean INR  $2.23 (\pm 0.25)$ . The lowest INR values were recorded in spring  $2.05 (\pm 0.68)$  and summer  $2.03 (\pm 0.69)$ , and the highest in autumn  $2.3 (\pm 1.03)$  and winter  $2.25 (\pm 0.88)$ .

**Conclusion:** Lowest TTR and thus the most inadequate quality of anticoagulant therapy with VKA was found in the oldest group of patients (80–89 years). Personalized approach (frequent follow-up, patient education and good adherence to therapy) is a best way to insure optimal OAT.

## P-139

### Heart Rate and Oxygen Uptake Kinetics as a Diagnostic Tool in Evaluating Cardiorespiratory Fitness in Older Adults

Arber Gashi (1), Katharina Bußhoff (1), Tania Zieschang (1), Jessica Koschate (1)

(1) University of Oldenburg

**Introduction:** Cardiorespiratory fitness (CRF) is the strongest independent predictor of life expectancy in both healthy individuals and patients. The assessment of maximal oxygen uptake is the gold standard to determine CRF, but requires a maximal exercise test. However, only a third of older adults reach a plateau in oxygen uptake thus raising doubts about the reliability and hence meaningfulness of maximal exercise testing in older adults. In our study, we assess oxygen uptake (OUK) and heart rate kinetics (HRK) as novel methods of assessing CRF in moderate exercise intensities while also analyzing their linkage to physical activity, an essential factor to maintain adequate CRF.

**Methods:** 95 of 110 older adults (aged  $73.3 \pm 5.4$ , male/female: 35/60) were assessed for CRF via gas exchange analysis and electrocardiography. Oxygen uptake at the first ventilatory threshold (VT1V'O<sub>2</sub>) as well as HRK and OUK were calculated. Furthermore, their relationship with physical activity expressed as Total Step Count (TSC) and hours of metabolic equivalent of task (METH) will be evaluated.

**Results:** VT1V'O<sub>2</sub> correlates with HRK ( $r = 0.399$ ,  $p = 0.001$ ) but not with OUK ( $r = 0.138$ ,  $p = 0.246$ ). Higher TSC correlate with VT1V'O<sub>2</sub> and HRK ( $r = 0.389$ ,  $p = 0.001$  and  $r = 0.266$ ,  $p = 0.028$ ). METH also correlate with VT1V'O<sub>2</sub> and HRK ( $r = 0.468$ ,  $p < 0.001$  and  $r = 0.258$ ,  $p = 0.034$ ).



**Key Conclusions:** The aforementioned correlations reveal a relationship between HRK, VT1V<sup>o</sup>O<sub>2</sub>, and physical activity. HRK is a safe measure of CRF assessment in older adults, the predictive value of this method for individual life expectancy should be examined in future research.

## P-140

### Dilated cardiomyopathy—Case report

Biljana Shishkova (1), Mitra Bogeska Blazhevska (1), Marija Markovski (2)

(1) PHO Kardiomedika Srbinovski, Skopje, (2) General Hospital 8th September Skopje

**Introduction:** Myocarditis due to viral infection of the heart is relatively common and in most cases is of little consequence. It can, however, lead to substantial cardiac damage and severe acute heart failure. It can also evolve into dilated cardiomyopathy.

**Case report:** A.G.-66 years old male patient with medical history of hospitalization due to decompensate heart failure one month after respiratory infection with bilateral viral bronchopneumonia with symptoms of fatigue, palpitations, dyspnea, orthopnea and pretibial edema. ECG at admission showed sinus rhythm with heart rate 110/min, LBBB, multifocal VES. Color Doppler echocardiography showed enlarged dimension and volumes of the left ventricle with reduced systolic function (EF by Simpson method 35%) and global hypo contractility of the left ventricle. During the hospitalization, he was treated with antibiotic, diuretic therapy, ACE inhibitor and supportive therapy with significant clinical improvement. But, his echocardiographic finding got worst during the next few years beside optimal treatment, with further enlarging of LV dimensions and volumes and decreasing in LV EF (18%), worsening of right ventricular function (TAPSE 16mm), appearance of functional TR, with PAH.

**Conclusion:** Myocarditis in this patient has led to progressive syndrome of chronic heart failure, beside optimal treatment. Medical treatment in this patient should be optimized (sacubitril/valsartan and SGLT2 inhibitors). If no response other options like CRT and heart transplantation should be considered.

## P-141

### PAD masked under symptoms of schiatica

Mitra Bogeska Blazhevska (1), Marija Markovski (2), Emilija Grkova—Mishevska (2), Biljana Shishkova (3)

(1) PHO Kardiomedika Srbinovski, (2) General Hospital 8th September, Skopje, (3) PHO Kardiomedika Srbinovski Skopje

**Introduction:** The term "schiatica" commonly refers to a pain which extends from the sacroiliac region into the posterolateral part of the thigh and calf and is nearly always due to intervertebral disc disease. Peripheral arterial disease (PAD) is a condition where a fatty deposit in the arteries restricts blood supply to leg muscles. It can lead to painful ache in the leg, most prominent during walking.

**Case report:** L.V.- 66 years old male patient with medical history of hypertension, hyperlipidemia and hypothyroidism with appropriate therapy and regulation. He is former smoker. The patient is with a long history of degenerative processes of the spine, bilateral hips manifested with chronic pain in both legs with different localization (from lumbar region, gluteal region, calves) with variable intensity which symptoms significantly deteriorate his quality of life. X ray and

MR of lumbar spine showed narrowed intervertebral spaces L4/L5, L5/S1 with symmetrical disc hernia at that level. X ray of both hips showed significant osteodegenerative coxarthrosis, reduced coxofemoral joint spaces, with presence of aseptic necrosis. Indication for surgery of both hips was made. Suspicion for PAD was made during physical therapy and evaluation from internist and the patient was referred for Doppler which showed 70% stenosis of left superficial femoral artery, confirmed with CT angiography and two stents were implanted.

**Conclusion:** Patient with complex orthopedic pathology of lumbar spine and bilateral coxarthrosis with aseptic necrosis with intensive symptoms and restricted mobility of lower limbs. Concomitant PAD was successfully diagnosed and treated.

## P-142

### Use of anticoagulant and long term antithrombotic therapy in a Multidisciplinary Geriatric Outpatient Clinic

Marilia Fernandes (1), Ricardo Silva (1), Ana Sebastião (1), Maria Saldanha (1), Carla Barbosa (1), Manuela Barao (1), Manuela Campos (1), Carla Gonçalves (1), Ana Lourenço (1), Heidi Gruner (1)

(1) Unidade de Geriatria, Centro Hospitalar UNiversitário Lisboa Cental

**Introduction:** The use of anticoagulant (AC) - and long term antithrombotic (AT) -therapy in the elderly, taking into consideration the risk of cardiovascular events and bleeding, has changed in recent years. Also, routine proton pump inhibitors (PPI) are recommended.

**Objective:** Characterize the patients using AC or AT and compare to other elderly patients.

**Methods:** Observational retrospective study of the clinical electronic files of the multidisciplinary geriatric outpatient clinic evaluating the gender, age, clinical frailty scale (CFS), average number of diseases and medications. Used AC or AT indications, use of PPI and complications (bleeding events or iron deficiency anaemia) .

**Results:** Of the 164 patients included, 64 were using either anticoagulant- or antiplatelet therapy. The users were slightly older 83.59/ 82.31 years, mainly male gender 51.6%/34%, with a lower CFS 2.13/ 2.32, higher average number of medications used 8.75/ 6.82 and average number of diseases 6.96/6.14. Antiplatelet therapy 40 (of which 1 with ASP + Clopidogrel), anticoagulation 20 (of which 2 with Warfarin, 1 with LMWH) and AT + AC therapy in 4 patients. Auricular fibrillation was present in 31 patients and heart failure in 55. Only 32/63 patients were using simultaneous proton pump inhibitor. Iron deficiency anaemia was present in patients 35/63 patients, that were on oral or endovenous supplementation.

**Discussion:** Guidelines specifying the use of AC and AT in the very old and frail are available. Anyhow risk factors for bleeding events and specially anemia must be watched as iron supplementation in combination with other therapies allows a more effective and prolonged use of these drugs in this population.

## P-143

### Real-life data on the safety of SGLT2 inhibitors in elderly patients with heart failure. Safe GLT2 Study

Abdelhakim HACIL (1)

(1) Hôpital Broca Paris FRANCE

**Background:** Sodium-glucose co -transporter 2 (SGLT2i) inhibitors have shown their efficacy in improving the prognosis of heart failure.

Nevertheless there is some reluctance in clinical practice to prescribe them in elderly patients due to a lack of long-term safety data. The SafeGLT2 study aims to assess the tolerance of iSGLT2 in elderly patients with heart failure in real life.

**Methods:** This is a prospective study conducted in acute geriatric units in Ile de France between February 2020 and May 2023. All patients admitted for acute heart failure (AHF), aged at least 75 years. The diagnosis was confirmed by a committee of experts, and the patients were followed for one year. Treatments were collected at admission and discharge along with demographic characteristics and medical history. SGLT2i safety data were collected and analyzed: renal failure, hypovolemia, genital infections, urinary tract infections, hypoglycemia, diabetic ketoacidosis, fractures and amputations. A comparison of SGLT2i safety data with the safety data of a heart failure treatment without iSGLT2 consisting of renin angiotensin aldosterone system (iRAAS) inhibitors, Entresto, beta-blockers and furosemide was analyzed.

**Results:** 288 patients were included in the study with an average age of 88 years, 53% (n = 153) were women, a median Charlson comorbidity index (CCI) of 8.77 [2.71], 44.1% (n = 127) of the patients had neurocognitive disorders, 39.6% (n = 114) were malnourished, 32.6% (n = 94) were fallers, 53.8% (n = 155) had renal failure (cl < 60 ml/min), and 11.5% (n = 33) lived in an institution. A total of 33% (n = 95) were receiving a SGLT2i treatment. Preliminary analyzes showed that the effect of SGLT2i was beneficial on renal function despite a temporary decrease in glomerular filtration rate after the introduction of SGLT2i, an increased risk of genital infections, and hypovolemia, although there is no difference in urinary tract infections and hypoglycaemia with the group without iSGLT2. In-depth and complementary analyzes of the data are in progress.

**Conclusion:** These preliminary data showed that SGLT2i are well tolerated in the elderly, although some caution should be required, especially in more frail patients.

## P-144

### A randomized controlled trial assessing the impact of deprescription of antihypertensive drugs on mortality in nursing home residents over 80 years old: Baseline data of RETREAT-FRAIL cohort

Athanase Benetos (1), Sylvie Gautier (1), Anne Freminet (2), Alice Metz (2), Carlos Labat (3), Ioannis Georgiopoulos (2), Eric Vicaut (4), Patrick Rossignol (5)

(1) Université de Lorraine, CHRU-Nancy, Pôle “Maladies du Vieillissement, Gériologie et Soins Palliatifs”, F-54000 Nancy, France, Université de Lorraine, Inserm, DCAC, F-54000 Nancy, France, (2) Université de Lorraine, CHRU-Nancy, Pôle “Maladies du Vieillissement, Gériologie et Soins Palliatifs”, F-54000 Nancy, France, (3) Université de Lorraine, Inserm, DCAC, F-54000 Nancy, France, (4) Clinical Research Unit, Hôpital Fernand-Widal, Paris, France, (5) Université de Lorraine, Inserm, CIC-P-CHRU-Nancy and FCRIN INICRCT F-54000 Nancy, France, Medicine and Nephrology Dept., Princess Grace Hospital, Monaco, Monaco

**Objective:** Clinical trials that have demonstrated the benefits of blood pressure (BP) -lowering treatments in patients over 80 years have predominantly been conducted in patients with preserved functional status and few comorbidities while subjects with significant loss of autonomy and high frailty have systematically been excluded from these trials. In addition, several observational studies performed in the most frail subjects indicate that low SBP is associated with higher

cardiovascular morbidity and mortality, particularly in those under antihypertensive treatment. Design and .

**Methods:** RETREAT FRAIL is a multicenter, randomized, controlled trial aiming to evaluate the effect of the step-down of antihypertensive medications on all-cause mortality (mean follow-up 36 months) in nursing home residents > 80 years, treated with > 1 antihypertensive drug and presenting a SBP < 130 mmHg. The only clinical exclusion criterion was an estimated life expectancy < 3 months. Enrolled patients were randomized into one of 2 groups: treatment step-down or control group. In both groups, follow-up is currently conducted in the NHs every 2 months, including a comprehensive geriatric assessment every 6 months.

**Results:** Between April 2019 and July 2022, 1048 residents (842 women), mean age 90 ± 5 years, from 108 NHs were randomized (528 step-down and 520 controls). Subjects were receiving a mean 9.4 ± 3.4 different medications, including 2.5 ± 0.7 antihypertensive drugs. Mean SBP was 118 ± 11mmHg, DBP 65 ± 10 mmHg and HR 71 ± 12 bpm. The 3-year follow-up of this trial will be completed in July 2024.

**Conclusions:** Despite the highly challenging difficulties in NHs caused by the COVID-19 pandemic, we were able to complete the enrolment of the residents and to respect the follow-up protocol. RETREAT FRAIL will be the first randomized trial to study the long-term impact on morbidity/mortality of a standardized down-titration of antihypertensive treatment in very old frail patients, i.e., those who have so far been completely excluded from clinical trials.

## Cognition and Dementia

### P-145

#### ASTCOQ02, a natural telomerase activator, lengthens telomeres in humans and improve evoked potential and cognitive tests in a middle-aged population

de JAEGER Christophe (1)

(1) Institut de médecine et physiologie de la longévité

It is now well established that the size of telomeres decreases with advancing age and constitutes an essential factor in cellular senescence and neurodegenerative pathologies linked to aging. Certain enzymes, telomerases are able to lengthen the DNA molecule and fight against this shortening of telomeres during advancing age. We conducted a randomized, double-blind study comparing a telomerase activator derived from astragalus, ASTCOQ02 versus placebo, in 40 healthy volunteers (24 women and 16 men, mean age 56.1 ± 6.0 years), receiving either the active product or the placebo for 6 months. The subjects were assessed at M0, 1, 3 and 6 months with a health questionnaire, physical examination, measurement of telomere size by HT Q-FISH fluorescence in situ hybridization technique; biological assessment, measurement of cognitive evoked potentials in electroencephalography, with evaluation of the P300 (indicator of the quality of cortical activities, and cerebral aging) and Rey's 15-word test (evaluating short-term learning abilities and the deficit cognitive). The subjects of the ASTCOQ02 group had at 6 months compared to the control population, a significant increase in the size of the median telomeres and of the short telomeres, as well as a significant reduction in the percentage of short telomeres. Conversely, a stability or reduction in the size of the median and short telomeres was observed in the placebo group between M0 and M6, as well as a stability in the percentage of short telomeres. The measurement of late cognitive evoked potentials P300 showed a significant improvement in P300 in the ASTCOQ02 group at the end of the study and compared to the control population. Similarly, Rey's 15-word test showed a significant

improvement in cognitive learning abilities between M0 and M6 in the ASTCOQ02 group, whereas there was no difference at M6 in the placebo group. This randomized double-blind study shows that the ASTCOQ02 telomerase activator, compared to a control population, increases the size of the median and short telomeres, reduces the percentage of short telomeres and improves the cognitive abilities of the treated subjects.

## P-146

### Investigation of the oxidative stress evaluating dynamic thiol-disulphide homeostasis and ischemia modified albumin in mild cognitive impairment disease

Sabri Engin Altıntop (1), Emine Feyza Yurt (2), Gözde Şengül Ayçiçek (3), Salim Neşelioğlu (2), Özcan Erel (2), Burcu Balam Doğu (4), Mustafa Cankurtaran (4), Meltem Halil (4)

(1) Hacettepe University Faculty Of Medicine, Department of Internal Medicine, (2) Yıldırım Beyazıt University, Faculty of Medicine, Department of Biochemistry, Ankara, Turkey., (3) Kırıkkale University Faculty of Medicine, Department of Internal Medicine, Division of Geriatric Medicine, Kırıkkale, Turkey, (4) Hacettepe University Faculty of Medicine, Department of Internal Medicine, Division of Geriatric Medicine, Ankara, Turkey

**Introduction:** Mild cognitive impairment (MCI) is a transitional stage between aging and Alzheimer's disease (AD). Oxidative stress plays a crucial role in the pathophysiology of both diseases. The goal of this study is to investigate the oxidative stress in MCI using the dynamic thiol-disulphide homeostasis and ischemia modified albumin (IMA) and to compare these biomarkers among the control, MCI, and AD groups.

**Methods:** A total of 128 patients, 44 with normal cognitive function, 44 with MCI, and 40 with AD were included. Total thiol, native thiol, and IMA levels of each participant were measured, and the amounts of dynamic disulfide bonds and IMA-R ratios were calculated.

**Results:** Total and native thiol levels were found to be lower in AD than the MCI and control groups and lower in MCI than the control group ( $p = 0.419$  and  $p = 0.156$ , respectively). The amounts of disulfide bonds, IMA, and IMA-R levels were similar between the three cognitive groups. A low level of negative correlation was found between total, native thiol levels and hypertension ( $r = -0.207$ ,  $p = 0.019$ ;  $r = -0.201$ ,  $p = 0.023$ ).

**Key Conclusions:** These oxidative stress markers might be used as diagnostic or prognostic biomarkers for AD or MCI. Given the well-known role of oxidative stress in MCI and AD, larger prospective studies are needed.

## P-147

### Telehealth applications used for self-efficacy levels of family caregivers for individuals with dementia: A systematic review and Meta-analysis

Burcu Akpınar Söylemez (1), Ecem Özgül (2), Özlem Küçükgüçlü (1), Görsev Yener (2)

(1) Dokuz Eylül University, (2) Izmir University of Economics

**Background:** The effectiveness of telehealth applications for family caregivers of individuals with dementia remains unclear. The aim of this study is to investigate how telehealth-based interventions applied for family caregivers of individuals with dementia affect their self-

efficacy levels, caregiving burden, stress, depression, and quality of life.

**Materials and Methods:** This was a systematic review. Screening took place between April 30 and May 5, 2022, for the scope of the past 10 years (January 2012/May 2022). The related studies were screened over ten (10) databases and search engines both in English and Turkish, including CINAHL, Cochrane Library, MEDLINE, PsycINFO, PubMed and Web of Science, ULAKBIM, Turkish Medline, Türkiye Klinikleri, and YOK National Thesis Center. Keywords included in various medical topic titles identified upon consultation with literature review experts from a library. Methodological quality of the studies was evaluated using Critical Appraisal Checklists developed by the Joanna Briggs Institute for experimental and quasi-experimental studies. The data were synthesized by meta-analysis.

**Results:** Two hundred and twelve (212) records were accessed in the databases. Of that, 12 studies (covering 1,013 caregivers) were selected for the meta-analysis. Statistically, the self-efficacy mean score was significantly higher in the intervention group than the control group after the intervention (SMD: 1.08,  $Z = 3.12$ ,  $p = 0.002$ ). The effectiveness of telehealth-based applications for caregivers' caregiving burden, stress, depression and quality of life—except for self-efficacy—was evaluated. The results of the intervention and control groups were similar after the intervention (SMD:  $-0.17$ ,  $Z = 0.82$ ,  $p = 0.41$ ; MD:  $-0.60$ ,  $Z = 0.49$ ,  $p = 0.63$ , SMD:  $-0.04$ ,  $Z = 0.13$ ,  $p = 0.98$ ; SMD:  $0.15$ ,  $Z = 0.47$ ,  $p = 0.64$ , respectively).

**Conclusions:** This systematic review and meta-analysis showed that telehealth applications were effective in elevating the self-efficacy levels of caregivers of individuals with dementia. However, no statistically significant difference was observed in terms of caregiving burden, stress, depression, or quality of life for caregivers.

**Keywords:** Caregiver; Dementia; Meta-analysis; Self-efficacy; Systematic review; Telehealth.

## P-148

### A Cross-sectional Study on Burnout of Family Carers of Older Adults with Dementia in Greece

Marianna Mantzorou (1), Athena Kalokairinou (2), Marina Economou (3), Panagiota Sourtzi (2), Antonis Politis (3), Antonis Mougias (4), Dimos Mastrogiannis (5), Evmorfia Koukia (2)

(1) Nursing Department, University of West Attica, Athens, Greece, (2) Nursing Department, National and Kapodistrian University of Athens, Greece, (3) 1st Department of Psychiatry, Department of Medicine, National and Kapodistrian University of Athens, Greece, (4) Greek Psychogeriatric Association, "Nestor", Greece, (5) General Department of Lamia, University of Thessaly, Greece

**Introduction:** As the needs of older persons with dementia increase, family caregivers who cannot modify their strategies according to the demands of care, experience high levels of burden which gradually turns into burnout. Aim of the study: To investigate the factors contributing to burnout of family carers of older adults with dementia.

**Material and Methods:** A cross-sectional study on a convenience sample of 153 pairs of family caregivers and patients who attended 3 day-care centers in Attica, Greece, was carried out through sociodemographic and clinical data questionnaires, the Neuropsychiatric Inventory Questionnaire (NPI) and the Maslach Burnout Inventory (MBI).

**Results:** The mean age was 59.6 for caregivers and 79.42 for patients. The majority of caregivers were women (76.5%), daughters (50.3%), married (72.5%), living in the same house as the patient (45.8%), not

attending supportive groups (76.5%). They experienced moderate levels of emotional exhaustion and personal accomplishments and low level of depersonalization thus a moderate to low level of burnout. Higher distress in NPI scale was a prognostic factor for emotional exhaustion ( $p < 0.001$ ), depersonalization ( $p < 0.001$ ) and low personal accomplishments ( $p = 0.014$ ). Older age of patients ( $p < 0.001$ ), more years of care ( $p = 0.019$ ) and more hours of daily care ( $p = 0.013$ ) were prognostic factors for emotional exhaustion. Non-attendance of support groups was a prognostic factor for low personal accomplishments ( $p = 0.043$ ).

**Key Conclusions:** The burnout experienced by family caregivers indicates that there is a need for development of educational and supportive programs for caregivers so as to be able to manage the patients' behavioral symptoms as well as their own emotions.

## P-149

### Low-Grade Systemic Inflammation is Associated with Cognitive Decline in Community-Dwelling Older Adults: Data From TUDA

Adam Dyer (1), Helene McNulty (2), Aoife Caffrey (2), Shane Gordon (2), Eamon Laird (3), Leane Hoey (2), Catherine Hughes (2), Mary Ward (2), JJ Strain (2), Maurice O'Kane (4), Fergal Tracey (5), Anne Molloy (6), Conal Cunningham (7), Kevin McCarroll (7)

(1) Age-Related Healthcare, Tallaght University Hospital, (2) Nutrition Innovation Centre for Food and Health, School of Biomedical Sciences, Ulster University, Coleraine, Northern Ireland, (3) 4. Department of Physical Education and Sport Science, University of Limerick, (4) 5. Clinical Chemistry Laboratory, Altnagelvin Hospital, Western Health and Social Care Trust, Londonderry, Northern Ireland, (5) 6. Causeway Hospital, Northern Health and Social Care Trust, Coleraine, Northern Ireland, (6) 7. School of Medicine, Trinity College Dublin, Ireland, (7) 8. Mercer's Institute for Successful Ageing, St James's Hospital, Dublin

**Introduction:** Studies examining relationships between chronic inflammation and cognitive impairment in older adults have been limited by small sample sizes and yielded heterogeneous results. Whether serum inflammatory markers reflect early pathological changes or modify the risk posed by established risk factors for cognitive impairment is not currently clear.

**Methods:** In the Trinity Ulster Department of Agriculture (TUDA) study ( $n = 3,270$ ,  $73.1 \pm 7.9$  years; 68.4% female), we assessed the relationships between serum IL-6, IL-10 and TNF- $\alpha$  and domain-specific cognitive performance (RBANS: Repeatable Battery for Assessment of Neuropsychological Status) at baseline and 5 years in older adults without established dementia.

**Results:** Higher IL-6 (OR: 1.33, 1.06–1.66,  $p = 0.01$ ), TNF- $\alpha$  (OR: 1.35, 1.09–1.76,  $p = 0.01$ ) and IL-6:IL-10 Ratio (OR: 1.43, 1.17–1.74,  $p = 0.01$ ) were cross-sectionally associated with impaired global RBANS performance. For specific domains, greatest effect sizes were observed between higher TNF- $\alpha$  and poorer visual-spatial and attention performance. Longitudinally, higher baseline IL-6:IL-10 ratio was associated with incident impairment in global performance (OR: 1.67; 1.03, 2.72,  $p = 0.04$ ), immediate memory (OR: 1.69; 1.04, 2.66,  $p = 0.04$ ) and visual-spatial function (OR: 1.68; 1.01–2.82,  $p = 0.04$ ). Whilst biological sex significantly modified many of these associations (stronger in females), effects were not modified by age or APOE  $\epsilon 4$  genotype.

**Key Conclusions:** Low-grade systemic inflammation was cross-sectionally and longitudinally associated with impaired global and domain-specific cognitive performance in older adults without established dementia. Associations were stronger in females in comparison to males.

## P-150

### Long-Term Antipsychotic Use is Longitudinally Associated with Orthostatic Hypotension and Falls in Older Adults with Alzheimer's Dementia

Adam Dyer (1), Claire Murphy (1), Robert Briggs (2), Helena Dolphin (1), Brian Lawlor (3), Sean Kennelly (1)

(1) Age-Related Healthcare, Tallaght University Hospital, (2) Mercer's Institute for Successful Ageing, St James's Hospital, Dublin, (3) Global Brain Health Institute, Trinity College Dublin

**Introduction:** Antipsychotics are commonly used in older adults with Alzheimer's Dementia (AD). Whilst frequently referenced as causing Orthostatic Hypotension (OH), the exact relationship between antipsychotic use and OH has never been explored in older adults with AD, whom may be more vulnerable to OH, neuro-cardiovascular instability and falls.

**Methods:** We assessed the effect of antipsychotic use on orthostatic Blood Pressure (BP) phenotypes (classical/delayed OH and sit-to-stand OH) assessed on eight occasions over 18-months in older adults with mild-moderate AD. We further assessed the relationship between antipsychotic use, OH phenotypes and falls. Mixed-effects logistic and Poisson regression models was used were adjustment for important clinical covariates.

**Results:** Of 509 older adults ( $72.9 \pm 8.3$  years, 61.9% female), 10.6% ( $n = 54$ ) were prescribed a long-term antipsychotic. Over 18-months, ongoing antipsychotic use was associated with a greater likelihood of experiencing sit-to-stand OH (ssOH) (OR: 1.21; 1.05–1.38,  $p = 0.009$ ) which persisted following covariate adjustment. Antipsychotic use was associated with incident falls over 18-months (IRR: 1.80, 1.11–2.92,  $p = 0.018$ ). Further, ssOH was independently associated with a greater risk of falls over 18 months in older adults with mild-moderate AD (IRR: 1.44, 1.00–2.06,  $p = 0.048$ ).

**Key Conclusions:** Even in mild-to-moderate AD, ongoing antipsychotic use was associated with experiencing ssOH and incident falls over 18 months. ssOH was independently associated with incident falls. Further attention to optimal prescribing interventions in this cohort is warranted and may involve screening older adults with AD prescribed these medications for orthostatic symptoms.

## P-151

### Older Family Caregivers' Socioeconomic Differences in Health: Evidence From The LENTO-Study

Roosa-Maria Savela (1), Tarja Välimäki (1), Outi Kiljunen (1), Irma Nykänen (2), Sohvi Koponen (2), Anna Liisa Suominen (3), Ursula Schwab (2)

(1) Department of Nursing Science, University of Eastern Finland, Kuopio, Finland, (2) Institute of Public Health and Clinical Nutrition, School of Medicine, University of Eastern Finland, Kuopio, Finland, (3) Institute of Dentistry, School of Medicine, University of Eastern Finland, Kuopio, Finland

**Introduction:** Aging societies require sustainable solutions to support older adults in the future. However, little is known about older family caregivers' social determinants of health. Therefore, it would be necessary to assess their socioeconomic differences in cognitive functioning, frailty, and comorbidity.

**Methods:** This study included 125 family caregivers from Eastern Finland. They were recruited from rural and urban municipalities in 2019. Data on family caregivers were collected at their households

between June 2019 to December 2019. First, caregivers were assessed on frailty using the abbreviated Comprehensive Geriatric Assessment, cognitive functioning with Mini-Mental State Examination (MMSE), comorbidity with the modified Functional Comorbidity Index, and socioeconomic factors. Then, the socioeconomic differences in health were assessed using the Independent Samples t-test, Pearson Chi-square test, and binary logistic regression analysis.

**Results:** Study participants' age ( $\geq 76$  y) was associated with minor cognitive impairment, comorbidity, and frailty. The lowest caregiving payment class also predicted frailty (odds ratio [OR] = 3.0, 95% confidence interval [CI] 1.1–6.3). Family caregivers with the highest educational status ( $\geq 16$  years) had the highest cognitive functioning ( $p < 0.001$ ). Similarly, family caregivers with the highest household monthly net income ( $\geq 3501$  euros) had the highest cognitive functioning ( $p = 0.005$ ). However, after the multivariable analysis, lower education was the main factor predicting minor cognitive impairment (OR = 0.70, 95% CI 0.60–0.87).

**Key Conclusions:** Older family caregivers may have some social stratification in cognitive functioning. A full assessment of family caregivers' social determinants of health is needed to improve their later lives.

## P-152

### An audit on the use of guardianship in people suffering from dementia residing at Saint Vincent De Paul Long Term Care Facility (SVPR)

Lara Camilleri (1), Damilola Dickson Tunde (2)

(1) Saint Vincent De Paul Long Term Care, (2) Mater Dei Hospital

**Introduction:** Dementia is a neurodegenerative disease that affects cognitive, physical, and behavioural abilities. To date, there is no effective disease-modifying treatment [1]. Advanced care planning (ACP) is crucial in dementia management [2]. An essential ACP component involves appointing a legal proxy to act in the patient's best interest should they lose mental capacity. Titles vary according to the country's legislature and may include guardianship, power of attorney, or Next of kin (NOK). Guardianship is included in the NICE dementia management guidelines (NG97) [2]. This audit aims to identify the proportion of dementia patients who have a legal guardian.

**Method:** Patients residing in all nine dementia wards at SVPR were recruited ( $n = 203$ ). A diagnosis of dementia is a requirement for admission. Data was collected retrospectively from the patient's medical records and their caring team. September 2022 to October 2022 comprised the data gathering period.

**Results:** Only 7 patients had a guardianship present (3%). The patients' children (57.1%) were more likely to apply for guardianship, followed by the patients' spouses (28.6%). 196 patients (97%) did not have guardianship. 5 of these had a power of attorney (type not specified); 190 patients had a relative or friend listed as the NOK; and one patient had no legal guardian or NOK. The guardianship status and NOK information were clearly documented.

**Conclusion:** Guardianship has the potential to reduce medicolegal issues, improve patient autonomy, and increase the likelihood of a best interest decision. However, it is not widely used. More education on medicolegal issues in dementia may be indicated.

#### References:

- Regier NG, Hodgson NA, Gitlin LN (2017), 'Characteristics of Activities for Persons With Dementia at the Mild, Moderate, and Severe Stages' *Gerontologist*; 57 (5) :987–997. <https://doi.org/10.1093/geront/gnw133>.

2. National Institute for Health and Care Excellence (NICE, 2018), 'NG97: Dementia: assessment, management and support for people living with dementia and their carers' [online]. Available from <https://www.nice.org.uk/guidance/ng97>.

## P-153

### Prevalence and factors associated with amyloid cerebral pathology in older adults with frailty and cognitive impairment

Sandrine SOURDET (1), Gaëlle Soriano (1), Laure Saint Aubert (1), Bruno Vellas (1)

(1) Gerontopole of Toulouse, Institute of Ageing, Toulouse University Hospital (CHU Toulouse), Toulouse, France

**Context:** Amyloid brain deposition may be associated with frailty and cognitive decline in older adults. The main objective of this study is to evaluate the prevalence of subjects with a positive amyloid cerebral status in cognitively frail older adults. A secondary objective is to evaluate factors cross-sectionally associated with amyloid and frailty status in this population.

**Methods:** The COGFRAIL study is an observational study of frail and pre-frail (meeting  $\geq 1$  Fried criteria) older adults with cognitive impairment (Clinical Dementia Rating Scale at 0.5 or 1, and with Mini Mental State Examination score  $\geq 20$ ). Cerebral amyloid pathology was assessed in 215 subjects using amyloid Positron Emission Tomography (PET) or amyloid-beta ( $A\beta$ ) level in cerebrospinal fluid (CSF). Positive amyloid status was determined using either cortical/cerebellum standardized uptake value ratio (SUVR) or abnormal CSF-amyloid-1–42 or CSF  $A\beta_{42}/A\beta_{40}$  ratio values. Clinical (socio-demographics, comorbidities), physical (Fried criteria, Short Physical Performances Battery), nutritional (MNA score, BMI), cognitive (neuropsychological battery), biological and MRI data were collected at baseline, and confronted to amyloid and frailty status. Prefrail subjects with positive amyloid status (PFA+) were compared to 1) prefrail subjects with negative amyloid status (PFA-), 2) to frail subjects with positive amyloid status (FA+), and 3) to frail subjects with negative amyloid status (FA-).

**Results:** At baseline, within the 215 participants with an amyloid status, the mean age was 82.5 ( $\pm 4.9$ ) years, 65.6% women, 43.3% were frail ( $\geq 3$  frailty criteria) and 56.7% pre-frail (1 or 2 frailty criteria). The mean MMSE score was 24.5 ( $\pm 4.9$ ). A total of 27.4% subjects were apolipoprotein E4 carriers. The prevalence of subjects with amyloid positive status was 58.1% (CI 95% 51.2–64.8%) ( $n = 199$  with PET and  $n = 16$  with CSF). There was no significant difference between prevalence of amyloid positive status between prefrail (63.1%) and frail (51.6%) subjects (adjusted  $p = 0.190$ ). Compared to PFA+ subjects, PFA- subjects had significantly less impairment on memory tests. FA- subjects were less frequently independent (Activities of Daily Living score), and had a slower gait speed than PFA+ subjects. There were no other significant differences between PFA+ and PFA-, FA+ and FA- subjects.

**Conclusion:** Prevalence of amyloid cerebral pathology is high in older adults with cognitive frailty. Frail subjects have worse functional and physical functions than PFA+ subjects. The absence of amyloid deposition is associated with better cognitive performances only in the prefrail population, but not in FA subjects. Longitudinal data are needed to determine the potential role of amyloid status and frailty in the cognitive and physical prognosis of older adults with cognitive frailty.

**P-154****Health Care And Social Services For Persons with Dementia In Care Institutions of Vilnius City**

Jurate Macijauskienė (1), Karina Sakalauskaitė (2)

(1) Department of Geriatrics, Lithuanian University of Health Sciences, (2) Department of Public Health Management, Lithuanian University of Health Sciences

**Aim of the study:** To assess the services for persons with dementia (PWD) in care institutions of Vilnius City.

**Objectives:** (1) to analyse the range and scope of services provided to PWD and their relatives in care institutions; (2) to identify the reasons, needs, and expectations of relatives of PWD who are referred to institutions; (3) to assess the views of care home staff on the organisation and need for services for PWD; (4) to assess the need for the development of services for PWD in care institutions in Vilnius City.

**Methods:** Two surveys were carried for: (1) relatives of PWD (N = 149); (2) professionals working with PWD in Vilnius care institutions (N = 132).

**Results:** The survey revealed that relatives of PWD lack healthcare services such as medical consultations and social services such as employment programmes and communication from the care facility. There is a desire for more art-related activities in care institutions and for activities to be more tailored to PWD. The staff of care institutions rate the organisation of services for PWD as average. Challenges in service provision are caused by relatives' high expectations, lack of understanding of the situation and lack of knowledge about dementia syndrome.

**Conclusions:** relatives of PWD turn to care institutions due of their limited capacity to care for their relative at home and the need for professional services; the staff of care institutions rate the organisation of services for PWD as average due to staff shortage, high fatigue, lack of staff competence, burnout, relatives' over-expectations.

**P-155****The PROMOTE Study: A randomised controlled trial of prebiotic supplementation in older twins to improve physical and cognitive performance**

Mary Ni Lochlainn (1), Ruth C.E. Bowyer (1), Stephen D.R. Harridge (2), Ailsa Welch (3), Carolyn Greig (4), Kevin Whelan (5), Claire J Steves (1)

(1) Department of Twin Research and Genetic Epidemiology, KCL, UK, (2) Centre for Human & Applied Physiological Sciences, King's College London, London, UK, (3) Department of Public Health and Primary Care, Norwich Medical School, University of East Anglia, UK, (4) School of Sport, Exercise, and Rehabilitation Sciences, University of Birmingham, Birmingham, United Kingdom; MRC-Versus Arthritis Centre for Musculoskeletal Ageing Research, Birmingham, United Kingdom; NIHR Birmingham Biomedical Research Centre, University Hospitals Birmingham NHS Foundation Trust and University of Birmingham, UK, (5) Department of Nutritional Sciences, KCL, UK

**Introduction:** There is a growing body of evidence linking the microbiota in the human gut, to muscle and brain health. Prebiotics have been shown to improve frailty index in older adults. The PROMOTE trial aimed to test whether the gut microbiome mediates anabolic resistance of skeletal muscle to protein supplementation in older adults, using a prebiotic intervention. A secondary objective

was to test whether gut microbiome modulation improved cognition versus placebo.

**Methods:** Double blinded randomised placebo-controlled trial using twin pairs. We recruited those aged  $> = 60$ , with low protein intake, and access to a computer (due to remote trial delivery). One twin received protein supplementation plus placebo and the other received protein supplementation plus a prebiotic. Intervention period was 12 weeks; 1 sachet of supplement daily and regular resistance exercises.

**Results:** Target sample size was 70 individuals. 626 were screened 72 randomised (36 pairs). More adverse events occurred in the prebiotic group (n = 8 versus n = 2; p = 0.041), but compliance remained high in both groups (% adherence  $> 78\%$  in each; p = 0.37). There was no significant difference between arms for the primary outcome of chair rise time (coefficient 0.184; 95% CI  $-0.569-0.938$ ; p = 0.631). The prebiotic arm had an improved cognition factor score versus placebo (coefficient 0.482; 95% CI 0.823–0.141; p = 0.014).

**Conclusions:** Prebiotic supplementation did not improve muscle strength versus placebo in this time frame. However, it did improve cognition versus placebo. This cheap and scaleable intervention holds huge promise for improving cognition and/or preventing cognitive decline in our ageing population.

**P-156****Cognition in older adults with healthy aging: Analysis of the Mexican Study Health and Aging 2012–2015**

José Daniel Garza-Guerra (1), Sara G. Yeverino-Castro (2), Ricardo Salinas-Martinez (1), Cécica R. Gonzalez-Galván (3), Gabriela E. Aguilar-Díaz (1), Rocío Morales-Delgado (1)

(1) Hospital Universitario "Dr. José Eleuterio Gonzalez", (2) CHRISTUS Center of Excellence and Innovation, (3) Hospital Universitario "Dr. José Eleuterio Gonzalez"

**Introduction:** Maintaining older adults' health and well-being can be achieved through the optimization of physical and mental health, while preserving independence, social participation, and quality of life. Cognitive change has been described as a normal process of aging and it involves domains such as processing speed, attention, memory, language, visuospatial abilities, and executive functioning, among others.

**Objective:** To describe cognitive changes in older adults with healthy aging.

**Methods:** This is a study that involved data from 14,893 and 14,154 individuals aged  $> 60$  years or older from the 2012 and 2015 waves, respectively, who participated in the Mexican Health and Aging Study (MHAS). Participants with healthy aging were identified and described in the MHAS-2012 wave and followed to 2015. Eight cognitive domains evaluated in the Cross-Cultural Cognitive Evaluation (CCCE), as well as sociodemographic and health characteristics, were described. Criteria for healthy aging involved the following: CCCE  $\leq 1.5$  standard deviations above the mean on reference norms, independence on basic and instrumental activities of daily living, self-reported "life close to ideal", and preserved functional and social performance.

**Results:** From a total of n = 9,160 older adults from the MHAS-2012 wave, n = 1,080 (11.8%) had healthy aging. In the healthy aging group, the median age was 67 years (IQR: 63–73), 58.1% were female and the median for education was 6 (IQR: 3–8) years. The mean CCCE score was 57 (SD: 16.9) points. In the MHAS-2012 cross-sectional analysis, except for orientation, visuospatial abilities, and verbal fluency, all cognitive domain scores (medians) decreased with age. When comparing cognitive domain scores in the 225 older adults identified with healthy aging between the 2012 and 2015 MHAS

waves, only the verbal recall domain had a lower interquartile range [5 (IQR: 4–6), vs 5 (IQR: 3–6), respectively,  $p = 0.044$ ]. There was no significant difference in all other cognitive domains.

**Conclusion:** In this analysis, Mexican adults with healthy aging had a lower score in the verbal recall memory domain, between the MHAS 2012 and 2015 waves, while other cognitive domains remained with no change. Longer prospective studies are needed to characterize greater cognitive changes.

## P-157

### A systematic review of the effect of preoperative exercise training on postoperative cognitive function in people undergoing surgery

Hatice Sirin EKICI (1), Mehmet Cagatay YILDIRIM (1), Aysegül Humeyra KAFADAR (1), Jemima COLLINS (1), Bethan E. PHILLIPS (1), Adam L. GORDON (1)

(1) The University of Nottingham

**Background:** With population ageing and advances in surgical and anaesthetic procedures, the incidence of surgery in patients over the age of 65 years is increasing. However, one postoperative complication often encountered by older surgical patients is postoperative cognitive dysfunction (POCD). Preoperative exercise training can improve the overall physiological resilience of older surgical patients, yet its impact on postoperative cognition is less well established.

**Methods:** Six databases (Medline (OVID); EMBASE (OVID); EMCARE (OVID); CINAHL (EBSCOHost), the Cochrane Library, and PubMed) were searched for studies reporting the effect of preoperative physical training on postoperative cognition. Quality of evidence was assessed using the Mixed methods Assessment Tool.

**Results:** A total of 3117 studies were initially identified, three of which met the inclusion criteria for this review. Two studies were pilot randomized trials, and one a prospective randomized trial. Two of the studies were high-quality, and each study used a different type of physical exercise and cognition assessment tool. Across the studies postoperative cognition ( $p = 0.005$ ) and attention ( $p = 0.04$ ) were found to be better in the intervention groups compared to control, with one study reporting no difference between the groups.

**Conclusion:** Preoperative physical training may improve postoperative cognitive function, although more research with a consistent endpoint is required for affirmation of this. Future studies should focus on those patients at high-risk of POCD, such as older adults, and explore the impact of different exercise regimes, including frequency, intensity, time and type.

**Key words:** cognition, surgery, exercise, prehabilitation, operative.

## P-158

### Family caregivers can use UH online course to improve the nutritional statuses of severe dementia patients

Manhua Yang (1), Yichun Lin (2)

(1) Assistant professor of National Yang Ming Chiao Tung University, (2) graduate student of National Yang Ming Chiao Tung University

**Background:** The disease degradation and eating difficulty of patients with severe dementia interfere with eating, which has a negative impact on their nutritional status. Family caregivers feel pressure to take care of patients with food refusal. The purpose of this study is to help family caregivers learn Hand Under Hand (UH) online courses to reduce abnormal eating behaviors and improve

nutritional status of patients with severe dementia, while reducing their own care burden.

**Method:** This study adopted a quasi-experimental design and collected cases from a neurology outpatient department at a medical center in Taipei City. The cases were randomly divided into an experimental group ( $n = 32$ ) and a control group ( $n = 33$ ). A pretest (T1) was conducted. Family caregivers of the experimental group were arranged to watch 2-h UH online courses to learn feeding techniques by hand, and research data was collected and tracked in the first month (T2) and third month (T3) of the study.

**Results:** The abnormal eating behaviors of the experimental group were significantly improved in both T2 and T3, and the improvement became more significant over time. The tracked nutritional status of the experimental group improved in T3. The Caregivers' burden in the experiment group also decreased significantly in T3.

**Conclusion:** By utilizing the accessibility of the online courses, family caregivers can effectively use UH feeding techniques to improve the nutritional status and abnormal eating behaviors of patients with dementia and at the same time reduce their own care burden.

## P-159

### Self- And Relatives Reported Executive Function Measured by Brief-A After Computerized Working Memory Training in Individuals with Mild Cognitive Impairment

Per Nordnes (1), Trine Holt Edwin (2), Marianne Mørretrø Flak (3), Anne Brita Knapskog (2), Gro Løhaugen (3), Jon Sverre Skranes (3), Haakon Ramsland Hol (2), Susanne S. Hernes (1)

(1) Sørlandet Hospital, University of Bergen, (2) Oslo University Hospital, (3) Sørlandet Hospital

**Introduction:** Self-reported outcome measures are rarely reported in individuals with MCI. Furthermore, the effect of computerized working memory training assessed by self- and relatives- scored executive function measures have not previously been reported.

**Methods:** A total of 58 individuals with MCI (mean age 66 years, males 72%) and 58 corresponding relatives recruited from five memory clinics in Southern Norway were included in this trial. The individuals underwent a 5-week/20–25 sessions computerized working memory training program. Both individuals and relatives scored the "Behavior rating inventory of executive function for adults" (BRIEF-A) before, and at least 3 months after finalizing training.

**Results:** At baseline, a significant differences were found between self and relatives in the BRIEF-A domains Behavioral Regulatory Index, Metacognitive Index, Global Executive Composite ( $p > 0.001$ ), and for Brief Working Memory (WM) ( $p = 0.013$ ). After training, significant differences were found between self and relatives reported measures in all domains ( $p < 0.001$ ). Significant changes were found after training on self-reported WM (mean 3,44,  $p = 0.0015$ ), GEC (mean 2,73,  $p = 0.123$ ) and MI (mean 3,44,  $p = 0.0015$ ). No significant changes were found for relatives reported scores between the two timepoints.

**Key Conclusions:** Self-reported scores for individuals with MCI improved in three domains after working memory training. No difference were found in relatives reports. Self- and relative reported scores remained significantly different at all timepoints. This has impact for self-reported measures in an MCI population, and represents findings important for further studies.

**P-160****Most or all Teeth Lost as a Risk Factor for Cognitive Impairment in Older Chileans**

Cecilia Albala (1), Carlos Marquez (1), Moises Sandoval (1), Rodrigo Saguet (1), Walter Díaz (2)

(1) Institute of Nutrition Universidad de Chile, (2) Dep Oral Rehabilitation, Dental School, Universidad de Chile

**Introduction:** Teeth loss and the consequent impairment of masticatory function play an important role in the brain's functional activity and consequently have been shown as a risk factor for cognitive impairment and dementia.

**Objective:** To determine the risk of cognitive impairment associated with teeth loss and edentulism in Chilean elders.

**Methods:** A cohort study in 1298 (65.7% women, mean age  $72.2 \pm 8.1$  y) community-dwelling people 60y and older living in Santiago/Chile, participants of ALEXANDROS. People reporting the loss of all or most teeth were considered at risk. Cognitive impairment was identified with MMSE with cut points validated for Chile. The participants were followed from 5 to 15 years to determine the incidence of cognitive impairment according to teeth loss.

**Results:** At baseline, we analysed 1298 (65.7% women) participants with oral health data, with a mean age of  $72.2 \pm 8.1$  y, from the cohort study ALEXANDROS. Of the participants, 12.5% had cognitive impairment and 74.2% (69.9% of men and 76.4% of women) manifested to have lost many or all teeth. The crude OR for cognitive impairment was 1.62% CI 1.05–2.54. After 2185.3 person/years of follow-up of people without cognitive impairment, the Cox regression for the risk of cognitive impairment associated with loss of all or most of the teeth showed an HR of 2.41 (95% CI 1.15–5.06) adjusted by sex, education, age, and depression symptoms.

**Conclusion:** Considering the rapid ageing of the population and the growing prevalence of neurodegenerative diseases concomitantly with the high prevalence of edentulism in older Chileans makes mandatory programs and policies to address early oral health problems in the population.

**P-161****Association Between Dietary Patterns and Prevalence of Dementia in Large-Scale Elderly Japanese Population by Higher-Resolution Quantification of White Matter Lesions**

Liyang Chen (1), Yasuko Tatewaki (1), Benjamin Thyreau (1), Kazuhiro Uchida (2), Hikari Iki (1), Shigeyuki Nakaji (3), Tetsuya Maeda (4), Moeko Noguchi-Shinohara (5), Masaru Mimura (6), Kenji Nakashima (7), Junichi Iga (8), Minoru Takebayashi (9), Toshiha

(1) Tohoku University, Sendai, Japan, (2) Nakamura Gakuen University, Fukuoka, Japan, (3) Hirosaki University, Hirosaki, Japan, (4) Iwate Medical University, Iwate, Japan, (5) Kanazawa University, Kanazawa, Japan, (6) Keiko University, Tokyo, Japan, (7) Matsue Medical Center, Shimane, Japan, (8) Ehime University, Ehime, Japan, (9) Kumamoto University, Kumamoto, Japan, (10) Kyusyu University, Fukuoka, Japan, (11) Japan

**Introduction:** To our knowledge, no previous reports investigated the association between dietary patterns, dementia, and white matter lesions (WML) in large-scale Japanese populations.

**Methods:** This study included 8938 old adults ( $73 \pm 6.3$  years old) from Japan Prospective Studies Collaboration for Aging and Dementia (JPSC-AD) Cohort. The principal component analysis was used to determine dietary patterns. A trained Convolutional Neural

Network model was used to segment WML on MRI. Binary logistic regression was used to compute odds ratios (OR) of dementia according to quartiles of scores for dietary patterns. Multiple linear regression was employed to examine associations between dietary patterns and WML.

**Results:** Five dietary patterns were extracted. After adjustment for potential confounders, a dietary pattern characterized by high intakes of vegetables, algae, potatoes, fish, fruits, egg, meat, pickles, soybeans and soybean products, milk and dairy products, and low intakes of alcoholic drinks, sugar and confectioneries, was significantly associated with a lower prevalence of all-cause dementia (OR of the highest quartile vs. lowest, 0.56; 95% CI 0.39, 0.79;  $P = 0.006$ ), and similarly for AD (OR = 0.47; 95% CI 0.32, 0.69;  $P < 0.001$ ). This dietary pattern was associated with less WML ( $\beta = -0.03$ ; 95% CI  $-0.05, -0.01$ ;  $P = 0.001$ ).

**Key Conclusions:** Our findings suggest that higher adherence to a Japanese diet combined with protein and minerals is associated with reduced prevalence of dementia and less WML in older Japanese populations. This study also provides new evidence that WML may mediate the effects of diet on dementia.

**P-162****The association of sleep and cognitive function during retirement transition: the Finnish Retirement and Aging Study**

Tea Teräs (1), Saana Myllyntausta (2), Suvi Rovio (3), Jaana Pentti (4), Jesse Pasanen (4), Sari Stenholm (4)

(1) Department of Public Health, University of Turku, Turku, Finland, (2) Department of Psychology and Speech-Language Pathology, University of Turku, Turku, Finland, (3) Research Center of Applied and Preventive Cardiovascular Medicine, University of Turku, Turku, Finland, (4) Department of Public Health, University of Turku and Turku University Hospital, Turku, Finland

**Introduction:** Decline of cognitive function has been previously shown to accelerate after retirement transition. It has also been suggested that changing sleeping habits during retirement transition are associated with the change in cognitive function. However, previous studies have mainly focused on post-retirement period, and it remains unclear how cognitive function changes in a shorter time period around retirement transition.

**Methods:** The study population consisted of 242 Finnish Retirement and Aging Study participants who underwent cognitive testing and accelerometry-measurements before and after retirement. The participants were followed-up annually up to four times in total. Sleep duration was evaluated objectively with accelerometry, and sleep difficulties were evaluated with Jenkins Sleep Problem Scale. The participants were categorized into constantly short (49%), increasing (20%), decreasing (6.4%), and constantly mid-range (25%) sleep duration; and constantly without (36%), increasing (9.8%), decreasing (16%), and constantly with (38%) sleep difficulties. Computerized Cambridge Neuropsychological Test Automated Battery (CANTAB®) was used to evaluate Paired Associates Learning, Spatial Working Memory, Rapid Visual Information Processing, Reaction Time, and Attention Switching Task.

**Results:** Cognitive function improved in all cognitive function tests, except for reaction time, during retirement transition. There were no statistically significant associations between changes in sleep duration or sleep difficulties and cognitive function during retirement transition.

**Conclusions:** This study suggests that cognitive function slightly improves during one-year follow-up during retirement transition. This improvement is independent from the changing sleep characteristics.



**Key words:** Cognitive function, Retirement, Sleep duration, Sleep difficulties, Accelerometry.

## P-163

### Appropriate Antipsychotic Use in a Rural Canadian Hospital

Tara Powell (1), Karyn Clegg (1)

(1) Medicine Hat Regional Hospital

**Introduction:** The Alberta Guideline on the Appropriate Use of Antipsychotic Medications (AUA) was developed to provide guidance about the assessment and management of responsive behaviours associated with cognitive impairment. The guideline recommends informed verbal consent including responsive behaviours, potential clinical causes, nonpharmacological interventions, intended treatment goals and the potential side effects of antipsychotics. AUA was originally developed for implantation in Long Term Care Sector but can be applicable in Acute Care. The aim of the audit was to assess the application of this guideline to patients admitted to the Geriatrics (2N) unit in Medicine Hat Regional Hospital.

**Methods:** An audit tool based on AUA was developed and used to review the clinical records of all patients admitted to Geriatrics (2N) unit between February to May 2023.

**Results:** Sixty-seven patient records were reviewed. Seventeen patients were prescribed antipsychotic medications, including fifteen patients living with cognitive impairment. Informed consent was sought in three cases. Clinical cause identified and nonpharmacological interventions trialled in five cases. Non cognitive symptoms were identified in three cases and challenging behavior was documented in one case. The intended treatment goal was documented in two cases.

**Conclusions:** There is poor compliance with the AUA guidance within Acute Care needs to be investigated further to identify the potential barriers. The introduction of new electronic records will help with the documentation of behaviors and intended treatment goals. The team aim to design electronic form for these prescriptions in combination with educational sessions, and then reaudit.

## P-164

### Frailty and cognitive profile in patients with idiopathic normal pressure hydrocephalus, a cross-sectional study

Magnhild Skråmestø Dejgaard (1), Geir Selbæk (2), Per Kristian Eide (2), Torgeir Bruun Wyller (2)

(1) Medical Doctor, phd-student, Oslo University Hospital, (2) Professor, Faculty of Medicine, University of Oslo

**Introduction:** Cognitive profile, and in particular frailty, is sparsely studied in patients with idiopathic normal pressure hydrocephalus (iNPH). The aim of this study is to describe the preoperative cognitive and frailty profile in iNPH patients accepted for ventriculo-peritoneal shunt at Oslo University Hospital from 2018 to 2022.

**Methods:** All patients underwent a standardized cognitive examination. We calculated Z-scores for the cognitive tests as a number of standard deviations from age and education adjusted population norms. The Frailty Index was calculated from the patients' medical records.

**Results:** 201 patients were included. Median (IQR) age was 74 (70–77) years, MMSE score 27 (24–28), and Clock Drawing Test score 4 (3–5). Mean (SD) Z-scores were: Immediate verbal recall -1.56 (0.92), delayed recall -1.58 (0.86), recognition -1.50 (2.22),

phonological fluency -1.42 (1.21), semantic fluency -1.65 (1.25), Trail Making Test A -1.51 (1.12), Trail Making Test B -1.66 (1.18), Grooved Pegboard Test dominant hand -4.78 (4.10), non-dominant hand -6.31 (5.59), Stroop test colors -1.42 (0.86), and Stroop color-words -0.78 (0.79). Mean (SD) Frailty Index score was 0.24 (0.14). The most common frailty indicators were reduced physical function and reduced independence in activities of daily life.

**Conclusion:** This is the first study of frailty in an iNPH population. Most iNPH patients live with mild frailty and have reduced performance in all cognitive domains. We did not identify a specific cognitive profile. Frailty might possibly be a predictor for shunt response and may help to better select patients for shunt surgery.

## P-165

### An Integrated Solution for Sustainable Care for Multimorbid Elderly Patients With Dementia (CAREPATH) : A Study Protocol for a clinical investigation

Cristina Gómez Ballesteros (1), Elena Gómez Jiménez (2), Rubén Alcantud Córcoles (3), Angelo Consoli (4), Jaouhar Ayadi (4), Timothy Robbins (5), Wolfgang Schmidt-Barzynski (6), Oana Cramaiuc (7), Luz María Peña Longobardo (8), Mert Gencturk (9), Lionello

(1) MD, Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain., (2) RN, Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. Fundación Hospital Nacional de Paraplégicos, Toledo, Spain, (3) MD, PhD, Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. CIBERFES, Instituto de Salud Carlos III, Madrid, Spain. Fundación Hospital Nacional de Paraplégicos, Toledo, Spain, (4) Eclxys S.A.G.L, Switzerland, (5) University Hospitals Coventry and Warwickshire NHS Trust, Coventry, UK, (6) Universitätsklinikum OWL, Klinikum Bielefeld, Germany, (7) Centrul IT pentru Stiinta si Tehnologie, Romania, (8) Department of Economic Analysis and Finance, Universidad de Castilla-La Mancha, Toledo, Spain, (9) SRDC Software Research Development and Consultancy Cooperation, Ankara, Turkey, (10) Octylum, Switzerland, (11) University Hospitals Coventry and Warwickshire NHS Trust, Coventry, UK. Institute of Digital Healthcare, WMG, University of Warwick, Coventry, UK., (12) Fraunhofer Institute for Applied Information Technology FIT, Germany, (13) Institute of Digital Healthcare, WMG, University of Warwick, Coventry, UK, (14) RN, PhD, Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. Facultad de Enfermería de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain. CIBERFES, Instituto de Salud Carlos III, Madrid, Spain., (15) RN, Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. CIBERFES, Instituto de Salud Carlos III, Madrid, Spain., (16) Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain., (17) MD, PhD. Head of Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. Facultad de Medicina de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain. CIBERFES, Instituto de Salud Carlos III, Madrid, Spain

**Introduction:** Multimorbid older adults with dementia require complex care provided to them. CAREPATH is an Horizon 2020 funded project (Grant agreement ID: 945169) aiming to generate a digital health solution, supported by an Information and Communication Technology infrastructure, for care based on the current best practice guidelines, for treatment and management of multimorbid patients with Mild Cognitive Impairment (MCI) or mild dementia (MD). The main objective is to analyze the utility and effectiveness of the

CAREPATH system, acknowledged by the reduction in healthcare appointments, the improvement in Quality of Live (QoL), the reduction in unplanned care, the decrease in inappropriate prescription medicines, and the increase in the number of participants with advanced directives.

**Methods:** Prospective, multi-centre, randomized, clinical investigation with medical devices. 204 patients with MCI or MD, their informal caregivers, and healthcare professionals will be recruited, and followed for one year (26 controls/26 interventions, at each of the clinical centers in Spain, Germany, UK, and Romania). CAREPATH consists of an integrated, patient-centred, flexible and modular system that will provide a personalised care plan to patients and caregivers.

**Results:** A reduction in health appointments by 20%, an improvement in participants' quality of life by 10%, a reduction in unplanned care and appointments by 20%, a decrease in inappropriate prescribing of medications by 10%, and an increase in the number of participants with advanced directives by 25% are expected.

**Key Conclusions:** The hypothesis is that the CAREPATH system will be valid, useful and effective for the healthcare management of multimorbid older adults with MCI/MD, compared to usual care.

## P-166

### Associations between neuroinflammation and beta-amyloid accumulation in the brain in an elderly population—a 5-year follow-up study with [11C]PBR28 and [11C]PiB PET imaging

Teemu Kipinoinen (1), Juha Rinne (2), Antti Jula (3), Matti Viitanen (4), Anniina Snellman (5), Sini Toppala (6), Jouni Tuisku (5), Semi Helin (5), Laura Ekblad (7)

(1) Turku PET Centre, Finland; University of Turku, Turku, Finland; Turku University Hospital, Finland, (2) Turku PET Centre, Finland; InFLAMES Research Flagship Center, University of Turku, Turku, Finland; University of Turku, Turku, Finland; Turku University Hospital, Finland, (3) National Institute for Health and Welfare, Turku, Finland, (4) Southwest Finland Wellbeing Services County, Finland; University of Turku, Turku, Finland; Division of Clinical Geriatrics, NVS, Karolinska Institutet, Stockholm, Sweden, (5) Turku PET Centre, Finland; University of Turku, Turku, Finland, (6) Turku PET Centre, Finland; Wellbeing Services County of North Savo, Finland; University of Turku, Turku, Finland, (7) Turku PET Centre, Finland; University of Turku, Turku, Finland; Southwest Finland Wellbeing Services County, Finland

**Background:** and objectives Neuroinflammation appears to participate in the Alzheimer's disease (AD) pathogenesis. In this 5-year follow-up study we examined healthy elderly individuals using [11C]PBR28 positron emission tomography (PET) scans for neuroinflammation and [11C] Pittsburgh compound B ([11C]PiB) -PET scans for beta-amyloid (A $\beta$ ) accumulation. Our hypothesis was that neuroinflammation predicts A $\beta$  accumulation.

**Methods:** We examined 40 volunteers (median age at follow-up 74.2, 55% women, 50% APOE $\epsilon$ 4 carriers) in 2014–2016 and 2019–2021 with [11C]PBR28 and [11C]PiB PET. [11C]PBR28 and [11C]PiB binding were quantified for cortical composite region using a standardized uptake value ratio (SUVR) with respect to cerebellar cortex. We employed a linear regression model adjusted to age, sex and TSPO genotype to examine associations between [11C]PBR28 binding and [11C]PiB binding at baseline and follow-up. Associations were further evaluated based on baseline A $\beta$ -positivity (cut-off for positivity [11C]PiB SUVR = 1.5) .

**Results:** Baseline [11C]PBR28 did not predict follow-up [11C]PiB binding (slope = -0.59, p = 0.72), and baseline A $\beta$  status did not modify this association (slope = 1.01, p = 0.23 for A $\beta$ -negative;

slope = 3.85, p = 0.072 for A $\beta$ -positive). However, in cross-sectional analyses with A $\beta$ -negative individuals, [11C]PBR28 binding was associated with A $\beta$  accumulation both at baseline (slope = 1.43, p = 0.018) and at follow-up (slope = 0.68, p = 0.032).

**Conclusions:** Neuroinflammation measured with [11C]PBR28 PET, showed no association with A $\beta$  accumulation in prospective design. However, concurrent assessment revealed an association between neuroinflammation and amyloid accumulation at both timepoints. This could be attributed to the dynamic nature of neuroinflammation, suggesting that a cross-sectional design might be a more useful approach for evaluating neuroinflammation in relation to early A $\beta$  accumulation.

## P-167

### Patients' and carers' experiences and perspectives of the use of anticholinergic medications in people with dementia: analysis of an online discussion forum

Bara'a Shawaqfeh (1), Carmel Hughes (1), Bernadette McGuinness (2), Heather Barry (1)

(1) School of Pharmacy, Queen's University Belfast, Medical Biology Centre, 97 Lisburn Road, Belfast, BT9 7BL, UK, (2) Centre for Public Health, Queen's University Belfast, Institute of Clinical Sciences, Royal Victoria Hospital, Belfast, BT12 6BA, UK

**Introduction:** Anticholinergic medication use is prevalent amongst people with dementia (PwD), despite evidence that this is associated with reduced quality of life and increased mortality [1,2]. This study aimed to explore patients' and carers' experiences and perspectives about use of anticholinergic medications in PwD.

**Methods:** Archived discussions from Talking Point, an online discussion forum for anyone affected by dementia, were analysed. Sixteen search terms were used to identify posts from forum inception to January 2022. Posts were anonymised and screened by two researchers to assess relevance to the study objectives. Posts were analysed using inductive thematic analysis.

**Results:** In total, 587 posts from 341 forum users were included. Forum users perceived that many factors affected a prescriber's decision to prescribe an anticholinergic medication such as risk/benefit assessment, patient and/or carer (s) involvement in shared decision-making, presence of non-cognitive symptoms, prescriber/patient/carer knowledge regarding use of anticholinergic medications, and if the medication had been used prior to the patient receiving their dementia diagnosis. Following prescribing of an anticholinergic medication, forum users described a range of effects on the PwD. In some cases, this led to medication review which resulted in continuation of the medication, change to dosing, de-prescribing or re-introduction of a previously prescribed anticholinergic medication.

**Key Conclusions:** This study has provided unique insights into patients' and carers' experiences and perspectives of the use of anticholinergic medications in PwD. However, forum users were more representative of carers than patients. Further work is needed to explore the views and experiences of relevant healthcare professionals.

#### References:

- [1] Gray SL, Anderson ML, Dublin S, Hanlon JT, Hubbard R, Walker R, Yu O, Crane PK, Larson EB. Cumulative use of strong anticholinergics and incident dementia: A prospective cohort study. *JAMA Internal Medicine* 2015; 175 (3) : 401–407.
- [2] Richardson K, Fox C, Maidment I, Steel N, Loke YK, Arthur A, Myint PK, Grossi CM, Mattishent K, Bennett K, Campbell NL, Boustani M, Robinson L, Brayne C, Matthews FE, Savva GM.

Anticholinergic drugs and risk of dementia: case–control study. *BMJ* 2018; 361: k1315.

## P-168

### A cross-sectional questionnaire study of community pharmacists' knowledge and perceptions of anticholinergic burden among people with dementia in primary care

Bara'a Shawaqfeh (1), Carmel Hughes (1), Bernadette McGuinness (2), Heather Barry (1)

(1) School of Pharmacy, Queen's University Belfast, Medical Biology Centre, 97 Lisburn Road, Belfast, BT9 7BL, UK, (2) Centre for Public Health, Queen's University Belfast, Institute of Clinical Sciences, Royal Victoria Hospital, Belfast, BT12 6BA, UK

**Introduction:** Healthcare professionals are reported to have poor knowledge about anticholinergic burden (ACB) [1,2], yet community pharmacists (CPs) have not been considered. This study aimed to explore CPs' knowledge and perceptions of ACB amongst patients with dementia (PwD).

**Methods:** A questionnaire was mailed on two occasions during October/November 2022 to all community pharmacies in Northern Ireland (n = 526). Data were collected on CPs' demographic characteristics, contact with PwD and their carers, understanding and knowledge of ACB, and perceptions of their role in the management of ACB in PwD. Responses were analysed descriptively using Stata (v17).

**Results:** The response rate was 15.2% (80/526). More respondents (n = 75, 94%) encountered PwD living in their own home than those living in care homes (n = 26, 33%). Most respondents believed that high ACB is related to an increased risk of falls (n = 73, 91%) in PwD and decline in cognitive function (n = 64, 80.0%). Nearly all respondents (n = 77, 96%) reported that they did not use any ACB measurement scale in practice. However, most agreed that it is important for CPs to know the ACB of a PwD and felt that knowing this would change how they managed that patient (n = 67, 84%). Many respondents (n = 67, 84%) agreed that CPs should be included in future interventions to manage ACB in PwD as part of a multi-disciplinary team.

**Key Conclusions:** This study has highlighted the contact CPs have with PwD, yet most do not measure ACB and would value knowing this information about patients. Further exploratory work is needed to corroborate study findings.

#### References:

[1] Araklitis G, Thiagamoorthy G, Hunter J, Rantell A, Robinson D, Cardozo L. Anticholinergic prescription: are healthcare professionals the real burden? *International Urogynaecology Journal* 2017; 28 (8) : 1249–1256.

[2] Araklitis G, Rantell A, Baines G, Flint G, Robinson D, Cardozo L. Pharmacists' knowledge regarding the management of overactive bladder in elderly women. *European Journal of Obstetrics & Gynaecology and Reproductive Biology* 2021; 258: 269–272.

## P-169

### Promoting Activity, Independence and Stability in Early Dementia and MCI: the PrAISED Randomised Controlled Trial

Rowan Harwood (1), Andy Brand (2), Sarah Goldberg (1), Veronika van der Wardt (3), Tahir Masud (4), John Gladman (1), Pip Logan (1), Zoe Hoare (1), Vicky Booth (1), Louise Howe (5), Alison Cowley (1), Rupinder Bajwa (1), Clare Burgon (1), Claudio di Lorit

(1) University of Nottingham, (2) University of Bangor, (3) Phillips University Marburg, (4) Nottingham University Hospitals, (5) University of Lincoln, (6) University of Bristol

**Introduction:** People living with dementia progressively lose abilities. Rehabilitation and exercise therapy may reduce disability, falls, frailty and crises.

**Methods:** We developed a therapy intervention, comprising strength, balance and dual-task exercises, functional activity training and promoting community access, providing up to 50 therapy sessions and delivered over 12 months. We included an explicit behaviour change strategy. We evaluated the intervention in a 5-site multi-centred RCT, against a control comprising brief assessment. Participants had a diagnosis of dementia or MCI, Montreal Cognitive Assessment (MoCA) between 13 and 25. Primary outcome was the Disability Assessment in Dementia (DAD), an ADL score, after 12 months, alongside a series of other health status measures. The COVID-19 pandemic enforced mitigations and modifications.

**Results:** We recruited 365 participants, 58% male. Median age was 81 years (range 65–95), MoCA 20 (13–26), DAD 82 (5–100). Baseline balance between groups was good. Participants were predominantly white and socioeconomically advantaged. Intervention group participants received a median of 31 (IQR 22–40) session and undertook a mean 121 min of exercise per week. 290 (79%) were followed up. The intervention was very well-received by participants. There were no significant differences in DAD score (adjusted mean difference -1.3/100, 95% CI -5.2 to +2.6; effect size (d) -0.06; -0.26 to 0.15; p = 0.5), physical activity, balance, quality of life, cognition or other measures. Upper 95% confidence intervals excluded even small benefits. Rate of falling reduced by 22% (Rate Ratio = 0.78; 0.46 to 1.3; p = 0.3), but this was not statistically significant.

**Conclusions:** The intensive PrAISED intervention did not improve measured outcomes. It may be impossible to reduce the rate of functional decline in dementia. Alternatively, the pandemic may have diminished the intervention, or distorted outcomes, or participants may have been too advantaged to benefit. There may have been unmeasured psycho-social benefits.

## P-170

### A short and simple bedside test to detect cognitive fluctuations in patients with dementia with Lewy bodies

Francisco de Assis Oliveira Rocha (1), Kurt Segers (2), Florence Benoit (3)

(1) Geriatrics Department, Vésale University Hospital, Charleroi-Belgium, (2) Neurology Department, Brugmann University Hospital, Brussels-Belgium, (3) Geriatrics Department, Brugmann University Hospital, Brussels-Belgium

**Introduction:** The establishment of cognitive fluctuations is important when dementia with Lewy bodies (DLB) is suspected, but can be especially difficult in the absence of a caregiver that lives with the patient [1]. We examined the use of fluctuating scores on a forward (FDS) and backward digit span (BDS) test as a marker for cognitive fluctuation [2].

**Materials & Methods:** For this prospective study, patients were recruited from the Memory Clinics and the Geriatrics wards from Brugmann University Hospital. Patients with DLB (23), other forms of dementia (14 with Alzheimer's disease (AD), 8 with vascular dementia (VD)) and 20 controls were asked to perform two times a FDS and BDS with an interval of 20 min.

**Results:** 70% of patients with DLB showed evidence of cognitive fluctuations for at least one test, while less than 10% of controls and

patients with other dementias did. Evidence of cognitive fluctuations on at least one of both tests classified 83% of patients correctly (i.e. DLB or not), with a sensitivity of 70% and a specificity of 90%.

**Conclusion:** Repeated digit span tests seem a valid, short and inexpensive bedside tool to detect cognitive fluctuations in the diagnostic work-up of DLB, even in the absence of a caregiver, which limits the use of questionnaires.

**References:**

- [1] Walker, M P et al. “Quantifying fluctuation in dementia with Lewy bodies, Alzheimer’s disease, and vascular dementia.” *Neurology* vol. 54,8 (2000) : 1616–25.
- [2] Bliwise DL, Scullin MK, Trotti LM. Fluctuations in cognition and alertness vary independently in dementia with Lewy bodies. *Mov Disord.* 2014;29 (1) :83–89.

## P-171

### Prediction of conversion to dementia disorders based on Timed Up and Go dual-task test verbal outcomes: A longitudinal prospective memory-clinic-based study

Anna Cristina Åberg (1), Johanna R. Petersson (1), Vilmantas Giedraitis (2), Kevin J. McKee (1), Erik Rosendahl (3)

(1) School of Education, Health and Social Studies, Dalarna University, Falun, Sweden, (2) Department of Public Health and Caring Sciences, Geriatrics, Uppsala University, Uppsala, Sweden, (3) Department of Community Medicine and rehabilitation, Physiotherapy, Umeå University, Umeå, Sweden

**Introduction:** There is insufficient evidence on whether screening for cognitive impairment improves the prediction of dementia [1]. This study investigated if the results of a Timed Up and Go dual-task tests (TUGdt) could predict dementia incidence in patients diagnosed with Subjective Cognitive Impairment or Mild Cognitive impairment.

**Methods:** Patients (N = 186, mean age = 70.7 years; 45.7% female) underwent TUGdt testing at baseline. TUG combined with two different verbal tasks was used: name different animals, TUGdt-NA; and recite months in reverse order, TUGdt-MB [2]. Associations between TUG parameters and dementia incidence over the follow-up period (median (range) 3.7 (0.1–6.1) years) were examined in Cox regression models.

**Results:** During follow-up 98 participants converted to dementia. The TUGdt parameters words/time [3], after adjustment for age, gender, and education, predicted conversion to dementia during the follow-up period. The TUG-related parameters words/time showed significant predictive capacity, while time scores of TUG and TUGdt as well as TUGdt cost [4] did not. Optimal TUGdt cutoffs for predicting dementia at 2- and 4-year follow-up based on words/time were calculated. The sensitivity of the TUGdt cutoffs was high at 2-year follow-up: TUGdt-NA words/time, 0.79; TUGdt-MB words/time, 0.71. Corresponding figures at 4-year follow-up were 0.64 and 0.65, respectively.

**Key Conclusions:** TUGdt words/time parameters have potential in the risk assessment of conversion to dementia, useful for research and clinical purposes, and for bridging the gap of insufficient evidence for this important clinical outcome.

**References:**

1. Patnode CD, Perdue LA, Rossom RC, Rushkin MC, Redmond N, Thomas RG, Lin JS: Screening for Cognitive Impairment in Older Adults: Updated Evidence Report and Systematic Review for the US Preventive Services Task Force. *JAMA* 2020, 323 (8) :764–785.
2. Cedervall Y, Stenberg AM, Åhman HB, Giedraitis V, Tinmark F, Berglund L, Halvorsen K, Ingelsson M, Rosendahl E, Åberg AC: Timed Up-and-Go Dual-Task Testing in the Assessment of Cognitive

Function: A Mixed methods Observational Study for Development of the UDDGait Protocol. *Int J Environ Res Public Health* 2020, 17 (5) .

3. Åhman HB, Cedervall Y, Kilander L, Giedraitis V, Berglund L, McKee KJ, Rosendahl E, Ingelsson M, Åberg AC: Dual-task tests discriminate between dementia, mild cognitive impairment, subjective cognitive impairment, and healthy controls—a cross-sectional cohort study. *BMC Geriatr* 2020, 20 (1) :258.4.McIsaac TL, Lamberg EM, Muratori LM: Building a framework for a dual task taxonomy. *Biomed Res Int* 2015, 2015:591475.

## P-172

### Impact of Psychotropic Treatments on Car Driving in the Elderly

Gautier VARLOT (1), Sarah BOULAHROUZ (1), Yacine JAIDI (1), David TRAN (1), Pauline CLEMENT (1), Jean-Luc NOVELLA (1)

(1) Service de Médecine Interne et Gériatrie Aiguë, Hôpital Maison Blanche, CHU de Reims, France

**Introduction:** First aim of this study was assess the impact of psychotropic treatments on car driving in ecological condition in healthy elderly subjects or those suffering from mild-stage alzheimer’s disease.

**Methods:** This prospective and multicenter case–control study was carried out under ecological driving conditions between July 2012 and August 2014. The patients included in the study came from geriatric hospital departments in three cities in France: Reims, Strasbourg, Paris. Healthy participants were enrolled from associations of senior citizens. The study took place in ecological driving conditions and driving performance was assessed using the NaDAS scale. A descending stepwise multivariate linear regression was used.

**Results:** Forty-one participants were included in this study: 20 had mild-stage Alzheimer’s disease (MMSE  $\geq$  24), 21 were elderly subjects without neurocognitive disorders. Consumption of psychotropic drugs and the MMSE were statistically associated with poorer performance on the participants’ driving score.

**Key Conclusion:** This study highlights the impact of psychotropic drugs on the driving score of elderly subjects with and without mild-stage Alzheimer’s disease (MMSE  $\geq$  24).

## P-173

### Cognitive Reserve In Older Adults With Cognitive Impairment: Geriatric Correlates And Predictive Ability On CDR

Silvia Ottaviani (1), Stefania Peruzzo (2), Luca Tagliafico (2), Mariya Muzyka (2), Ennio Ottaviani (3), Alessio Nencioni (2), Fiammetta Monacelli (2)

(1) Section of Geriatrics, Department of Internal Medicine and Medical Specialties (DIMI), University of Genoa, Genoa 16132, Italy., (2) 1. Section of Geriatrics, Department of Internal Medicine and Medical Specialties (DIMI), University of Genoa, Genoa 16132, Italy, (3) 3. Department of Mathematics (DIMA), University of Genoa, Genoa 16146, Italy

**Introduction:** Cognitive reserve (CR) represents a model of resilience towards age-related conditions, such as dementia. Despite being a useful conceptual framework for inter-subjective phenotypic differences, there is scant knowledge on how it may correlate with clinical complexity. To our understanding, this is the first study to investigate CR within a rigorous Comprehensive Geriatric Assessment (CGA) in real-world outpatients.

**Methods:** We aimed to assess meaningful correlations between CR (assessed by Cognitive Reserve Index questionnaire [1]) and CGA variables among 148 patients, aged 80–95 years, attending an out-patient memory clinic. Secondly, we investigated its predictive role on CDR score.

**Results:** Results showed negative correlations between CR and female sex ( $\rho = -0.31$ ,  $p = 0.001$ ), multimorbidity ( $\rho = -0.21$ ,  $p = 0.03$ ), anticholinergic burden ( $\rho = -0.21$ ,  $p = 0.02$ ), and polypharmacy ( $\rho = -0.23$ ,  $p = 0.014$ ); in turn, CR (OR 0.96, 95% CI 0.93–0.98,  $p = 0.003$ ), paired with clinical frailty (OR 22.00, 95% CI 6.40–75.60,  $p < 0.001$ ) and social vulnerability (OR 0.74, 95% CI 0.56–0.97,  $p = 0.027$ ) in multivariate logistic regression, were able to efficiently discriminate between MCI and dementia (i.e., between CDR = 0.5 and CDR > 0.5) with good accuracy (AUC = 0.927).

**Key Conclusions:** Therefore, the present study confirms the critical role played by frailty in the evolution of cognitive impairment, acting as an accelerator in sync with cognitive reserve and social vulnerability. Eventually, implementing a systematic evaluation of CR within the CGA in old-age patients could provide a better understanding of patients' clinical trajectories with aging.[1] Nucci M et al. Cognitive Reserve Index questionnaire (CRIq) : a new instrument for measuring cognitive reserve. *Aging Clin Exp Res.* 2012 Jun;24 (3) :218–26. <https://doi.org/10.3275/7800>.

## P-174

### Incidence of Age-related Hearing Loss in Relation to Diagnosis of Parkinson's Disease

Kaisa Hokkinen (1), Aarno Dietz (2), Pasi Lampela (3), Sirpa Hartikainen (1), Anna-Maija Tolppanen (1)

(1) Kuopio Research Centre of Geriatric Care, University of Eastern Finland; School of Pharmacy, University of Eastern Finland, (2) Department of Otorhinolaryngology, Kuopio University Hospital, (3) Kuopio Research Centre of Geriatric Care, University of Eastern Finland; School of Pharmacy, University of Eastern Finland; Finnish Student Health Service, Finland

**Introduction:** Parkinson's disease (PD) is a common neurodegenerative disorder. Emerging evidence suggests that hearing loss could be a non-motor feature of the disease. We studied the incidence of age-related hearing loss (ARHL) in relation to PD diagnosis among persons with PD and compared it with that in people without PD.

**Methods:** We conducted a nationwide register-based study which included 22,189 community-dwelling persons with clinically verified PD diagnosis in 1996–2015 in Finland and a 1:1 matched comparison cohort. PD diagnoses were identified from the Special Reimbursement Register. The diagnosis of ARHL was extracted from Care Register for Healthcare and calculated per 100 person-years (PY) for each six-month period from ten years before to ten years after the index date of PD diagnosis.

**Results:** Before PD diagnosis the incidence of ARHL was higher among persons with PD (0.65/100 PY) than in the comparison cohort (0.58/100 PY, hazard ratio, 95% CI 1.11, 1.05–1.18) and increased similarly in both groups. After PD diagnosis the incidence was lower among persons with PD (1.00 and 1.28/100 PY, hazard ratio, 95%CI 0.78, 0.74–0.83) and declined already shortly after PD diagnosis whereas it continued to increase in the control group.

**Key Conclusions:** Our finding of higher ARHL incidence among persons with PD might imply that ARHL could be a non-motor feature of PD or alternatively that ARHL is a marker for general neurodegeneration. The reason for declining incidence of ARHL in persons with PD shortly after PD diagnosis requires more investigation.

## P-175

### Predictors for dementia in GPs' referral letters to a memory clinic—a retrospective study

Demi Ronner (1), Marieke Perry (1), Edo Richard (2)

(1) Radboud University Medical Center, (2) Radboud University Medical Center, Amsterdam University Medical Center

**Introduction:** In many countries, older people with memory complaints are generally referred to memory clinics (MCs). Diagnostics could more often be performed in primary care, according to Dutch guidelines.

**Methods:** We retrospectively collected data from electronic health records of 651 persons aged 65 years and older referred by their general practitioner (GP) to the Radboudumc (Nijmegen, the Netherlands) academic MC between 2016 and 2020. SPSS was used for descriptive and regression analyses.

**Results:** 348 persons (53.5%) were diagnosed with dementia (PwD), of which 235 (67.5%) without ancillary investigations. In GPs' referral letters of PwD, the following elements were more often mentioned compared to those not diagnosed with dementia: a collateral history (79.9% vs. 57.8%,  $p < 0.001$ ), physical examination (28.2% vs. 19.8%,  $p = 0.013$ ), differential diagnosis of dementia (56.6% vs. 38.6%,  $p < 0.001$ ), and an MMSE score (42.8% vs. 34.0%,  $p = 0.021$ ). Diagnostic criteria for dementia were stated more often in letters of PwD, such as interference with independence in everyday activities (43.7% vs. 25.7%,  $p < 0.001$ ), a decline in a previous level of functioning (66.7% vs. 50.8%,  $p < 0.001$ ), and cognitive impairment in two or more cognitive domains (62.9% vs. 43.9%,  $p < 0.001$ ).

**Conclusion:** Most PwD at the (Radboudumc) MC receive a diagnosis without use of ancillary investigations. Furthermore, GPs' referral letters often correctly include information pointing in the direction of a dementia diagnosis. Both aspects plead for a more prominent role for primary care diagnostics for older people presenting with memory complaints.

## P-176

### Relationship between regional body composition and mortality in patients with mild cognitive impairment/Alzheimer's disease: NCGG-STORIES

Kazuaki Uchida (1), Taiki Sugimoto (1), Tami Saito (1), Takeshi Nakagawa (1), Taiji Noguchi (1), Ayane Komatsu (1), Yujiro Kuroda (1), Rei Ono (2), Hidenori Arai (1), Takashi Sakurai (1)

(1) NCGG, (2) NIBIOHN

**Introduction:** Weight loss is often observed in patients with Alzheimer's disease (AD), and lower BMI is also associated with an increased risk of mortality in patients with dementia. We previously reported the relationship between lower fat mass and prognosis in patients with mild cognitive impairment (MCI) /AD, but the relationship between regional body composition and prognosis is unknown. This study aimed to investigate the relationship between regional body composition and mortality in patients with MCI/AD.

**Methods:** This longitudinal study included patients with MCI/AD aged  $\geq 65$  in the NCGG-STORIES, a memory clinic based-cohort study. The outcome was the number of days from the initial visit to death. The explanatory variable was muscle mass (MM) and fat mass (FM) at the upper limb, trunk, and lower limb as measured by a bioelectrical impedance analysis, and each measure was divided into sex-specific tertiles (low, middle, and high groups). A Cox

proportional hazards model was used for the statistical analysis (ref. the low group).

**Results:** We analyzed 1,074 patients (mean age, 77.5 years; 60.4% women; mean follow-up period, 1,734.8 days). In the statistical analysis, the middle and high groups of FM at the lower limb had lower mortality compared to the low group (HR [95% CI]: middle group = 0.57 [0.37–0.87], high group = 0.33 [0.19–0.60]). FM at other sites and MM were not associated with mortality.

**Key Conclusions:** These results suggest the significance of monitoring FM in lower limbs as a useful predictor of mortality in patients with MCI/AD.

## P-177

### Associations of quantity and intensity of physical activity with cognition in healthy Swedish older adults

Joan Ars (1), Amaia Calderón-Larrañaga (2), Giorgi Beridze (3), Erika J Laukka (2), Pau Farrés-Godayol (4), Laura M Pérez (5), Marco Inzitari (5), Anna-Karin Welmer (3)

(1) RE-FiT Barcelona Research group, Vall d'Hebron Institute of Research (VHIR) and Parc Sanitari Pere Virgili, Barcelona, Spain; Department of Medicine, Universitat Autònoma de Barcelona, Barcelona, Spain; Aging Research Center, Department of Neurobiology, Care Sciences and Society (NVS), Karolinska Institutet and Stockholm University, Stockholm, Sweden, (2) Aging Research Center, Department of Neurobiology, Care Sciences and Society (NVS), Karolinska Institutet and Stockholm University, Stockholm, Sweden; Stiftelsen Stockholms Läns Äldrecentrum, Stockholm, Sweden, (3) Aging Research Center, Department of Neurobiology, Care Sciences and Society (NVS), Karolinska Institutet and Stockholm University, Stockholm, Sweden, (4) Research group on Methodology, Methods, Models and Outcomes of Health and Social Sciences (M3O), Faculty of Health Sciences and Welfare, University of Vic-Central University of Catalonia (UVic-UCC), Vic, Spain, (5) RE-FiT Barcelona Research group, Vall d'Hebron Institute of Research (VHIR) and Parc Sanitari Pere Virgili, Barcelona, Spain

**Introduction:** It has been suggested that physical activity (PA) is associated with higher levels of cognitive function. However, many studies on this topic rely on self-reported measures of PA and few studies have included different domains of cognitive function. We aimed to assess the correlation between objectively assessed PA and cognitive function.

**Methods:** We included 663 older adults aged  $\geq 66$  years from the Swedish SNAC-K study (2016–2019). Two cognitive domains (processing speed and executive function) and global cognition were assessed with validated tests and standardized through z-scores. The ActivPAL3 accelerometer was used to assess PA (number of steps/day and minutes/day of moderate-to-vigorous PA [MVPA]). Age-stratified (< 70 vs. > 80 years) quantile regression was used to examine the cross-sectional associations between cognitive function and PA. The associations between cognition and steps/day were also stratified by age and time spent in MVPA (< 60 vs.  $\geq 60$  min/week). All analysis were adjusted by age, sex, educational level, and number of chronic diseases.

**Results:** Higher number of steps ( $\beta = 0.37$ ; 95% CI 0.00, 0.07) and longer time spent in MVPA ( $\beta = 0.25$ ; 95% CI -0.01, 0.51;  $p = 0.06$ ) were associated with better processing speed in the younger, but not in the older, age group. When further stratifying by MVPA, higher

number of steps was associated with better processing speed ( $\beta = 0.50$ ; 95% CI 0.15, 0.85) and better global cognition ( $\beta = 0.25$ ; 95% CI -0.01, 0.51;  $p = 0.06$ ), but only in the younger group performing less than 60 min/week of MVPA.

**Conclusions:** When reaching MVPA levels of  $\geq 60$  min/week may not be possible, higher levels of low-intensity PA also correlate with better processing speed in young older adults.

## P-178

### Atrial Fibrillation and Impaired Attentional Performances in Hospitalized Older Adults

Fabio Malacarne (1), Alberto Sardella (2), Daniela Brischetto (1), Giuliana Ciancio (1), Federica Bellone (2), Antonino Catalano (1), Francesco Corica (1), Giovanni Squadrito (2), Maria Catena Quattropani (3), Giorgio Basile (4)

(1) Unit and School of Geriatrics, Dpt. of Clinical and Experimental Medicine, University of Messina, Messina, Italy, (2) Dpt. of Clinical and Experimental Medicine, University of Messina, Messina, Italy, (3) Dpt. of Educational Sciences, University of Catania, Catania, Italy, (4) Unit and School of Geriatrics, Dpt. of Biomedical and Dental Sciences and Morphofunctional Imaging, University of Messina, Messina, Italy

**Introduction:** Trial fibrillation (AF) is the most common arrhythmia in older adults, and is associated with increased risk of cognitive impairment even in the absence of clinical stroke [1]. The study aimed to investigate the impact of AF on cognitive functioning, particularly on attentional performances, in a sample of hospitalized older adults.

**Methods:** From February to September 2019, 103 older inpatients (mean age  $80.7 \pm 6.9$  years) were consecutively enrolled; a comprehensive geriatric assessment was undergone on hospital admission. Global cognitive functioning was evaluated using the Mini Mental State Examination (MMSE); selective and sustained attention were evaluated using Visual Search (VS) and Trail Making Test-A (TMT-A), respectively.

**Results:** In our sample, AF prevalence was of 33%. Compared to inpatients without AF, those with AF showed worse global cognition (MMSE  $19.85 \pm 3.96$  vs  $22.1 \pm 5.36$ ,  $p = 0.042$ ), and worse attentional performances (VS  $22.43 \pm 6.76$  vs  $27.11 \pm 9.47$ ,  $p = 0.024$ ; TMT-A  $260.96 \pm 98.57$  vs  $209.49 \pm 95.56$ ,  $p = 0.026$ ). Furthermore, univariate logistic regressions confirmed the association between lower MMSE ( $\beta = -0.222$ ,  $p = 0.042$ ), lower VS ( $\beta = -0.249$ ,  $p = 0.024$ ), and higher TMT-A ( $\beta = 0.246$ ,  $p = 0.026$ ) scores with the occurrence of AF.

**Conclusions:** The findings confirm the association between AF and global cognitive impairment, including impaired attentional performances, in older adults. Assessing attention appears crucial since this cognitive domain may play a key role in adherence to therapy and in the onset of delirium in hospitalized older adults.

**Reference:**

1. Koh YH, Lew LZW, Franke KB, Elliott AD, Lau DH, Thiyagarajah A, Linz D, Arstall M, Tully PJ, Baune BT, Munawar DA, Mahajan R. Predictive role of atrial fibrillation in cognitive decline: a systematic review and meta-analysis of 2.8 million individuals. *Europace*. 2022 Sep 1;24 (8) :1229–1239. <https://doi.org/10.1093/europace/euac003>.

**P-179****Multimorbidity increases the risk of dementia: a 15 year follow-up of the SHARE study**

Nicola Veronese (1), Ligia Dominguez (2), Stefania Maggi (3), Pinar Soysal (4), Francesco Bolzetta (5), Francesco Saverio Ragusa (1), Caterina Mandalà (1), Laura Vernuccio (6), Domenica Matranga (1), Mario Barbagallo (1)

(1) University of Palermo, (2) University of Enna; University of Palermo, (3) Consiglio Nazionale delle Ricerche, (4) Bezmialem Vakif University, (5) ULSS 3 Serenissima, (6) AOUP Giaccone Palermo

**Background:** the literature regarding the association between multimorbidity and dementia is still unclear. Therefore, we aimed to explore the potential association between multimorbidity at the baseline and the risk of future dementia in the SHARE (Survey of Health, Ageing and Retirement in Europe) study, a large European research survey, with a follow-up of 15 years.

**Methods:** In this longitudinal study, multimorbidity was defined as the presence of two or more chronic medical conditions, among 14 self-reported at the baseline evaluation. Incident dementia was ascertained using self-reported information. Cox regression analysis, adjusted for potential confounders, was run and hazard ratios (HRs), with their 95% confidence intervals (CIs), that were estimated in the whole sample and by 5 year groups.

**Results:** Among 30,419 participants initially considered in wave 1, the 23,196 included participants had a mean age of 64.3 years. The prevalence of multimorbidity at baseline was 36.1%. Multimorbidity at baseline significantly increased the risk of dementia in the overall sample (HR = 1.14; 95% CI 1.03–1.27) and in participants younger than 55 years (HR = 2.06; 95% CI 1.12–3.79), in those between 60 and 65 years (HR = 1.66; 95% CI 1.16–2.37) and in those between 65 and 70 years (HR = 1.54; 95% CI 1.19–2.00). In the overall sample, high cholesterol levels, stroke, diabetes and osteoporosis increased the risk of dementia, particularly if present among participants between 60 and 70 years of age.

**Conclusions:** Multimorbidity significantly increases the risk of dementia, particularly in younger people, indicating the need for early detection of multimorbidity for preventing cognitive worsening.

**P-180****Adverse events related to psychopharmaceuticals in a Psychogeriatrics unit: a one-year study**

Wendi Romina Cossio Jimenez (1), Priscila Matovelle Ochoa (2), Carmen Espinosa Val (2), Nesly Catolin (1), Irene Herranz Llano (1), Juan Diego Ayala Ayuso (1), María Concepción Ortíz Domingo (2)

(1) 1. Geriatrics Department, San Juan de Dios Hospital, Zaragoza, Spain; (2) 1. Geriatrics Department, San Juan de Dios Hospital, Zaragoza, Spain; 2. Geriatrics Department, Zaragoza University, Zaragoza, Spain

**Introduction:** Adverse drug reaction (ADR) is any harmful and unintended response to a drug. From 4.9% to 7.7% of hospital admissions are related to ADRs and up to 4.3% could be avoided. It accounts for 28% of emergency department visits and 5% of hospital deaths.

**Methods:** We recruited 282 patients discharged from a Psychogeriatrics unit during one year. Demographic, clinical and functional data were collected.

**Results:** We found a mean age 81.4 years and 547% were women. Length of stay 33 days. The 45.3% had a diagnosis of Alzheimer's dementia (54% GDS 5–6). Dysphagia 94.4%. Charlson index 2. Body mass index: 25.8. Laboratory results were albumin-3.6 mg/dl, creat-1 mg/dl. In addition, 54.7% of the patients had falls in the previous year. Drugs at admission 8 (including 2.7 psychotropic drugs) and at discharge 8.8 (3 psychotropic drugs). Barthel Index at admission was 35/100 and at discharge 50/100. The 18.8% (n = 53) had a history of ADR, mostly due to antipsychotics, the most frequent problem being pyramidal syndrome. During admission, 21% (n = 11) of those with a history of ADR presented a new episode. And of the rest of the patients without previous episode of ADR, 8.7% (n = 20) presented it, being the antipsychotic the responsible drug in 43% of the cases.

**Conclusions:** Patients with dementia are at risk of presenting an ADR. The susceptibility factors that stand out are the severity of dementia, age, history of ADR, polypharmacy, chronic kidney disease and low weight.

**P-181****hallucinations without dementia**

Marta Arroyo Huidobro (1), Mar Riera Pagespetit (2)

(1) Geriatrician, University hospital Clinic of Barcelona, (2) Geriatrician, Consorci Sanitari Alt'Penedès i Garraf

**Introduction:** Visual hallucinations are a reason for consultation in dementia units. Although they often do not cause functional impairment, hallucinations can be very distressing for patients and can have a negative impact on their quality of life. Clinical case. A 90-year-old female patient was evaluated by the Geriatrics department for visual hallucinations. She reported seeing a black hole at her house, "distorted faces," "cracks and holes in the wall,". She denies auditory hallucinations. She is aware that the hallucinations are not real and does not experience anxiety or nervousness. Correct physical examination, no fever. She has a history of hypertension, type 2 diabetes mellitus, age-related macular degeneration (AMD) under ophthalmology. Her regular medication has not been changed. Cognitively, there is no impairment, with a score of 26 on the Lobo Test (illiterate) Cranial CT scan: No signs of acute intracranial pathology. No significant abnormalities in the blood and urine tests.

**Conclusion:** After ruling out any organic cause and cognitive impairment, it is suspected that the patient has Charles Bonnet syndrome (CBS). This syndrome is characterized by the presence of complex and structured visual hallucinations in patients with preserved cognitive function, significant visual impairment, and no evidence of associated psychiatric or neurological diseases. Treatment with Risperidone 0.5 mg was initiated, resulting in improvement and resolution of the hallucinations. There is a possible relationship between the development of these hallucinations and an increased risk of dementia. Therefore, it is recommended to refer patients to specialized geriatric units for evaluation and follow-up.

**P-182****Gait and balance is impaired in Lewy body dementia compared to Alzheimer's dementia**

Gro Gujord Tangen (1), Karen Sverdrup (1), Karin Persson (1), Geir Selbæk (2), Hanneke Rhodius-Meester (3), Riona McArdle (4), Anne Brita Knapskog (5)

(1) The Norwegian National Centre for Ageing and Health, and Oslo University Hospital, (2) The Norwegian National Centre for Ageing and Health, Oslo University Hospital, University of Oslo, (3) Vrije Universiteit Amsterdam, Amsterdam Neuroscience, Oslo University Hospital, (4) Translational and Clinical Research Institute, Newcastle University, (5) Department of Geriatric Medicine, Oslo University Hospital

**Introduction:** Balance and gait impairments occur frequently in both Alzheimer's dementia (AD) and Lewy Body dementia (LBD), but studies on differences in mobility between these diagnoses is still scarce. We aimed to compare a wide range of performance-based tests of mobility between persons with AD and LBD.

**Methods:** We included 51 persons with AD (mean (SD) age 68.3 (6.7) years, MMSE score 23.8 (5.1) and 51% women) and 28 persons with LBD (70.3 (4.9) years, MMSE score 23.4 (3.8), 39.3% women) from the memory clinic at Oslo University Hospital. Mobility was examined using gait speed (m/s), 5 t sit-to-stand (5tSTS, lower limb strength), Timed Up and Go (TUG) and TUG dual task cost (cognitive task: citing random numbers), Mini Balance Evaluation Systems Test (mini-BESTest, dynamic balance) and Life Space Assessment.

**Results:** There were no significant differences between patients with AD and LBD regarding age, sex or MMSE scores. Persons with LBD had slower gait speed and TUG, worse Mini-BESTest score, and more limited life-space compared to persons with AD. There were no statistically significant differences in 5tSTS or TUG dual task cost. In linear regression analyses with Gait speed and Mini-BESTest as dependent variables, adding AD/LBD to the models with age, sex and MMSE as independent variables, increased the explained variance in both models with 20%.

**Key Conclusions:** Persons with LBD had worse gait and balance performance than persons with AD, and future studies should explore further how mobility assessments can help clinicians in detecting LBD.

## P-183

### PHysical Activity and Aminoacids in MCI: their role in progression towards DEmentia. "PHACADE": a monocentre, prospective, non-pharmacologic interventional study

Emanuele Rocco Villani (1), Chiara Galli (1), Barbara Manni (1), Andrea Fabbo (1)

(1) AUSL Modena

**Introduction:** In mild cognitive impairment (MCI) individuals show overt cognitive impairment with minimal impairment on instrumental activities of daily living (IADLs). MCI can be the first cognitive expression of Alzheimer disease (AD). Sarcopenia, characterized by loss of skeletal muscle mass and function, is a risk factor for MCI. Our aim is to evaluate the effect of physical training alone vs physical training plus dietary intervention on MCI progression towards AD.

**Methods:** Monocentre, prospective, open-label study. The primary objective of the study is to evaluate the efficacy, in terms of incidence rate of developing AD, of a mixed intervention consisting in physical exertion and essential amino-acids supplementation. MCI is defined as performance  $\geq 1.5$  SD in tests that evaluate memory domain. 100 participants will be divided in two cohorts (50 intervention group, 50 control group). Both groups, a twice-a-week programme of 40 min of aerobic exertion for 8 weeks is administrated. This programme is then rescheduled each 4 months. A supplementation of essential amino-acids according to WHO recommended daily ration is administrated to the intervention group. The overall duration of the follow-up is 2 years. Participants are censored if they develop AD. The study has been approved by the AVEN ethical committee (CEAVEN

174/2022). Socio-demographics and clinical characteristics are also collected.

**Results:** 10 patients have been enrolled to date (4 males and 6 females, mean age 78 years). Mean SPPB is 10/12.

**Key Conclusion:** The study could demonstrate that a mixed intervention is better than physical training alone for patients with MCI.

## P-184

### Primary Familial Brain Calcification: Association between Calcifications and Symptoms in a Clinical Sample

Gini Mathijssen (1), Evelien van Valen (1), Pim de Jong (2), Nienke Golijke (1), Emiel van Maren (2), Birgitta Snijders (1), Susan Bakker (3), Renzo Goto (1), Mariëlle Emmelot-Vonk (1), Huiberdina Koek (1)

(1) University Medical Center Utrecht, Utrecht University, Department of Geriatrics, Utrecht, The Netherlands, (2) University Medical Center Utrecht, Utrecht University, Department of Radiology, Utrecht, The Netherlands, (3) University Medical Center Utrecht, Utrecht University, Department of Rehabilitation, Utrecht, The Netherlands

**Introduction:** Primary familial brain calcification (PFBC) is a neurodegenerative disease characterized by bilateral calcifications of the basal ganglia and other cerebral areas. Patients with PFBC can present with a wide variety of symptoms, including movement disorders, cognitive impairment and neuropsychiatric disorders. The association between calcifications and symptoms is largely unknown. We studied whether the amount and location of the cerebral calcifications were associated with motor and cognitive symptoms.

**Methods:** Forty-nine patients referred to a geriatric outpatient clinic with suspected PFBC underwent an extensive clinical work-up. Computed tomography scans were obtained for all patients. Logistic regression models were used to identify the association between amount and location of brain calcifications, and motor and cognitive symptoms.

**Results:** Of the 35 patients with PFBC included in this study (median age 59 years, 51% women), 27 patients were symptomatic (79%). More than half of the patients (59%) had at least one motor symptom and an equal amount of patients showed cognitive impairments (59%). The total volume of calcifications was associated with motor symptoms (OR 1.08, 95% CI 1.02–1.14), including Parkinsonism, increased fall risk, bradykinesia/hypokinesia, rigidity. The total volume of calcifications was also associated with impairments in attention/working memory (OR 1.08, 95% CI 1.02–1.16). Furthermore, we found that calcifications of specific brain areas, including the lenticular nucleus, cerebellar hemisphere and vermis, were associated with several motor and cognitive symptoms.

**Conclusion:** Cognitive and motor symptoms are very common among patients with PFBC. Associations were found between amount and location of the calcifications, and various motor and cognitive symptoms.

## P-185

### Change in physical activity over a year in older adults from a memory clinic

Kim Frederik Gundrosen (1), Kristin Taraldsen (1), Karen Sverdrup (2), Anne-Brita Knapskog (3), Geir Selbæk (4), Gro Gujord Tangen (2)



(1) Oslo Metropolitan University, Norway, (2) The Norwegian National Centre for Ageing and Health AND Oslo University Hospital, Norway, (3) Oslo University Hospital, Norway, (4) The Norwegian National Centre for Ageing and Health AND Oslo University Hospital AND University of Oslo, Norway

**Introduction:** Physical activity is considered a modifiable lifestyle factor that can support persons with mild cognitive impairment (MCI) and dementia to maintain independence. Yet, little longitudinal data exists from objective measures of physical activity in persons with MCI and dementia. Thus, the aim was to investigate one-year change in physical activity in memory clinic patients.

**Methods:** This longitudinal observational study included 28 persons (2 with subjective cognitive impairment, 10 with MCI, and 16 with dementia) from a memory clinic in Norway. Global cognitive function was measured using the Mini Mental state Examination (MMSE, scale 0–30 points). Physical activity was measured by use of objective accelerometers over four consecutive days at baseline and after 1 year. Mean daily steps and maximum length of upright events (continuous time in standing and walking) were calculated. The one-year change of the physical activity variables was analysed using paired sample T-tests.

**Results:** The participants' mean age was 69.2 years ( $\pm$  8.0), 25 (44%) women, and mean MMSE score was 24.9 ( $\pm$  4.6). There was no change in mean daily steps (7874 ( $\pm$  2914 at baseline to 7920 ( $\pm$  3064) at follow-up,  $p = 0.94$ ). Maximum length of upright events had decreased from mean 84.3 ( $\pm$  31.6) at baseline to 59.2 ( $\pm$  22.5) minutes at follow-up,  $p < 0.001$ .

**Key Conclusion:** These preliminary results indicate that while physical activity level overall seems stable over one year, there are changes in activity pattern as indicated by shorter duration of maximum upright events. Full results will be presented at the EuGMS 2023 congress.

## P-186

### Orthostatic hypotension and executive functions in older people from Memory clinic: Study from the french MERE cohort

DUVAL Guillaume (1), ASFAR Marine (1), GAUTIER Jennifer (2), TABUE-TEGUO Maturin (3), DRAME Moustapha (4), ANNWEILER Cédric (1)

(1) Department of Neuroscience, Division of Geriatric Medicine and Memory Clinic, Research Center on Autonomy and Longevity, UPRES EA 4638, UNAM, Angers University Hospital, Angers, France, (2) Research Center on Autonomy and Longevity, UPRES EA 4638, Department of Geriatric Medicine, Angers University Hospital, University of Angers, F-49000 Angers, France, (3) University Hospital of Martinique, Department of Geriatrics, Martinique, F-97200, France, (4) University Hospital of Martinique, Department of Clinical research and Innovation, Martinique, F-97200, France

Orthostatic Hypotension (OH) seems to be implicated in cognitive impairment. Nevertheless, cognitive functions affected by OH are not completely identified. Participants from the MERE cohort were evaluated for OH (i.e. drop in blood pressure  $\geq 20$  mmHg for systolic and  $\geq 10$  mmHg for diastolic between lying and standing) and executive functions, implicated in brain motor control, and evaluated with the Frontal Assessment Battery (FAB) and its sub-scores. 1,573 patients were selected. 338 had an OH (21.5%). We found an inverse cross-sectional association between OH and linear FAB score and an association with motor sequence of Luria. OH was associated with executive functions disorder and with a pathological motor sequence of Luria as a melo-kinetic praxis disorder in the MERE cohort.

## P-187

### Relationship between orthostatic hypotension and melo-kinetic praxis in older people: GAIT cohort study

DUVAL Guillaume (1), GODREAU Charlotte (1), TABUE-TEGUO Maturin (2), DRAME Moustapha (3), ANNWEILER Cédric (1)

(1) Department of Geriatric Medicine; University Memory Center; Research Center on Autonomy and Longevity (CeRAL); Angers University Hospital, Angers, France, (2) University Hospital of Martinique, Department of Geriatrics, Martinique, F-97200, France, (3) University Hospital of Martinique, Department of Clinical research and Innovation, Martinique, F-97200, France

**Background:** . Orthostatic hypotension (OH) is responsible for an impairment of cognitive functions and seems to affect more specifically executive and praxic functions. The mechanisms involved in this link between OH and cognitive functioning have not been fully elucidated. We formulate the hypothesis that OH could be associated with the presence of a specific disorder of melo-kinetic praxis.

**Methods:** . The participants are from the GAIT cohort recruited between November 2009 and November 2015. The OH was screened according to a standardized procedure in accordance with good clinical practice. The melo-kinetic function disorders were evaluated by the motor sequence of Luria including in the frontal assessment battery (FAB) .

**Results:** 363 patients were selected, with mean age  $72.6 \pm 4.4$  years, and 61.7% of men. 52 patients had an OH, i.e., 14.3% of the population. The average score obtained at the FAB was  $15.90 \pm 1.7/18$ . The analysis found no significant association between the presence of OH and the FAB score ( $p = 0.195$ ). An association was found between OH and the motor sequence of Luria ( $p = 0.0024$ ), but not with the other sub-domains of the FAB.

**Conclusions:** OH was associated with a pathological motor sequence of Luria as a representation of melo-kinetic praxis disorder in the GAIT cohort. Melo-kinetic praxis are at the border between executive and praxis functions but sensitive for measuring praxic disorders. The relationship between OH and melo-kinetic apraxia suggests the presence of a cognitive risk factor for falls caused by OH.

## P-188

### Orthostatic hypotension and Motoric Cognitive Risk in Older Adults: Results from the Gait and Alzheimer Interactions Tracking (GAIT) Cohort

DUVAL Guillaume (1), GAUTIER Jennifer (2), TABUE-TEGUO Maturin (3), DRAME Moustapha (4), ANNWEILER Cédric (2)

(1) Department of Neuroscience, Division of Geriatric Medicine and Memory Clinic, UPRES EA 4638, UNAM, Angers University Hospital, Angers, France, (2) Research Center on Autonomy and Longevity, UPRES EA 4638, Department of Geriatric Medicine, Angers University Hospital, University of Angers, F-49000 Angers, France, (3) Department of Geriatrics, University Hospital of Martinique, Fort-de-France, Martinique, (4) University Hospitals of Martinique, Department of Clinical Research and Innovation, Fort-de-France, Martinique

**Introduction:** Motor Cognitive Risk (MCR) syndrome is a recently described pre-dementia stage associating a Subjective Memory Complaint (SMC) without neuro-cognitive disorder and slow walking speed without motor handicap. Orthostatic Hypotension (OH) also has deleterious consequences on cognitive functioning and functional ability to walk. We hypothesized that individuals with MCR, without

cognitive impairment, would exhibit more OH than individuals without cognitive disorder including MCR. The objective of this study was to determine whether OH was associated with MCR syndrome in a cohort of older adults with slow walking speed and SMC but without cognitive impairment.

**Methods:** 912 participants from the GAIT cohort were included and divided into two groups: the MCR group and the cognitively healthy group corresponding to the non-MCR group, and without major or minor neurocognitive disorder. The consensus definition of OH was used, i.e. a drop of  $\geq 20$  mmHg in systolic blood pressure (or  $\geq 30$  mmHg in case of hypertension) and/or  $\geq 10$  mmHg in diastolic blood pressure between lying down and standing after 3 min. The following covariates were taken into account: age, sex, body mass index, education level, MMSE score, number of chronic diseases, consumption of psychotropic drugs, 25-OH vitamin D serum level, mean blood pressure.

**Results:** Among the 912 participants in the GAIT cohort, 157 were included of whom 46 (29.3%) had MCR and 23 (14.7%) had OH. OH was associated with MCR syndrome (OR = 3.21 [1.30–7.94],  $p = 0.012$ ) even after adjusting for potential confounding factors (adjusted OR = 4.30 [1.26–14, 75],  $p = 0.020$ ). BMI and MMSE score were also associated with RMC.

**Conclusions:** HO was associated with MCR syndrome in a cohort of older people living at home without dementia.

## P-189

### So Fahr away: may cerebellar calcifications lead to visual delusions in an elderly woman?

Damien Seynaeve (1), Michel Durand (2), Kiyoko Fujisaki (3), Abdulla Saykaly (4), Anton Vinkov (5)

(1) Drôme Nord Hospital Center-Geriatric department-France-France, (2) Drôme Nord Hospital Center-Rehabilitation department-France, (3) Drôme Nord Hospital Center-Geriatric department-France, (4) Drôme Nord Hospital Center-Otorhinolaryngology department-France, (5) Drôme Nord Hospital Center-Neurology department-France

**Introduction:** In 88-year-old woman was admitted to a geriatric consultation as she presented newly onset visual hallucinations. Methodology Associated medical conditions included coronary artery disease, chronic renal disease, hypothyroidism, age-related macular degeneration, hearing impairment and anxiety disorder. Previous conditions included Basedow disease, treated with total thyroidectomy. Neither cognitive nor neuropsychiatric impairment was noticed. No familial history of such cases. On evaluation, her children reported previous complex visual hallucinations in their mother. The patient was alert and oriented. No other sensory modality was affected. Meanwhile, she described frontal-parietal headaches, poorly relieved by analgesics. A complete examination was conducted. First-line laboratory tests remained normal. Brain imaging (CT scan) revealed bilateral cerebellar calcifications most prominent in the dentate nucleus. Further investigations were conducted.

**Results:** Visual hallucination associated with calcifications in both cerebellar dental nuclei may lead us to think of Fahr disease or Fahr syndrome, even though not that frequent in elderly people. We browsed aetiologies such as epilepsy, transient ischaemic attack, migraine. Late-onset psychosis seemed less plausible; mood disorder did not appear at the forefront. Besides, Charles Bonnet syndrome

implies visual hallucinations occurring in a visually-impaired patient. Eventually, shall we not forget a greater susceptibility to delirium in an ageing context.

**Key Conclusions:** The comprehensive assessment of our patient's delusional symptoms led us to consider a wide range of facilitating and triggering factors, some of which fall outside the usual geriatric framework.

## P-190

### Neuropsychological assessment of adults with Down syndrome in Memory Centers—a systematic review

Amélie Coquelet (1)

(1) Chru de Nancy

Improvement of life expectancy in people with Down syndrome (DS) is associated with new problems such as cognitive decline associated with aging and screening/diagnosis for Alzheimer's disease (AD) in this population. The aim of this review is to identify the main tools used in the literature for the cognitive evaluation in this population. Research was conducted on PsycINFO, PubMed, Web of Science and Wiley databases and Google Scholar from July to November 2020, concerning persons with DS, aged of 18 years or more, and evaluated with cognitive assessment scales. 196 assessment tools were identified among the 85 articles included. However, most tools had not been validated in French, and only one third were specifically designed for a diagnosis of AD in people with DS. These results underline the need to develop specific tools for the diagnosis of AD in people with DS and validated in French. This review will be illustrated by a case study.

## P-191

### Is Normal Weight Obesity A Correlate For Cognitive Dysfunction In Older Adults?

Cansu Atbaş (1), Meltem Koca (1), Merve Hafizoğlu (1), Didem Karaduman (1), Zeynep Şahiner (1), Hüseyin Sayın (2), İbrahim İleri (1), Ayşe Dikmeer (1), Arzu Okyar Baş (1), Serdar Ceylan (1), Merve Güner Oytun (1), Yelda Öztürk (1), Mert Eşme (1), Cafer Ba

(1) Hacettepe University, İnternal Medicine, Geriatrics, (2) Hacettepe University, İnternal Medicine, (3) İstanbul Kent Üniversty, Cardiology

**Introduction:** Normal weight obesity (NWO) is defined as normal body weight according to body mass index (BMI) with high body fat percentage (BFP). It is considered a cardiovascular risk factor. Since vascular risk may be a risk factor for cognitive dysfunction, we aimed to examine the relationship between NWO and cognitive function in older adults in this study.

**Methods:** 926 geriatric outpatients were examined retrospectively. After excluding patients with missing data, the remaining 85 normal-weight patients were evaluated. Anthropometric measurements and BFP calculated by bio-impedance analysis (BIA) method were recorded. Patients were divided into two groups as NWO present and absent. For cognitive assessment, Mini Mental State Examination Test (MMSE) and sub-components, clock drawing test (CDT) scores were recorded. Analyses were performed using SPSS 26.

**Result:** The mean age of the 85 subjects  $74.84 \pm 6.84$  years, and female patients were 43.5% ( $n = 37$ ). When the cut-off for BFP was applied, NWO group had lower scores in attention and calculation ( $p: 0.008$ ). Negative correlation was found between the BFP scale value and Orientation ( $p:0.002$   $r:-0.355$ ), Attention and Calculation ( $p:0.003$ ,  $r:-0.343$ ), Language ( $p:0.004$ ,  $r:-0.332$ ), MMSE ( $p:0.004$   $r:-0.316$ ), CDT ( $p:0.19$ ,  $r:-0.264$ ). Although median MMSE score in NWO group was lower, this wasn't statistically significant ( $p = 0.052$ ).

**Conclusion:** In this study, the relationship between NWO and cognitive function was evaluated. Attention and calculation was significantly lower in NWO. Although the MMSE score was lower, it didn't reach statistical significance. This may be due to the small sample size. Further study with larger sample can elucidate this relationship.

## P-192

### Improving person-centred care for individuals living with dementia: An inpatient Quality Improvement Project

Holly Lyne (1), Hannah Lynn Enot (2), Caroline Masterson (2), Isobel Morton (2), Erica Partridge (2), Mark Rawle (2)

(1) Older Person's Services, Whipps Cross University Hospital, (2) Older Person's Services, Whipps Cross University Hospital

**Introduction:** The Forget-Me-Not (FMN) aid is a person-centred information aid, designed to improve communication and interaction with persons living with dementia (1). Complete adoption of the FMN at patient's bedsides can support better personalised care (2). We conducted a quality improvement project to increase FMN use for inpatients with dementia in a UK hospital.

**Methods:** Over a 24-h period, all persons with confirmed dementia admitted to 3 older person's wards were assessed for FMN completion and display. Plan-Do-Study-Act methodology was used to implement three intervention cycles. Repeat data were collected on an equal number of cases after each cycle.

**Results and Discussion:** Baseline data showed only 19% (3/16) patients had an FMN completed and displayed. Following cycle one (updating folders on wards with new one-page FMNs, education amongst nursing and care teams on the wards of how and when to use FMNs) the utilisation rate increased to 50% (12/24). Cycle two (engaging with ward consultants, sending information e-mails) resulted in further utilisation increase (64%, 14/22). Cycle three (discussion with ward matrons, posters on wards, and promotion through Dementia awareness week) was conducted 3 weeks after cycle two to assess how embedded improvements were results remained stable (60%, 12/20).

**Conclusion:** Through repeated intervention we demonstrated improvement in FMN use from 19 to 60%. The addition of information on FMN within departmental induction material may help maintain these improvements. We intend to widen the scope of these interventions to include multiple departments, improving care for persons living with dementia on a hospital-wide basis. References 1–Barts Health NHS Trust (2017) Using 'Forget me Not'. Information for Staff. 2–British Geriatrics Society. BGS Position Statement: Person-centred acute hospital care for people with Dementia. [Internet] UK; British Geriatrics Society; 07 January 2022. Available From: BGS Position Statement: Person-centred acute hospital care for people with dementia | British Geriatrics Society.

## P-193

### Pain Recognition And Management In Cognitively Impaired Adults

Daniel Blair (1), Sophie Lesseps (1), Harriet McKnight (1), Sarah McKelvie (1)

(1) Oxford University Hospitals

**Introduction:** Cognitive impairment (CI) has been identified as a risk factor for reduced pain recognition by healthcare professionals and consequently associated with lower rates of appropriate regular and PRN analgesia prescriptions [1]. Assessment tools, such as the Abbey Pain Scale (APS), have been devised to ascertain pain status when patients have CI or cannot convey whether they are in pain[2]. The effectiveness of said strategies are heavily dependent on the ubiquity of their uptake and the correct implementation within clinical settings. **Methods:** A retrospective audit was performed, reviewing patients on the Complex Medical Unit (CMU) identifying the prevalence of the APS being used. Following this, teaching was provided to clinical staff on CMU on the utilisation and advantages of the APS in patients with CI. The effectiveness of this intervention was then re-assessed, investigating the same parameters. This closed-loop cycle was performed twice with teaching interventions between each audit cycle.

**Results:** he pre- and post-intervention studies were compared:-Prior to any intervention, the APS had not been performed on any suitable patients (those with CI or an Abbreviated Mental Test Score (AMTS) < 8). Following the first intervention, uptake of the appropriate use of the APS increased to 18.9%. Following the second intervention, uptake of the appropriate use of the APS increased to 22.2%.

**Key Conclusions:** With regular teaching, there is scope to further increase the appropriate use of the APS. Consequently, ongoing use of this tool will positively contribute to the pain management of cognitively impaired patients.

**References:** .

1. Jones J, Sim T, Hughes J. Pain assessment of elderly patients with cognitive impairment in the Emergency Department: Implications for Pain Management—a narrative review of current practices. *Pharmacy*. 2017;5 (2) :30. <https://doi.org/10.3390/pharmacy5020030>.
2. Brown D. Pain assessment with cognitively impaired older people in the acute hospital setting. *Reviews in Pain*. 2011;5 (3) :18–22. <https://doi.org/10.1177/204946371100500305>.

## P-194

### Compliance with Neuroimaging in the Comprehensive Assessment of Adults with Intellectual Disability Attending a Specialist Memory Service

Aoife McFeely (1), Christine Condron (1), Mary McCarron (2), Sean P. Kennelly (1)

(1) Tallaght University Hospital, (2) Trinity College Dublin

**Background:** Adults with intellectual disability (ID), particularly those with Down Syndrome, are more likely to develop dementia compared to adults without ID. The diagnosis of a dementia in adults with ID is complex, requiring careful diagnostic evaluation. In the general population, neuroimaging is a routine part of the investigation of evolving cognitive concerns. Due to a lack of specialist services, and concerns regarding tolerability of neuroimaging, adults with ID may not receive the same access to neuroimaging or comprehensive

evaluation. This study aims to report on the compliance of neuroimaging in adults with intellectual disabilities attending a specialist memory service.

**Methods:** A retrospective review was conducted, using data from 60 adults with ID attending a specialist memory service. Demographic information and data on neuroimaging was collected. Rates of scan completion and reasons for non-completion were recorded. Binary Logistic Regression was used to assess for a relationship between severity of ID or Down Syndrome and scan completion.

**Results:** 96.7% of patients seen in the clinic either had neuroimaging completed or were referred for a scan. 78% of scans had notable findings with high rates of microvascular change and cerebral atrophy. One patient was found to have an acute stroke. 45% of patients had scans completed prior to being seen in clinic. Of those referred for neuroimaging, 67.6% successfully completed neuroimaging. 27.3% of MRI scans were of reduced quality due to motion artefact. 11.4% of patients were unable to complete MRI scanning due to anxiety or claustrophobia. This study found no significant association between level of ID or Down Syndrome and scan completion.

**Conclusion:** This study shows most adults with ID will successfully complete neuroimaging. The scan results were of diagnostic relevance and impacted patient care, highlighting the clinical need for these investigations. CT scanning appears to be better tolerated than MRI scanning, with lower rates of non-completion and motion artefact. For any adult with a suspected dementia, neuroimaging plays an important role in diagnosis formulation. We would advocate that adults with ID and evolving cognitive concerns should be afforded the opportunity to receive a comprehensive cognitive evaluation, including neuroimaging.

## P-195

### Relation of Cholinesterase Inhibitors to QTc Interval in Memory Clinic Patients

Karita Isotalo (1), Joanna Lehtovaara (2), Laura Ekblad (3), Maria S. Nuotio (4), Ville L. Langén (5)

(1) 1. Department of Geriatric Medicine, Turku University Hospital and University of Turku, Turku, Finland. 2. Southwest Finland Wellbeing Services County, Salo, Finland, (2) 3. Faculty of Medicine, University of Turku, Turku, Finland, (3) 1. Department of Geriatric Medicine, Turku University Hospital and University of Turku, Turku, Finland. 4. Turku PET Centre, University of Turku and Turku University Hospital, Turku, Finland, (4) 1. Department of Geriatric Medicine, Turku University Hospital and University of Turku, Turku, Finland., (5) 1. Department of Geriatric Medicine, Turku University Hospital and University of Turku, Turku, Finland. 5. Division of Medicine, Turku University Hospital and University of Turku, Turku, Finland

**Introduction:** Cholinesterase inhibitors (ChEIs) donepezil, rivastigmine and galantamine are essential for treating Alzheimer’s disease. As ChEIs may also affect the extra-cerebral acetylcholine signaling, possible cardiac side-effects raise concerns. We investigated the relationship between ChEIs and QTc interval, which has received limited or inconsistent attention in prior studies.

**Methods:** We collected register-based retrospective data on first-time visitors to our geriatric memory clinic in 2017 and 2019. We included patients who were newly prescribed ChEi medication and had ECG data available (n = 132, mean age 81.2 years, 55.3% women). We defined prolonged QTc as  $\geq 460$  ms in women and  $\geq 450$  ms in men. Comparing QTc values measured before and during ChEi medication,

we analyzed differences in QTc means with the paired t-test and in the proportions of patients with prolonged QTc with the McNemar test.

**Results:** Mean  $\pm$  SD QTc (ms) measured before vs. during the ChEi medication was  $434.2 \pm 22.5$  vs.  $435.6 \pm 27.8$  (P = 0.57) in donepezil users,  $435.1 \pm 27.6$  vs.  $428.1 \pm 22.4$  (P = 0.25) in galantamine users,  $420.3 \pm 13.6$  vs.  $421.4 \pm 20.3$  (P = 0.82) in rivastigmine users and  $432.9 \pm 22.8$  vs.  $433.0 \pm 26.7$  (P = 0.94) in all ChEi users combined. We observed a trend, albeit not reaching statistical significance (P = 0.052), that suggested a slightly higher proportion of prolonged QTc during (20.5%) vs. before (13.6%) ChEi medication.

**Key Conclusions:** While we found no significant difference in mean QTc measured before vs. during ChEi medication, we observed a trend towards higher proportion of patients with prolonged QTc after initiation of ChEi. Large-scale studies are warranted for evidence-based recommendations on ECG-monitoring during ChEi medication.

## P-196

### Association between antipsychotics and all-cause mortality in elderly patients diagnosed with dementia with different patterns of BPSD

Sara Rogani (1), Valeria Calsolaro (1), Giulia Coppini (1), Bianca Lemmi (1), Irene Taverni (1), Elena Bianchi (1), Rosanna Pullia (1), Ludovica Di Carlo (1), Chukwuma Okoye (1), Agostino Virdis (1), Fabio Monzani (1)

(1) Geriatrics Unit, Department of Clinical and Experimental Medicine, University of Pisa, Pisa, Italy

**Background:** Despite their use is still off-label and they are associated with several side effects, antipsychotics represent the main pharmacological strategy to alleviate Behavioral and Psychological Symptoms of Dementia (BPSD).

**Methods:** Aim of this retrospective study was to evaluate the correlation between antipsychotics use and all-cause mortality. BPSD were classified in three clusters: “mood/apathy”, “psychosis” and “hyperactivity”. Repeated measures-ANOVA was used to evaluate the functional/cognitive changes over baseline, 6 and 12 months follow-up. Chi-Square test was carried out to verify the correlation between antipsychotics use and mortality, regression analysis to evaluate the relationship between mortality and other additional influencing factors (ADL, IADL, CFS).

**Results:** 209 patients with clinical diagnosis of dementia were enrolled (71.3% women; mean age  $83.24 \pm 4.98$  years). We identified a significant worsening of ADL and IADL [ADL Wilks’ Lambda = 0.744, F (2,80) = 13.75, p < 0.001,  $\eta^2 = 0.256$ , IADL Wilks’ Lambda = 0.71, F (2,80) = 16.3, p < 0.001,  $\eta^2 = 0.29$ , respectively], MMSE and CFS [MMSE Wilks’ Lambda = 0.751, F (2,73) = 12.11, p < 0.001,  $\eta^2 = 0.249$ , CFS Wilks’ Lambda = 0.749, F (2,79) = 13.224, p < 0.001,  $\eta^2 = 0.241$ ] over time. Patients on antipsychotic therapy reported a higher mortality rate, although there is no significant association between antipsychotic use and mortality, globally and within clusters. At stepwise regression, the loss of independence in IADL was associated to mortality (p = 0.002).

**Conclusions:** Patients on antipsychotic therapy reported a higher mortality rate, although there is no statistically significant association between antipsychotic use and mortality. Further work is needed to establish the relationship between antipsychotics and mortality in elderly patients with dementia.

**P-197****Profile Of Patients Admitted To The Geriatrics Service During The Year 2022 Under Treatment With Acetylcholinesterase Inhibitors And Memantine**

Magdalena Linge Martín (1), Dionis Carolina Fernández Minaya (1)  
(1) Servicio de Geriátria, Hospital San José, Teruel

**Introduction:** Specific treatments for Alzheimer's disease may improve cognitive, functional, and behavioral domains in responding patients. Knowing the profile of patients with their different degrees of deterioration and clinical manifestations helps to discern those who may benefit from its use.

**Methods:** Retrospective descriptive study of patients admitted during the year 2022 in the Geriatric Service of the Hospital San José de Teruel in treatment with IACEs and memantine. Sociodemographic, functional, clinical and therapeutic variables were recorded.

**Results:** n = 62 patients under treatment (rivastigmine 27.4%, donepezil 17.7%, galantamine 1.6%, memantine 21%). 58% women. Average age: 88 years. Marital status: single (20.9%), married (30.6%), widowed (48.3%). Place of residence: domicile (58%), residence (42%). Functionality: total dependency (43.5%), severe dependency (24%), moderate dependency (12.9%), mild dependency (14.5%), independent (4.8%). Geriatric syndromes: dysphagia (53%), polypharmacy (93.5%), delirium (45%), falls syndrome (22%), urinary incontinence (88%), fecal incontinence (66%), constipation (64%), syndrome immobility (58%), malnutrition (46.77%). Comorbidities: arterial hypertension (75.8%), diabetes mellitus (35%), chronic renal failure (35%), Parkinson's (12.9%), stroke (12.9%), epilepsy (3.2%). Diagnosis: 3.2% Lewy bodies, 8% Alzheimer, 25.8% mixed profile, 17.7% vascular, 3.2% associated with Parkinson's. Deprescription of treatment: 8% of the sample. Follow-up in geriatric outpatient clinics: 53%.

**Conclusions:** The profile of those admitted to treatment with IACEs and memantine, transdermal rivastigmine being the most frequent, would be an octogenarian woman, living at home, with severe or total dependence and mild-moderate ND. The most common geriatric syndromes are polypharmacy, behavioral disorder, and urinary incontinence. Giving follow-up in geriatric outpatient clinics to more than 50%.

**P-198****Cognitive function among treatment-naïve and treatment-receiving cancer patients: a cross-sectional comparative study**

Gaurav Sharma (1)

(1) All India Institute of Medical Sciences

**Introduction:** Cancer-related cognitive impairment (CRCI) is an essential clinical entity among older cancer patients. CRCI is associated with poorer outcomes among these patients. Chemotherapy, among other factors, is an important cause of cognitive decline among patients with cancer. Objective The chief objective of this study was to compare the cognitive function among treatment-naïve (TxN) and treatment-receiving (TxR) cancer patients and to evaluate the factors associated with increased cognitive decline.

**Methods:** It was a cross-sectional study based in a Cancer-Centre at a tertiary care hospital in India. Patients with cancer were assessed for cognitive decline using the Clinical Dementia Rating scale. Data on

demographic details, cancer site, and stage, treatment history, and psychological, behavioral, and functional status were also assessed. Cognitive function was compared between the TxN and the TxR cancer patients.

**Results:** A total of 81 patients with cancer were recruited (60 TxN and 21 TxR). Cognitive impairment (CDR of  $\geq 0.5$ ) was present in 35.8% of the patients and was significantly higher among the TxR group (52.38% vs 30% in the TxN group). On multivariate analysis, a higher CCI (Charlson Comorbidity Index), brain metastasis, and impaired IADL were significantly associated with Cognitive impairment.

**Conclusion:** This study highlights that cancer treatment, among other factors, is associated with cognitive impairment among older cancer patients. CRCI and its risk factors should be evaluated among these patients before and during treatment. Further prospective study may be needed to assess the causal association between cancer chemotherapy and cognitive impairment, and its long-term clinical impact.

**P-199****Treatment of Behavioral and Psychological Symptoms (BPSD) in Patients With Alzheimer's Dementia Hospitalized in a Geriatric Facility**

Maja Spirova (1), Biljana Petreska-Zovic (1), Lazo Jordanoski (1), Despina Milososka-Evrusevska (1), Pavlinka Milosavlevik (1), Marija sekovska (1), monika lukrovska (1), lidija pavleska (1), Dima Ilievska (1), Natasa Gavrillovska (2), Kiril Lazov (3)

(1) Specialized Hospital for Geriatric and Palliative Medicine 13 November Skopje R Macedonia, (2) PHI Health Center Skopje, (3) Institute of Transfusion medicine Skopje, R.Macedonia

**Introduction:** Patient with Alzheimer's Dementia (AD) represent a significant number of patients in geriatric facilities. The studies show that a change of place such as institutionalization and thus a change in the daily routine can lead to appearance or worsening of the behavioral and psychological symptoms (BPSD) in patients with AD and an increased need for additional therapy.

**Methods:** A cross-sectional study of 180 patients hospitalized at geriatric unit in period of January till May 2023 was conducted. 61 (33.9%) were patients with AD, 44 or 72.1% were females and 17 or 27.9% were males, with mean age  $78.6 \pm 5.6$  years. 50 patients (82.0%) had potentiated BPSD in the first days of hospitalization and needed additional therapy.

**Results:** 19 of 61pts (31.1%) were on dual therapy, full doses of donepezil and memantine. 17 (89.5%) needed additional therapy for BPSD; 13 (68.4%) a short-term antipsychotic and 4 (21.1%) patients antidepressant therapy. 22 patients (36.1%) were admitted with donepezil only. 18 (81.8%) needed additional therapy; 13 (59.1%) antipsychotic and 5 (22.7%) antidepressant. The remaining 20 (32.8%) were solely on memantine. 15 (75.0%) needed additional therapy; 7 (35.0%) antipsychotic and 8 (40.0%) antidepressant.

**Key Conclusions:** Vast majority of patients with AD (82.0%) manifested BPSD and needed additional therapy. Approximately same percent were on dual therapy or donepezil and memantine only, and no difference among groups regarding the appearance of the BPSD were found. The institutionalization and lack of nonpharmacological treatment due to lack of nursing staff are considered to be a main reason for these results.

**P-200****Identifying drug targets for Alzheimer's disease using colocalization and Mendelian Randomization analyses**

Chenxi Qin (1), Sara Hägg (1)

(1) Department of Medical Epidemiology and Biostatistics, Karolinska Institutet

**Introduction:** enetic approaches based on multi-omics data can help identify potential drug targets for Alzheimer's disease (AD).**Methods:** We aimed to identify genes with an association with both specific proteins and AD. Genetic variants were extracted from the gene locus ( $\pm$  100 kb) encoding the protein of interest. Effect sizes of genetic associations with AD and proteins were extracted from a genome-wide association study (GWAS) of 27 European studies (Ncases = 85,934 and Ncontrols = 487,511) and the deCODE study, a GWAS of 4,719 plasma proteins (N = 35,559), respectively. We used colocalization .**Methods:** to identify genes common to its downstream protein and AD (probability threshold = 90%), and HyPrColoc to identify candidate causal variants within  $\pm$  1kb of the gene locus. Then, the candidate variant was used as the instrument in a Mendelian Randomization analysis, and the protein effect on AD risk was estimated by the Wald ratio test. Kyoto Encyclopedia of Genes and Genomes pathway enrichment analysis was performed for genes where AD and the protein colocalized.**Results:** We found 11 genes where AD colocalized with their corresponding downstream proteins. HyPrColoc analysis identified candidate causal variants for seven genes. Leveraging these variants as genetic instruments, genetically predicted protein levels of CR1, CTSH, C1S and SIGLEC9 showed associations with higher AD risk, while PLOD2, PILRA and GRN were associated with lower AD risk. Enrichment analysis of 11 genes implicated that the complement and coagulation cascade pathway may play a part in AD pathogenesis.**Conclusion:** Using genetic analyses we identified seven proteins as potential drug targets for Alzheimer's disease.**P-201****Are repetitive falls a manifestation of the onset of cognitive deterioration?**

Miranda Doz Arcas (1), Julia Castillo García (1), Rocío Onieva Albañil (1), María Dolores Domingo Sanchez (1), Óscar Pérez Berasategui (1), Ana Lydia Sánchez Aso (1), Natalia Rodríguez Osto (1), Guillermo Menéndez Fermín (1)

(1) Hospital Nuestra Señora De Gracia

**Introduction:** Falls in older people are a major health problem. Gait disorders may act as early diagnostic markers for dementia, because falls are caused by physiological deficits and cognitive dysfunction. Objective:- To find out the profile of patients with falls syndrome.- To identify whether there is a relationship between repetitive falls and onset of cognitive impairment.**Material and Methods:** Descriptive, observational, retrospective study. Patients admitted to our Geriatric Day Hospital for gait disturbance and repetitive falls were included (01/2020–01/2021). Variables: Pfeiffer score (admission and discharge); SARC F (Sarcopenia and Related Disorders); SPPB (Short Physical Performance Battery) .**Results:** 96 patients, mean age: 83 years (SD 5.17), 59% female.- Pre admission, during and discharge: 29%/16%/55% walked without technical aids, 38%/41%/34% walking stick, 29%/33%/8% walker,

0%/10%/2% did not walk. Mean Barthel Index pre admission, during and at discharge 83.5 (SD 19.5), 68.6 (SD 24.7) and 79.3 (SD 17.3). Pfeiffer median (admission and discharge) : 2 and 1.- Median SARC F (admission and discharge) 7 and 5.—Median SPPB scores (admission and discharge) : 4 and 7. History of chronic small vessel disease: 43%. 11.5% no previous diagnosis of dementia.

**Conclusions:** HDG interventions related to frailty contribute to functional recovery.- Falls syndrome is common in the elderly and is associated with functional and cognitive complications.- Functional improvement at discharge is associated with cognitive improvement.**P-202****A cohort study investigating psychological distress as a risk-factor for adverse outcomes in people with dementia: a study protocol**

Aron Jarvis (1), Tomas J. Welsh (1), Ashley Vanstone (2), Anita McGrogan (3)

(1) The RICE Centre, Bath, UK, (2) Department of Psychology, University of Bath, UK, (3) Department of Life Sciences, University of Bath, UK

**Introduction:** Dementia is a leading cause of adverse outcomes for older people, including hospitalisation and mortality. Multimorbidity is a good predictor of these poor outcomes for people with dementia, but it is less clear which conditions increase risk. Serious comorbidities will increase the risk of death or hospitalisation, but less serious and treatable conditions may also have an impact. We present a study protocol investigating whether psychological distress predicts adverse outcomes for people with dementia.**Methods and analysis:** A cohort of patients aged > 65 years with an incident dementia diagnosis will be identified from general practice data in the Clinical Practice Research Datalink (CPRD). We expect to identify ~ 260,000 patients with incident dementia. The study period will be 01/01/2005–31/12/2021. The follow-up period will begin in 01/01/2006 to ensure that dementia diagnosis is incident. The follow-up period will end if GP stops contributing data, GP closes patient record, patient dies, or end of study period—whichever is earliest. The exposure under investigation is psychological distress. The outcomes are all-cause hospitalization, all-cause mortality and institutionalization. Initial regression analyses will use Cox proportional hazards models with adjustments for age, sex, and any relevant covariates to test whether there is an association between psychological distress and increases in risk of each of the outcomes occurring individually. The incidence of psychological distress in the dementia cohort will also be calculated by year and age category in five-year intervals.**Key Conclusions:** The results will indicate whether psychological distress predicts adverse outcomes for people with dementia.**P-203****Learning from cognitive impairment assessment**

V Sauleda-Ferrer (1), P Fernández-García (1), J Fabricio-Portero (1), E Martín-Pérez (1), S Jiménez-Mola (1), J Idoate-Gil (1)

(1) Complejo Asistencial Universitario León

**Introduction:** The Mini-menta State Examination (MMSE) is the selected screening tool for detecting Cognitive Impairment in population older than 65 years old. It is an useful instrument for quality of life assessment in dementia (1). Objectives: The aims of this study are to improve comprehension and self-reported quality of life in older

people with suspected cognitive impairment through the analysis of the MME section “write a sentence” into Language and comprehension part.

**Methods:** Observational, prospective and descriptive study of elderly people evaluated in July 2022, in an Outpatient Geriatric Clinic referred from General Practitioners for probable Cognitive Impairment, from 1 to 31 July 2022. Data were obtained following the steps of an Integrated Comprehensive Geriatric Assessment (CGA), carried out in the first visit. Variables: demographic, place of residence, caregivers, Barthel Index, Cognitive basement (MMSE, Clock test and MoCA), comorbidities, neuropsychiatric symptoms, polypharmacy, and geriatric syndromes.

**Results:** 80 medical records were evaluated, 66,6% women., mean age 88.2 years (between 78–96 years old), 29,16% from nursing home; mean Barthel Index 82,17 (range 35–100), between 6–8 chronic diseases. Patients with MMSE > 20/30 (MMSE > 24 = 54,3%) were able to write a sentence with positive ideas (family, friends...) and anosognosia, no neuropsychiatric symptom, no depression.

**Key Conclusions:** Since patients with Anosognosia are not aware of their illness, this results into an improved quality of life for a certain period of time.

**Reference:**

(1) Burks. Quality of Life Assessment in Older Adults with Dementia: A Systematic Review. *Dement Geriatr Cogn Disord.* 2021;50 (2) :103–110.

## P-204

### Midlife Insulin Resistance, APOE Genotype, and Change in Late-Life Brain Beta-Amyloid Accumulation—a 5-Year Follow-Up [11C]PIB-PET Study

Elina Pietilä (1), Anniina Snellman (1), Jouni Tuisku (1), Semi Helin (1), Matti Viitanen (2), Antti Jula (3), Juha Rinne (4), Laura Ekblad (5)

(1) Turku PET Centre, University of Turku and Turku University Hospital, Turku, Finland, (2) Department of Geriatrics, Turku City Hospital and University of Turku, Finland; Division of Clinical Geriatrics, NVS, Karolinska Institutet, Stockholm, Sweden, (3) Finnish Institute for Health and Welfare, Turku, Finland, (4) Turku PET Centre, University of Turku and Turku University Hospital, Turku, Finland; InFLAMES Research Flagship Center, University of Turku, Turku, Finland, (5) Turku PET Centre, University of Turku and Turku University Hospital, Turku, Finland; Department of Geriatrics, Turku University Hospital, Wellbeing services county of Southwestern Finland, Finland

**Introduction:** Midlife insulin resistance (IR) has been associated with brain beta-amyloid (Abeta) accumulation. We studied if midlife IR and APOE genotype would predict brain Abeta load in late-life in 5-year follow-up [11C]PIB-PET study.

**Methods:** We studied 43 dementia-free participants twice with [11C]PIB-PET in their late-life in this 5-year follow-up study (mean age at follow-up 75.4 years). The participants were recruited from the Finnish Health2000 study according to their homeostatic model assessment of insulin resistance (HOMA-IR) values measured in midlife (mean age at midlife 55.4 years; IR + group, HOMA-IR > 2.17; IR – group, HOMA-IR < 1.25), and their APOEε4 genotype. [11C]PIB-PET images were analyzed with an in-house pipeline and standardized uptake value ratio (SUVr) composite scores were calculated in regions of early Abeta pathology in Alzheimer’s disease. Differences between IR groups and IR/APOEε4 groups in [11C]PIB-PET SUVr at follow-up and its 5-year change were analyzed with

non-parametric tests. The associations between IR groups and [11C]PIB-PET were evaluated with linear models adjusted for age and sex.

**Results:** At the late-life follow-up, [11C]PIB-PET composite SUVr was significantly higher in IR + group than IR – group (median 2.3 (interquartile range 1.7 – 3.3) vs. 1.7 (1.5 – 2.4),  $p = 0.03$ ). In [11C]PIB-PET SUVr 5-year change; there was no difference between IR- and IR + groups ( $p = 0.29$ ), but the change was significantly higher in IR + /APOEε4 + group (median change 0.8 (0.60 – 1.0)) than in IR – /APOEε4 – (0.28 (0.14 – 0.47),  $p = 0.02$ ) and in IR + / APOEε4 – group (0.24 (0.06 – 0.40),  $p = 0.046$ ).

**Key Conclusions:** These results suggest that APOEε4 carriers with midlife IR are at increased risk for late-life Abeta accumulation.

## P-205

### The Impact Of Diabetes On Alzheimer’s Disease

Ioana Alexandra Sandu (1), Ramona Ștefăniu (2), Călina Anda Sandu (3), Ana Maria Turcu (2), Sabinne Marie Tăranu (2), Adina Carmen Ilie (2), Ioana Dana Alexa (2)

(1) University of Medicine and Pharmacy “Grigore T. Popa” Iasi, Romania, Arcadia Hospital Iasi., (2) CI Parhon Hospital, Iasi, Romania, University of Medicine and Pharmacy”Grigore T. Popa” Iasi, Romania, (3) University of Medicine and Pharmacy”Grigore T. Popa” Iasi, Romania, Sf.Spiridon Hospital, Iasi

**Introduction:** Dementia is not a normal part of the aging process, nor is it a “single” disease. Rather, dementia is an umbrella term used to describe the loss of memory and thinking ability that is caused by various diseases that damage the brain. It is among the greatest public health challenges for modern societies worldwide.

**Methods:** We conducted a prospective study to determine the presence of one of the most important cardiovascular risk factor among the middle-aged population. We applied the CAIDE instrument to a group of 50 middle-aged Caide patients attending the internal medicine and geriatrics outpatient service.

**Results:** In the center of attention we have two important pathologies: a cardiovascular risk factor- Diabetes—and the risk of developing Alzheimer’s dementia in the late life. In particular, as age advances, the presence of diabetes and cognitive impairment are frequently observed in older adults. Our preliminary data showed that: The CAIDE score appeared to be significantly higher in patients with diabetes (9.41 vs. 7.94 in those without diabetes,  $t = 2.05$ ,  $p = 0.046$ ).

**Key Conclusions:** The recognition of a Diabetes– Alzheimer’s Disease axis and its possible role at the crossroad of cardiovascular risk factors and cognitive impairment may shed new light for the identification of novel therapeutic management. Also equally important is that targeting the Diabetes-Alzheimer’s Disease axis may positively impact the quality of life of older adults and of those with neurodegenerative disease conditions.

## P-206

### Articulation disorders suggestive of neurodegenerative disease

Etienne-Paul Petit (1), Elodie Petit-Perdrizet (2), Damien Seynaeve (3), Didier Tourmiaire (2)

(1) Drôme Nord Hospital Center—Geriatric medicine department—France, (2) Drôme Nord Hospital Center—Neurology department—France, (3) Drôme Nord Hospital Center—Geriatric medicine department—France

**Introduction:** rticulatory disorders with relative preservation of written language are an unusual and potentially misleading presentation of neurodegenerative disease. Methodology We report the case of a 74-year-old woman presenting a ten-year-long cognitive disorder, firstly starting with very gradually worsening dysarthria leading to anarthria. Follow-up by various specialists and a really slow pace participated in misdiagnosis. So did the family history: the patient's brother died at age 69 due to assumed Alzheimer's disease; her son presented a progressively ongoing neurologic disorder of unspecified etiology, characterized by an insidious and progressive motor weakness in the right lower limb.

**Results:** he hypothesis of a tauopathy in the dysarthric form of primary progressive aphasia presenting with dysarthria or an agrammatic variant of primary progressive aphasia is discussed. Brain MRI in 2016, 2018, and 2019 revealed all but characteristic lesions, if not slight cortical atrophy, rather common at the age of the patient. An MRI conducted in 2023 showed a marked and bilateral cortical and subcortical atrophy, associated with predominantly supratentorial leukoencephalopathy. FDG-PET Scan pointed out aspects of an asymmetrical degenerative cortical disease, predominantly in frontal lobes in the left central-parietal regions, suggestive of corticobasal degeneration (CBD). The c9orf72 and SOD1 mutations testing were negative.

**Key Conclusions:** This clinical case highlights the importance of history-taking and follow-up in neurodegenerative diseases, particularly when the question of genetic analysis arises.

## P-207

### HIND-24–The tolerability of ambulatory blood pressure measurements in people with moderate to severe dementia

Tomas J. Welsh (1), Melissa Nolan (2), Beth Fine (3)

(1) RICE–The Research Institute for Care of Older People, Bath, UK; University of Bristol, Bristol, UK; Royal United Hospitals Bath NHS Foundation Trust, Bath, UK, (2) RICE–The Research Institute for Care of Older People, Bath, UK, (3) RICE–The Research Institute for Care of Older People, Bath, UK

**Introduction:** igh blood pressure (BP) is common in people with dementia and is commonly treated. More accurate BP measurement may enable treatment optimisation in a group who are potentially more vulnerable to medication side-effects. Ambulatory BP monitoring (ABPM) is used routinely in the general population but its tolerability and usefulness in those with dementia, particularly in those with more severe impairment, is less clear. We set out to evaluate the tolerability of ABPM in people with moderate to severe dementia.

**Methods:** We recruited 50 people with dementia and Mini-Mental-State-Examination (MMSE) scores of  $\leq 18$  from a memory clinic research database. After baseline data were obtained the ABPM device was fitted for 24 h. Toleration of the device was assumed if the participant was able to wear the device for 20 out of the 24-h period. A threshold of 70% of measurements being taken successfully was used to determine usefulness.

**Results:** Mean age was 81 (SD6.5), 30 (60%) had Alzheimer's disease dementia, and a median MMSE 15 (IQR 10–17). 21 participants (42%) wore the cuff for more than 20 out of 24 h. Of those who tolerated wearing the device 11 (52%) successfully recorded over 70% of measurements. The commonest reason for removing the device was discomfort/annoyance (15 (52%)) or to change clothes (8 (28%)).

**Key Conclusions:** ABPM was poorly tolerated in this group of people with dementia and low MMSE scores. ABPM provided useful

results in only around 1 in 5 participants. ABPM is unlikely to be a useful monitoring tool in people with significant levels of cognitive impairment.

## P-208

### Can gait speed in midlife predict future cognitive performance? Results from the ENBIND study

Laura Morrison (1), Adam Dyer (1), Louise McKenna (1), Githmi Gamage (1), Nollaig Bourke (2), Isabelle Killane (3), Matthew Widdowson (4), James Gibney (4), Conor Woods (4), Richard Reilly (5), Sean P Kennelly (1)

(1) Age Related Healthcare, Tallaght University Hospital, Dublin, Ireland, (2) Department of Medical Gerontology, Trinity College Dublin, Ireland, (3) Department of Engineering, Technological University Dublin, Ireland, (4) Robert Graves Institute for Endocrinology, Tallaght University Hospital, Dublin, Ireland, (5) Trinity Centre for Biomedical Engineering, Trinity College Dublin, Ireland

**Introduction:** Midlife Type 2 Diabetes Mellitus (T2DM) is associated with a two-fold increased risk of developing dementia in later life, however, knowledge of potential biomarkers indicating the individuals at greatest risk is limited.

**Methods:** ENBIND is a longitudinal study of cognitively-healthy middle-aged adults with T2DM (without microvascular/macrovacular complications) and healthy controls. Gait speed was measured across three tasks (usual speed, maximal speed and cognitive dual-task). Montreal Cognitive Assessment (MoCA) and a custom CANTAB battery were used to assess domain-specific neuropsychological performance with identical assessments repeated after 4 years results were analysed using linear regression.

**Results:** 30 individuals ( $55.5 \pm 9$  years; 50% female) were followed up. 76.7% ( $n = 23$ ) had midlife T2DM. Individuals with T2DM did not experience greater cognitive decline over 4 years. Baseline "usual" gait speed (not dual-task or maximal speed) was associated with greater likelihood of incident errors on the MoCA at 4 years, which persisted on controlling for T2DM status, age, sex and baseline cognition (B:  $-0.22, -0.41, -0.03, p = 0.03$ ). Slower maximal (B:  $-3.07, -6.06, -0.08, p = 0.04$ ) and cognitive dual-task (B:  $-1.98, -3.61, -0.17, p = 0.03$ ) speed were both associated with significantly poorer delayed memory performance at 4 years.

**Conclusion:** Gait speed in midlife, in a population with known dementia risk factors, may be a useful adjunct to identify those at greatest risk of longitudinal cognitive decline. Whilst usual gait speed was associated with future decline in global cognition, fast and dual-task gait speed were associated with longitudinal decline in delayed memory performance.

## P-209

### Assessment of pain in people with advanced dementia by electroencephalography: lakua study protocol

Olatz Ruiz De Munain Bedia (1), Brigida Argote Martinez De Lagran (2), Marta Cerezo Plaza (3), Vanesa Lopez Vazquez (4), Iñaki Artaza (5)

(1) Lakua Nursing Home. IFBS, (2) IFBS, (3) Lakua Nursing Home, (4) Deusto Seidor Consulting Services, (5) Department of Social Policies



**Background:** Pain is commonly under-recognised and under-treated in people with dementia who cannot communicate verbally. Pain in older people with dementia can usually be measured by pain behaviour rating scales. EEG is a non-invasive diagnostic procedure that records brain activity and appears to be a promising biological indicator of pain perception. **OBJECTIVES**The main objective of the study is to evaluate the capacity of the EEG as a marker of pain perception and its intensity in people with dementia in comparison with the PAINAD scale.

**Methods:** /DESIGNCurrently, to identify pain in people with dementia we use the PAINAD scale. In this study we want to analyze the presence of pain in 46 patients with dementia recruited from a psychogeriatric nursing home in Vitoria-Gasteiz, using an EEG headset MUSE 2, with 4 channel electrodes: TP9, AF7, AF8, TP10 (delta, theta, alpha, beta and gamma brainwaves) helmet when provoking a painful stimulus at the time of daily hygiene and when performing a blood draw. In addition to these data, the following variables will be analyzed: age, sex, functional status, type and severity of dementia, and treatment with psychotropic drugs and analgesics and reason for treatment.

**Discussion:** We want to assess whether the brain waves data obtained with the headband EEG could be used as markers of pain in dementia patients. As well as if the data obtained correlate with those the PAINAD or to value the influence of variables such as some drugs use or the type and severity of dementia.

## P-210

### Changes in Physical Functioning During a 7-year Follow-up After a 2-year Lifestyle Intervention Among Older Adults: the FINGER Randomized Controlled Trial

Henni Pöyhönen (1), Esko Levälähti (2), Jenni Lehtisalo (3), Tiina Laatikainen (4), Timo Strandberg (5), Riitta Antikainen (6), Jaakko Tuomilehto (7), Hilikka Soininen (8), Miia Kivipelto (9), Jenni Kulmala (10), Tiia Ngandu (11)

(1) Population Health and Welfare, Finnish Institute for Health and Welfare, Helsinki, Finland; University of Helsinki, Finland, (2) Population Health and Welfare, Finnish Institute for Health and Welfare, Helsinki, Finland, (3) Population Health and Welfare, Finnish Institute for Health and Welfare, Helsinki, Finland; Department of Clinical Medicine/Neurology, University of Eastern Finland, Kuopio, Finland, (4) Population Health and Welfare, Finnish Institute for Health and Welfare, Helsinki, Finland; Institute of Public Health and Clinical Nutrition, University of Eastern Finland, Kuopio, Finland; Joint Municipal Authority for North Karelia Social and Health Services (Siun Sote), Joensuu, Finland, (5) University of Helsinki and Helsinki University Hospital, Helsinki, Finland; Center for Life Course Health Research, Geriatrics, University of Oulu, Oulu, Finland, (6) Center for Life Course Health Research, Geriatrics, University of Oulu, Oulu, Finland; Medical Research Center Oulu, Oulu University Hospital, Oulu, Finland, (7) Population Health and Welfare, Finnish Institute for Health and Welfare, Helsinki, Finland; South Ostrobothnia Central Hospital, Seinäjoki, Finland; Department of Public Health, University of Helsinki, Helsinki, Finland, (8) Department of Clinical Medicine/Neurology, University of Eastern Finland, Kuopio, Finland; Department of Neurology, Kuopio University Hospital, Kuopio, (9) Population Health and Welfare, Finnish Institute for Health and Welfare, Helsinki, Finland; Division of Clinical Geriatrics, Center for Alzheimer Research, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet, Stockholm, Sweden; Institute of Public Health and Clinical Nutrition,

University of Eastern Finland, Kuopio, Finland; The Ageing Epidemiology Research Unit, School of Public Health, Imperial College London, London, United Kingdom, (10) Population Health and Welfare, Finnish Institute for Health and Welfare, Helsinki, Finland; University of Tampere, (11) Population Health and Welfare, Finnish Institute for Health and Welfare, Helsinki, Finland; Division of Clinical Geriatrics, Center for Alzheimer Research, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet, Stockholm, Sweden

**Introduction:** s the population ages, functional and cognitive decline becomes increasingly common. The FINGER study is the first randomized clinical trial that has shown positive results in slowing down cognitive decline and maintaining physical functioning through lifestyle intervention. The aim of this study is to describe the long-term effect of lifestyle intervention on physical functioning in older people at risk of dementia.

**Methods:** The FINGER study is a randomized controlled trial with 1260 participants who were at risk of cognitive decline and aged 60–77 at the beginning of the study in 2009. Participants were randomly assigned in a 1:1 ratio to a 2-year multi-domain intervention (diet, exercise, cognitive training, and vascular risk monitoring) or a control group (general health advice). Physical function tests were basic activities of daily living (BADL), instrumental activities of daily living (IADL) and the Short Physical Performance Battery (SPPB). Adherence in the intervention was also considered.

**Results:** based on the results of the immediate intervention effects after the first 2 years, multi-domain lifestyle intervention can maintain physical functioning. Long-term results up to 7 years showed that overall physical functioning declined over time. There were no longer significant differences between the intervention and the control group in physical functioning after the follow-up. However, the participants with highest level of adherence had better physical functioning.

**Key Conclusions:** The physical functioning among older adults can be supported with lifestyle interventions. More long-lasting benefits are observed among those who engage better in the interventions.

## P-211

### Does non-HDL cholesterol affect cognitive outcome in patients diagnosed with cognitive impairment by a neurologist

Coralie Wierinckx (1), Marien Sophie (2)

(1) 13942759018, (2) 1–5932051-180

**Introduction:** With an ageing population and no curative treatment for dementia, the identification of modifiable risk factors for cognitive decline has become a global prevention issue. Vascular risk factors and  $\beta$ -amyloid load are known to play an important role in cognitive impairment. The primary aim is to evaluate the influence of non-HDL cholesterol levels on cognitive outcome in patients with subjective/mild cognitive impairment assessed by the neurologist at enrolment. Secondly, we investigate the existence of synergy between non-HDL cholesterol and  $\beta$ -amyloid burden on cognitive decline.

**Methods:** . Data from the Memory Clinics of the Cliniques Universitaires Saint-Luc included in the Amyloid Imaging to Prevent Alzheimer Disease (AMYPAD) project were analysed in this study. Inclusion criteria were cognitive evaluation by neuropsychological assessment (MMSE) and  $\beta$ -amyloid PET-scan at baseline and after 4 years, and non-HDL cholesterol measurement at baseline.

**Results:** The median age of the 129 participants was 71 years ( $\pm$  7.5 years). Higher non-HDL cholesterol levels were associated with cognitive decline ( $\beta$  0.02 mg/dl/point, 95% CI 0.01 to 0.04, p-value

0.006), even after adjustment for gender and other covariates known to be associated with cognitive decline (age, socioeducational level, family history of dementia, positive amyloid PET-scan, and presence of apolipoprotein  $\epsilon 4$  allelic variation). The addition of an interaction term between non-HDL cholesterol level and  $\beta$ -amyloid burden was not statistically significant ( $\beta$  0.02, 95% CI  $-0.01$  to  $0.05$ ,  $p$ -value  $0.2$ ).

**Conclusions:** High non-HDL cholesterol levels were individually predictive of cognitive decline. However, a synergistic effect with  $\beta$ -amyloid burden was not observed in the studied cohort.

## P-212

### Diagnostic performance of a proposed Dar es Salaam Dementia screening test

Kelvin Leshabari (1), Robert Magoma (2), Khalfan Masoud (3), Mathew Mwanjali (4), Ismail Mtitu (5), Godfrey Swai (6), Macca Mrina (7)

(1) Ageing Research Group, Registered Trustees of Ultimate Family Healthcare-Dar es Salaam, Tanzania, (2) Amana Regional Referral Hospital-Dar es Salaam, Tanzania, (3) Hubert Kairuki Memorial University-Dar es Salaam, Tanzania, (4) Programme Unit-Registered Trustees of Ultimate Family Healthcare-Dar es Salaam, Tanzania, (5) Ministry of Health-Dodoma, Tanzania, (6) Programme Unit, Registered Trustees of Ultimate Family Healthcare-Dar es Salaam, Tanzania, (7) Grassroots Initiation for Youth & Elderly Development Organisation (GIYEDO-JAMII) -Dodoma, Tanzania

**Background:** Africa is undergoing a rapid demographic transition. Tanzania in particular has recorded a near doubling in  $\geq 65$  years population in the past three decades. Dar es Salaam Longitudinal Programme on Ageing (DALOPA) serves as a pilot programme to the proposed Ageing Initiative in Africa (AISA). We conceived and tested a locally made, non-invasive tool for Mild Cognitive Impairment (MCI) and probable dementia, using a cohort of  $\geq 55$  years.

**Methods:** We tested the tool using a cross-sectional community-based screening. The candidate tool underwent diagnostic performance testing (sensitivity, specificity, reliability and face validity) against Mini-Cog and Mini-Mental Status Examination. Data were analysed using SAS version 9.7. Both Chronbach's alpha and  $\kappa$  were used to assess reliability indices of test scores after factor analyses. Unless otherwise stated,  $\alpha$ -level of 5% was used as a limit of type 1 error. All screened participants signed a written informed consent prior to inclusion into the programme.

**Results:** We screened 912 adults with a median age of 67.1 (IQR: 64–70) years. The candidate tool had a sensitivity and specificity of 85.7% and 19.3% against Mini-Cog test for probable dementia respectively. The same tool scored 52.5% and 64.7% for sensitivity and specificity of probable dementia under MMSE respectively. Sensitivity and specificity of the candidate tool for MCI under mini-Cog test was 90.0% and 96.2% respectively. Likewise, sensitivity and specificity of the candidate tool for MCI under MMSE was 52.5% and 64.7% respectively. The candidate tool had an accuracy of 91.8% and 56.4% for detection of MCI under mini-Cog test and MMSE respectively.

**Conclusion:** The candidate tool had an appreciable performance for both diagnostic and screening tool for MCI under local conditions.

## P-213

### Clinical and epidemiological characteristics of patients admitted with dementia

Erwin Martin Hernandez Ocampo (1)

(1) Erwin Martin Hernandez Ocampo

**Introduction:** It is estimated that older people with dementia are increasingly requiring hospital admissions due to decompensation of their psychological and behavioral symptoms, which is why we dare to carry out this study.

**Keywords:** dementia, psychological and behavioral symptoms.

**Material and Methods:** A retrospective, descriptive and observational study was carried out. Of the total number of patients admitted to Bernat Sanitary Associate (CSS) Jaume-Figuera, between January 1 and May 31, 2023, 50 records from the Third floor of the CSS were reviewed at random, variables were chosen: Age, Sex, Clinical data, diagnosis, Barthel Index (BI), most widely used psychiatric drug. The Exel program and statistical descriptors were used.

**Results:** Of the 50 patients, 21 (42%) are men and 29 (58%) women, the average age was 80.3 years and fluctuates between 67–96. + Alzheimer 14 (28%), vascular dementia in 8 (16%), Lewy body dementia 3 (6%), Fronto-Temporal dementia 3 (6%), unknown dementia 3 (6%), dementia due to Paralysis Progressive supranuclear 2 (4%). The Barthel index (BI) : IB > 90 in 0 (0%), between 90–60 in 8 (16%), between 59 to 20 in 24 (48%) and IB > 20 in 18 (36%). Psychological and behavioral symptoms that presented reason for admission: Agitation 46 (92%). Anxiety 14 (28%) Depression 8 (16%), Apathy 4 (8%), Erratic wandering 4 (8%). The most used psychiatric drugs: Quetiapine 34 (68%), Pregabalin (28%), Olanzapine 7 (14%) Risperidone in 6 (12%), Vortioxetine in 5 (10%) Citalopram 2 (4%) Sertraline 1 (2%).

**Conclusions:** The most frequent psychological behavioral symptom for the reason for admission was agitation. The most used neuroleptic was quetiapine.

## P-214

### Not all dementias are Alzheimer!

MROUKI Maroua (1), Maillard Sylvie (2), TISSOT Patricia (2), BADA Wihed (2), Barniol Caroline (2), BONHOURS Caroline (2)

(1) Centre Hospitalier perpignan Service de gériatrie, (2) Centre Hospitalier Perpignan Service de Gériatrie

**Introduction:** Limbic encephalitis (LE) is a temporal lobe inflammatory disease. Seizure, anterograde memory loss and behavioral disturbance are the main features. AK5-anti body (Abs) LE is a rare auto-immune encephalitis different from classical LE with subacute onset and absence of seizure. Only few cases have been previously reported. Method: Herein we present the case of an 80-year-old woman with AK5-Abs LE. Case report: An 80-year-old woman presented in the geriatric department with 6 weeks of progressive anterograde amnesia, behavioral troubles fluctuating through the day. Her medical history was remarkable for hypertension and sleep apnea syndrome. On examination, the patient was confused with no focal neurological deficits or extrapyramidal syndrome. There was no fever and the rest of the physical examination was normal. The laboratory tests didn't show electrolytic disturbance, dysthyroid disorders, vitaminic lack (vitamin B12, B9). Syphilis serology, CMV, EBV, HIV, HVB and HVC were negative. Cerebral MRI showed bilateral temporal flair hyper signal. Swan sequences didn't show necrosis. Body TDM were normal. Lumbar puncture showed a pleiocytosis at 26 L/mm<sup>3</sup>, culture was negative. CMV, HSV1 and 2, HHV6 and VZV

were negative. Listeria, crypto neuroformas Neisseria meningitidis were also negative. AAN were positive at 320, Anti ENA were negative. Protein tau and protein 14–3-3 were within normal levels. Anti AK5 in the CSF were positive. The patient was given intravenous immunoglobulin without any improvement. The rituximab was tried without any result after 2 injections. Cyclophosphamide was tried monthly for 6 months but the cognitive impairment was fixed.

**Conclusions:** Anti-AK5 LE is a rare disease that occurs in general in male about the age of 60 years old. Our case is particular by the age of our patient of 80-year-old woman. This disease is not well know, maybe it's rare because underdiagnosed.

## P-215

### Polypharmacy and vitamin d deficiency in patients with dementia

Erwin Martin Hernandez Ocampo (1)

(1) Centro Socio Sanitario Bernat Jaume-Figueres (España)

**Introduction:** Polypharmacy is associated with greater hospitalization and death in the elderly, and its study in the population with dementia is important. On the other hand, vitamin D deficiency is frequent in the geriatric population and could be related to dementia. There is the interest of carrying out this study in geriatric patients with dementia. Keywords: dementia, vitamin D, polypharmacy.

**Material and methods:** A retrospective, descriptive and observational study was carried out. Of the total number of patients admitted to the Bernat Jaume Health Associate (CSS), between January 1 and May 31, 2023, 50 random histories of patients admitted with a diagnosis of dementia in the CSS psychogeriatrics unit were reviewed. Variables were chosen: Age, Sex, diagnosis, Barthel Index (BI), frequency of polypharmacy and vitamin D in hospitalized patients with dementia. The Exel program and statistical descriptors were used.

**Results:** Of the 50 patients, 21 (42%) are men and 29 (58%) women, the average age was 80.3 years and fluctuates between 67 and 96. They had a diagnosis of Alzheimer's Dementia 17 (34%), Mixed dementia 14 (28%), vascular dementia in 8 (16%), Lewy body dementia 3 (6%), Fronto-Temporal dementia 3 (6%), unknown dementia 3 (6%), dementia due to progressive Supranuclear Palsy 2 (4%). The Barthel index (BI) : IB > 90 in 0 (0%), between 90 and 60 in 8 (16%), between 59 to 20 in 24 (48%) and IB < 20 in 18 (36%). Vitamin D values less than 30 pg/ml were determined in 32 (64%) and the frequency of polypharmacy (greater than 5 drugs) was 44 (92%) and extreme polypharmacy (greater than 10 drugs) was 14 (28%).

**Conclusions:** Vitamin D deficiency, polypharmacy, and extreme polypharmacy are very common in patients admitted for dementia.

## Comprehensive Geriatric Assessment

### P-216

#### Unavoidable pressure ulcer at a geriatric medical center: Retrospective study

Gad Mendelson (1), Merav Ben Natan (2), irena rachmimov (3)

(1) Dorot geriatric medical center, (2) hillel yaffe nursing school, (3) Dorot geriatric medical center

Pressure ulcers are a common phenomenon among hospitalized patients worldwide and especially among older adults hospitalized in geriatric facilities. Pressure ulcers are caused by a local disturbance in blood flow, usually caused by prolonged pressure on a part of the

body, and/or by shear force, in combination with the skin's low tolerance to pressure. Pressure ulcers are considered a preventable injury, often attributed to poor nursing care, and thus are a key quality measure in assessing the quality of nursing care. As a result, pressure ulcer prevention has become a top priority in patient safety programs in healthcare organizations around the world. The purpose of the present study is to examine the prevalence of unavoidable pressure ulcers in older patients hospitalized in a geriatric facility and the factors that increase the likelihood that a pressure ulcer that a patient develops during hospitalization is an unavoidable pressure ulcer. This study was a retrospective comparative descriptive study based on medical records. This study included a random sample of 100 cases of patients aged 65 and older who developed pressure ulcers between 2019–2020 in the rehabilitation, respiratory, supportive care, and complex nursing care departments in a large geriatric facility in the center of Israel was conducted to examine what is a preventable pressure ulcer versus an unavoidable pressure ulcer. Patients who were admitted with pressure ulcers from another place were excluded. In the present study, it was found that most of the pressure ulcers that patients developed while being hospitalized in a geriatric facility were unavoidable. Moreover, differences in characteristics were found between a group of patients whose pressure ulcer was classified as unavoidable versus a group of patients whose pressure ulcer was classified as preventable. Thus, while the characteristics of the former group of patients is consistent with the theories regarding the etiology of unavoidable pressure ulcers, the characteristics of the latter group of patients may indicate deficiencies in the conduct to prevent pressure ulcers that are preventable. It is important to understand preventive programs at an institutional level.

### P-217

#### Intrinsic Capacity Declines with Elevated Homocysteine in Community-Dwelling Chinese Older Adults

Feng Huang (1), Siyang Lin (2), Xiaoming Huang (2), Yin Yuan (1), Na Li (1), Pengli Zhu (1)

(1) Department of Geriatric Medicine, Fujian Provincial Hospital, Fuzhou, China, (2) Shengli Clinical Medical College of Fujian Medical University, Fuzhou, China

**Purpose:** Intrinsic capacity (IC) reflects the overall health status of older adults and has great public health significance. But few studies described the related biomarkers for IC. The aim of this study was to investigate the association between homocysteine (Hcy) and IC in older adults. Participants and .

**Methods:** This cross-sectional study included 1927 community-dwelling Chinese older adults aged 60–98 years from May 2020 to December 2020. Data were collected through interviews, physical examinations, and laboratory tests. IC involved five domains of cognition, locomotion, sensory, vitality, and psychology evaluated by the Mini-cog scale, 4-m walk test, self-reported visual and hearing conditions, MNA-SF scale, and GDS-4 scale, respectively. The score of each domain dichotomized as 0 (normal) and 1 (impaired) was added together to an IC total score. Low IC was defined as a score of 3–5, and high IC as 0–2. Hcy was measured by a two-reagent enzymatic assay. A restricted cubic spline regression model was used to explore the non-linear relationship between Hcy and low IC.

**Results:** Hcy was higher in the low IC group than in the high IC group. Restricted cubic spline analysis revealed a J-shaped non-linear association between Hcy and low IC. The risk of IC decline was slowly decreased until 8.53  $\mu\text{mol/L}$  of Hcy (OR = 0.753, 95% CI 0.520–1.091, P = 0.132), and increased with elevations of per 5  $\mu\text{mol/L}$  Hcy afterwards (OR = 1.176, 95% CI 1.059–1.327, P = 0.005).

Among the five domains of IC, Hcy had ORs of 1.116 (1.009–1.247) for cognition impairment, 1.167 (1.055–1.305) for vitality, and 1.160 (1.034–1.303) for psychology per 5  $\mu\text{mol/L}$  increase in Hcy above the change point. Additional sensitivity analysis also demonstrated the nonlinear association between Hcy and low IC.

**Conclusion:** Hcy had a J-shaped association with low IC. Higher Hcy (Hcy  $\geq 8.53\mu\text{mol/L}$ ) might provide clinical implications for early identifying the risk of low IC.

## P-218

### Handgrip strength weakness and asymmetry together are associated with cardiovascular outcomes in older outpatients: A prospective cohort study

Siyang Lin (1), Yin Yuan (2), Na Li (2), Feng Huang (2), Pengli Zhu (2)

(1) Shengli Clinical Medical College of Fujian Medical University, Fuzhou, China, (2) Department of Geriatric Medicine, Fujian Provincial Hospital, Fuzhou, China

**Aim:** The evaluations of handgrip strength (HGS) weakness and asymmetry have implications for the comprehensive geriatric assessment. The aim of this study was to investigate the association of HGS weakness and asymmetry on cardiovascular outcomes in older outpatients.

**Methods:** This was a prospective observational cohort study of 364 Geriatrics outpatients aged  $\geq 60$  years, in which all participants carried out HGS tests at baseline. Patients with HGS  $< 28$  kg for men and  $< 18$  kg for women were diagnosed as HGS weakness, and HGS ratio  $< 0.90$  or  $> 1.10$  were diagnosed as HGS asymmetry. Primary outcomes defined as the major adverse cardiovascular event and composite end-points were assessed during a 21-month median follow-up.

**Results:** Among 364 participants, 155 (42.6%) showed HGS weakness, and 160 (44.0%) showed HGS asymmetry. HGS weakness was associated with major adverse cardiovascular events (HR 2.76, 95% CI 1.22–6.27) and composite end-points (HR 2.84, 95% CI 1.40–5.77). However, no significant correlation between HGS asymmetry and cardiovascular outcomes was observed. Compared with the normal and symmetric HGS group, older adults with HGS weakness and asymmetry together had a higher risk of major adverse cardiovascular events (HR 5.23, 95% CI 1.56–17.54) and composite end-points (HR 4.00, 95% CI 1.56–10.28).

**Conclusions:** HGS weakness and asymmetry together might increase the risk of cardiovascular outcomes in older outpatients. HGS asymmetry offers complementary information to HGS weakness when making a comprehensive assessment of HGS.

## P-219

### The correlation between low intrinsic capacity and frailty among older adults based on the propensity score matching method

Siyang Lin (1), Xiaoming Huang (1), Yin Yuan (2), Na Li (2), Feng Huang (2), Pengli Zhu (2)

(1) Shengli Clinical Medical College of Fujian Medical University, Fuzhou, China, (2) Department of Geriatric Medicine, Fujian Provincial Hospital, Fuzhou, China

**Objective:** The aim of this study was to explore the correlation between low intrinsic capacity and frailty among community-dwelling older adults.

**Methods:** The study included 2123 individuals aged  $\geq 60$  in the Wenquan Community Health Service Center from 2020 to 2021. Frail people were selected using the Fried phenotype. The intrinsic capacity assessment comprised cognition, locomotion, sensory, vitality, and psychological domains proposed by World Health Organization (WHO). Low intrinsic capacity was defined as  $\geq 3$  impaired domains. The bias between the low intrinsic capacity group and the high intrinsic capacity group was matched by the propensity score matching method. The correlation between low intrinsic capacity and frailty was evaluated by multivariate logistic regression analysis.

**Results:** Among 2123 older adults, 227 (10.7%) were frail, and 716 (33.7%) had low intrinsic capacity. The proportion of frailty was higher in the low intrinsic capacity group than in the high intrinsic capacity group (20.8% vs. 5.5%,  $P < 0.001$ ). The propensity score matching method was further used to match the low intrinsic capacity group ( $n = 654$ ) and high intrinsic capacity group ( $n = 654$ ). The variation of the two groups had no statistical significance in age, gender, widowed, education levels, income levels, smoking, drinking, comorbidity, and polypharmacy ( $P > 0.05$ ). Logistic analysis revealed that, compared with the high intrinsic capacity group, the risk of frailty was 2.966 folds in the low intrinsic capacity group (95% CI 2.072–4.245,  $P < 0.001$ ).

**Conclusions:** This study showed a positive correlation between low intrinsic capacity and frailty based on the propensity score matching method, which suggested that the early identification of low intrinsic capacity had public health implications for healthy aging.

## P-220

### Listening to the patients' voice: a conceptual framework of the walking experience

Laura Delgado-Ortiz (1), Ashley Polhemus (2), Alison Keogh (3), Norman Sutton (4), Werner Remmele (4), Clint Hansen (5), Felix Kluge (6), Basil Sharrack (7), Clemens Becker (8), Thierry Troosters (9), Walter Maetzler (5), Lynn Rochester (10), Anja Frei (2)

(1) 1. Non-communicable diseases and Environment Programme, ISGlobal, Barcelona, Spain; 2. Department of Medicine and Life Sciences, Universitat Pompeu Fabra, Barcelona, Spain; 3. CIBER Epidemiología y Salud Pública, Barcelona, Spain., (2) Epidemiology, Biostatistics and Prevention Institute, University of Zurich, Zurich, Switzerland, (3) Insight Centre for Data Analytics, University College Dublin, Dublin, Ireland, (4) Mobilise-D Patient and Public Advisory Group, (5) Department of Neurology, University Medical Center Schleswig-Holstein, Kiel, Germany, (6) Department of Artificial Intelligence in Biomedical Engineering, Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Erlangen, Germany, (7) Department of Neuroscience and Sheffield NIHR Translational Neuroscience BRC, Sheffield Teaching Hospitals NHS Foundation Trust & University of Sheffield, Sheffield, UK, (8) Department of Clinical Gerontology, Robert-Bosch-Hospital, Stuttgart, Germany, (9) Department of Rehabilitation Sciences, KU Leuven, Leuven, Belgium, (10) Translational and Clinical Research Institute, Faculty of Medical Sciences, Newcastle University, Newcastle upon Tyne, UK, (11) 1. Non-communicable diseases and Environment Programme, ISGlobal, Barcelona, Spain; 2. Department of Medicine and Life Sciences, Universitat Pompeu Fabra, Barcelona, Spain; 3. CIBER Epidemiología y Salud Pública, Barcelona, Spain

Walking is crucial for an active and healthy ageing, but it changes with age and in the presence of diverse health conditions, such as non-

communicable diseases and injuries. So far, conceptual frameworks of walking have not included the impact of these conditions and individuals' lived experiences on their walking. Thus, we aimed to identify and synthesize evidence describing the walking experience from the perspective of older individuals living with highly prevalent walking-impairing conditions of diverse aetiology (i.e., Parkinson's disease, multiple sclerosis, chronic obstructive pulmonary disease, heart failure, hip fracture, frailty and sarcopenia). We conducted a systematic review and meta-ethnography of qualitative evidence, following appropriate guidance. Out of 2,552 unique records, 117 were deemed eligible for the meta-ethnographic synthesis. We identified seven common themes that explain the experience of walking: (1) becoming aware of the walking experience, (2) the walking experience as a link between individuals' activities and sense of self, (3) the physical walking experience, (4) the mental and emotional walking experience, (5) the social walking experience, (6) the context of the walking experience, and (7) behavioral and attitudinal adaptations resulting from the walking experience. We proposed a framework that describes the interplay between these themes, providing a conceptualization of walking that is grounded in the experiences of older individuals recovering from a hip fracture or living with other walking-impairing health conditions, and that may be used to set priorities and improve patient centricity in clinical practice, research and public health initiatives.

## P-221

### The use of ICOPE in a geriatric rehabilitation ward in Belgium

Christelle El Kahi (1), Sandra Higuët (2), Sandra De Breucker (3)

(1) Hôpital de Nivelles, Belgique, (2) Hôpital de Nivelles, (3) Hôpital Erasme, Bruxelles

**Introduction:** The concept of healthy ageing inspires a new focus on optimizing intrinsic capacity and functional ability of ageing people. In October 2017, the World Health Organization published new guidelines to create a person-centered integrated care for older people (ICOPE) at the community level, focusing on the optimization of intrinsic capacity and functional ability after 65 years old. In this paper, we propose a preventive geriatric consultation model that could be implemented in Belgium.

**Methods:** We conducted in 2022 a preliminary survey asking geriatricians and general practitioners in geriatric rehabilitation units, on their knowledge of the ICOPE model.

**Results:** From the 44 responses we received, 95% confirmed screening systematically for cognitive decline, denutrition and mobility deficits. Less than 70% were screening for depression. However, screening for deglutition problems, urinary incontinence and social isolation was completely absent in their geriatric practice routine. Over 50% of the responders did not hear about the ICOPE model and 70.5% believed in the urgency to create a geriatric consultation dedicated for prevention screening.

**Conclusion:** Healthy ageing is a major goal for healthcare individuals working in geriatric fields. It is essential to develop strategies on a national level in the hope of diffusing the culture of prevention and to implicate elderly people in their health. These steps could reduce evitable hospitalisations and develop a healthcare system based on healthy ageing. Are we, as geriatricians, able to develop a more preventive-oriented -discipline so we can add years of quality to our life rather than adding just number of years?.

## P-222

### Utilizing valid, reliable, and practical measures of health status in primary geriatric care—translating research into usual care

Ted Rosenberg (1)

(1) Clinical Assistant Professor, Faculty of Medicine, University of British Columbia

**Introduction:** We conducted a study [1] to test the prognostic value of 9 valid, reliable, responsive tests for use in primary geriatric care. The results of 18 months of follow-up will be presented. Using a case presentation, we will also show how we have translated this research into individual patient education, evaluating interventions and for benchmarking, planning and evaluation at a practice level.

**Methods:** A 60 min assessment was performed by a nurse for all 388 people, living in the community and receiving primary care from a home-based geriatric practice. Average age was 88.4. The tests included: 1. Clinical Frailty Scale, 2. EQ5D-5L, 3. EQ-VAS, 4. Short Geriatric Depression Scale, 5. MoCA, 6. Grip Strength, 7. Gait Speed, 8. MNA-SF, 9. The 3oz. Water Swallow Test. Patients were followed for 18 months and outcomes including: death, nursing home transfer (NHT) and hospital admission (HA) were recorded. Hazard Ratios (HR) were calculated.

**Results:** 89% of patients found the assessment relevant and were willing to have it repeated. These measures of health status, compared to conventional diagnoses, multiple comorbidities and polypharmacy, were much stronger predictors of death (median HR 5.9 vs. 1.6), NHT (median HR 4.6 vs. 1.4) and HA (median HR 6.0 vs. 1.6).

**Key Conclusions:** 1. Standardized testing is acceptable and efficient. 2. These measures are stronger predictors of death, NHT and HA than conventional medical diagnoses. 3. These measurements are used to motivate patients and to evaluate interdisciplinary interventions. 4. Aggregated data are used for benchmarking, planning and evaluating programs.

**Reference:**

[1] Rosenberg T, Montgomery P, Hay V, et al. Using frailty and quality of life measures in clinical care of the elderly in Canada to predict death, nursing home transfer and hospitalisation—the frailty and ageing cohort study *BMJ Open* 2019;9:e032712. <https://doi.org/10.1136/bmjopen-2019-032712>.

## P-223

### Dietary Diversity and Overweight are Associated with High Intrinsic Capacity Among Chinese Urban Older Adults

Fang Wang (1), Siyang Lin (2), Xiaoming Huang (2), Yin Yuan (1), Na Li (1), Feng Huang (1), Pengli Zhu (1)

(1) Department of Geriatric Medicine, Fujian Provincial Hospital, Fuzhou, China, (2) Shengli Clinical Medical College of Fujian Medical University, Fuzhou, China

**Background:** and objectives: The associations of intrinsic capacity (IC) with dietary diversity and body mass index (BMI) remain unclear in older adults. This study aimed to examine the respective association and combined effect of dietary diversity and BMI on high IC.

**Methods:** The cross-sectional study used data from the Fujian Prospective Aging Cohort, which included 1972 individuals aged 60–98 from 2020 to 2021. The dietary diversity score (DDS) was constructed with eight food varieties, and consuming  $\geq$  five varieties of food daily was considered a high DDS. BMI was grouped into

underweight, normal weight, overweight, and obesity according to the Chinese guidelines. High IC was defined as  $\geq$  three unimpaired domains of cognition, locomotion, sensory, vitality, and psychology. **Results:** Multivariate logistic regression analysis was used to assess the separate association of high DDS and BMI groups with high IC. Compared with low DDS, high DDS had a positive association with high IC (OR = 1.42, 95% CI 1.16–1.74). Compared with normal weight, underweight was inversely related to high IC (OR = 0.18, 95% CI 0.09–0.36), overweight was positively related to high IC (OR = 1.65, 95% CI 1.33–2.06), while no significant association was observed between obesity and high IC. The restricted cubic spline model exhibited an inverted U-shaped nonlinear curve of BMI and high IC and identified an optimal BMI of 25.7 kg/m<sup>2</sup> for high IC.

**Conclusions:** High DDS is a protective factor of high IC in older adults. Overweight had the most protective association with high IC among the four BMI subgroups. Individuals with overweight and higher dietary diversity had higher IC.

## P-224

### Intrinsic Capacity in European Older Adults

Andreia Queiroz Ribeiro (1), Oscar Ribeiro (2), Laetitia Teixeira (3)

(1) Department of Nutrition and Health, Universidade Federal de Viçosa-UFV, Brazil, (2) CINTESIS@RISE, Department of Education and Psychology, University of Aveiro-UA, Portugal, (3) CINTESIS@RISE, Institute of Biomedical Sciences Abel Salazar, University of Porto-UP, Portugal

**Introduction:** The World Report on Ageing and Health published by the World Health Organization (WHO) in 2015 presented the concept of intrinsic capacity (IC). Efforts to validate IC as an indicator to monitor healthy aging have been developed ever since. This study presents the operationalization of a composite IC score in a sample of 31,744 European older adults.

**Methods:** Cross-sectional secondary analysis of the 2015 data of the Survey of Health, Ageing and Retirement in Europe Study (SHARE). Selected indicators were used to assess each IC domain (cognition, psychological, mobility, vitality, sensorial) and an exploratory factor analysis was conducted. IC's global score was compared according to sex, age group and country.

**Results:** Participants had a mean age of 73.7 years [65–102] and 54.0% were female. Factor analysis revealed five dimensions grouping 12 indicators, in accordance with the theoretical five domains proposed by the IC WHO model; such structure explained 64.80% of the total variance, with greater contribution of the sensorial (27.51%) and psychological (11.41%) domains. Men presented a higher IC mean score and the mean score decreased with age. Differences were observed between countries, with older adults from Denmark presenting the higher mean of IC score (0.288; SD = 0.406) and Portugal the lower mean (−0.323; SD = 0.402).

**Key Conclusions:** The obtained IC global score demonstrated good discriminative ability between sexes, age groups and countries. Findings can inform researchers about possible weights for different domains to consider in future studies targeting IC trajectories prediction of adverse outcomes like functional decline, hospitalization, and death.

## P-225

### The contribution of the medical and nursing staff, in improving and preserving function of the elderly population, as a unique framework of an ambulatory service within the geriatric consultation clinic in “Shoham” Medical Center

Svetlana Zheludkov (1)

(1) Geriatric Medicine Center “Shoham”

**Background:** Geriatric clinics are essential for the healthcare system—performing dementia diagnosis, assessing functional and cognitive status, and reducing the number of medications in order to prevent side effects. The accepted clinical model consists of a multi-professional team including: doctors, nurses, social workers and other multidisciplinary personal. As of today, there is no evidence for the effectiveness of this model. Therefore, it is feasible to examine the effectiveness of geriatric clinics with a different composition of professional staff. At “Shoham” Medical Center, the largest geriatric medical center in Israel, a geriatric clinic was established in 2016, providing external consultation to the community. The clinic consists of a geriatrician, a registered nurse and a secretary. Over the course of 4 years, between 2016–2020, as part of the service at the geriatric clinic in “Shoham” Medical Center, 936 visits were recorded, of which 179 patients visited the clinic at least twice, with an interval of 6 months between visits. GoalsTo measure the effectiveness of the consultations in the clinic by comparing changes in both cognitive and functional assessments between the first and second visits, after: making recommendations for further investigation-making changes in drug therapy, including discontinuation of unnecessary drugs-advocating for rights for the elderly before the National Insurance Institute and additional relevant agencies.

**Methods:** Comparing the functional and cognitive indices of patients between the first and second visit to the clinic. Cognitive status will be measured using the Mini-Mental Test (MMSE) and Clock Drawing Test, and functional status will be measured using the Activities of Daily Living (ADL) and the Instrumental Activities of Daily Living (IADL).

**Results:** wo thirds of the patients preserved or improved their functional status from the first visit to the second visit. Nearly half of the patients improved their cognitive status as measured by the MMSE. In one third of the patients, there was an improvement in their mental and functional states, as measured by the ADL and IADL assessment tools.

**Summary:** Thus far, the literature focuses on geriatric clinics based on multidisciplinary models and includes many models focused on high-risk elderly populations. The most commonly investigated indicators of geriatric clinic outcomes are re-hospitalizations and mortality. Our survey examines the effectiveness of a limited clinic-team model, where each member of the team has a unique role, aiming to maintain and/or improve the condition of the medically-stable elderly within the community. Policy should be determined based on data from relevant real-life models. Due to a shortage of geriatric services, thinking outside the box is required. The geriatric clinic at “Shoham” aims to preserve and improve the independence of the elderly, as well as prevent dependence on others. It is worthwhile considering this unique model, which is no less effective compared to other inclusive geriatric clinics, and financially, due to limited professional staff requirements—it is cheaper for the health system.

**P-226****The Impact Of Chronic Kidney Disease On Vulnerability In Hospitalized Older Subjects**

Ganna Kravchenko (1), Serena Stephenson (1), Natalia Sosowska (1), Tomasz Kostka (1), Bartłomiej Sołtysik (1)

(1) Department of Geriatrics, Medical University of Lodz, Poland

**Introduction:** Vulnerability is an increasingly prevalent syndrome, carrying significant implications such as poor prognosis, dependency, and mortality among geriatric individuals. The VES-13, a validated and straightforward tool, proves effective in assessing these conditions. Chronic kidney disease (CKD) is associated with higher mortality in older adults. However, there is limited data regarding CKD's impact on unfavorable VES-13 scores, despite evidence showing its ability to predict functional decline and mortality.

**Methods:** For this study patients 60 years old and more were recruited from January 2012 to December 2019 at Central Veterans Hospital in Lodz, Poland. After the screening, 2860 patients (2036 women and 824 men) were enrolled in the analysis. VES-13 scale in the Polish version was accessed for all patients. CKD was defined as a glomerular filtration rate lower than 60 mL/min/1.73m<sup>2</sup> according to BIS1 formula. Statistical analysis was performed using Statistica 13.1.

**Results:** The median age was 83 (77–87) for both sexes. The prevalence of CKD was 66.1% in women and 63.6% in men with no significant difference between them ( $p = 0.22$ ). The presence of CKD was associated with significantly higher scores of VES-13 in both sexes. Logistic regression adjusted for age and other concomitant diseases showed significantly increased risks of having VES-13 score of more than 3 points with an odds ratio of 2.67 in patients with CKD.

**Key Conclusions:** Hospitalized patients with CKD should primarily draw the attention of healthcare providers to the risks of functional decline.

**P-227****Testing a new oropharyngeal dysphagia algorithm in an intermediate care hospital: is useful?**

Ana Rodríguez Marcos (1), Susana Ubero Fernández (1), Laura Rincón Gordillo (1), Marina García Rodríguez (1), Elisabet de Jaime Gil (2), Ana Isabel Quindós Sendino (3), Anna Boix Garrido (1)

(1) Nursery geriatrics department. Centro Fòrum. PSMar. Barcelona. Spain., (2) Geriatrics department. Centro Fòrum. PSMar. Barcelona. Spain., (3) Nursery research department. Hospital del Mar. PSMar. Barcelona. Spain

**Introduction:** Oropharyngeal dysphagia (OD) is the most common type of dysphagia in elderly population, and one of the geriatric syndromes that should be detected with the Comprehensive Geriatric Assessment. However, there is no standardized protocol to detect OD on admission at the intermediate care hospital (ICH). Objectives: determinate dysphagia prevalence, identify associated variables and assess using an ad-hoc diagnostic algorithm. Research approved by PSMar Drug Research Ethical Committee.

**Methods:** Cross-sectional descriptive study (April to December 2022). Setting: ICH mid-stay unit. Inclusion: people > 70 years old, without a previous dysphagia diagnosis. Variables: sociodemographic, functional, cognitive and clinical. Algorithm: Eating Assessment Tool Test (EAT-10) was applied if there wasn't cognitive

impairment (CI) or it was mild; if moderate CI or collaborating delirium: Volume-Viscosity Clinical Exploration Method (MECV-V); if non-cooperative severe CI or delirium: diagnosis based on clinical suspicion.

**Results:** Out of 251 admitted to mid-stay unit: 71 excluded, 32 didn't accept or missing data. 148 final sample. Dysphagia prevalence: 9.46%. Dysphagia-related variables identified: age (with OD  $87.00 \pm 5.66$  versus not OD  $83.22 \pm 6.37$ ,  $p = 0.018$ ); admission Barthel index (with OD  $26.86 \pm 9.88$  versus no OD  $37.74 \pm 15.05$ ,  $p = 0.002$ ); Pfeiffer test (with OD  $5.67 \pm 4.04$  versus not OD  $1.69 \pm 2.49$ ,  $p = 0.048$ ); discharge destination (with OD 35.7% were institutionalized versus no OD 12.6%).

**Key Conclusions:** The prevalence is clinically relevant. People with dysphagia are older, more dependent, have worse cognitive situation, and have higher probability to be institutionalized upon discharge. The proposed algorithm detects dysphagia and its implementation in the nursing workstation may reduce associated risks.

**P-228****Higher Scores of Self-Screening Instrument for Geriatric Health sTatus (SIGHT) Is Associated with 1-year and 2-year Mortality**

Ya-Li Wang (1), Dai-Chan Lin (2), Chiu-Jun Yang (2), Chin-Ju Chiu (1), Fang-Wen Hu (3)

(1) Institute of Gerontology, College of Medicine, National Cheng Kung University, Tainan, Taiwan, (2) Department of Geriatrics and Gerontology, National Cheng Kung University Hospital, Tainan, Taiwan, (3) Department of Nursing, Kaohsiung Medical University, Kaohsiung, Taiwan

**Introduction:** Comprehensive geriatric assessment (CGA) must be performed by trained professionals and is time-consuming. A self-reported screening questionnaire (SIGHT) comprised 14 CGA domains with 25 questions answered using Likert's 3-point scoring method, was developed to quickly identify geriatric health problems. Preliminary studies showed good content validity, reliability, sensitivity and specificity, compared to CGA results. Our aim was to evaluate correlation of the SIGHT scores to mortality.

**Methods:** From May 2020 to January 2021, first-visiting outpatients aged  $\geq 65$  years were recruited to complete the demographic data and SIGHT questionnaire by older adults or families. Survival was confirmed by telephone interview at 1- and 2-year follow-up after the first outpatient visit.

**Results:** Mean age of the 206 outpatients with follow-up was  $79.81 \pm 7.36$  years, 22 and 17 patients died during 1-year and 2-year follow-ups. Compared to the survivors, the non-survivors were older, requiring care by others, and higher SIGHT scores (1-year, mean scores  $23.47 \pm 8.89$  (median, 22.0) vs  $18.66 \pm 9.17$  (17.0),  $p = 0.032$ ; 2-year,  $25.55 \pm 7.46$  (24.0) vs  $18.13 \pm 9.10$  (17.0),  $p = 0.009$ ). Among domains of SIGHT, poor ADLs and locomotion and urine incontinence were associated with 1-year and 2-year mortality. Medication-related problems and malnutrition were associated with 2-year mortality. Receiver operating characteristic (ROC) analysis of the SIGHT scores for 1-year and 2-year mortality showed area under the curves of 0.70 and 0.81, respectively.

**Key Conclusions:** The present study showed that higher SIGHT scores is associated with 1-year and 2-year mortality. The SIGHT questionnaire is an acceptable tool to screen for geriatric problems of older adults. Further analysis of cut-off values in overall and specific domains can be conducted afterward.

## P-229

### Resuscitation discussions and clinical frailty scale scoring in older adults admitted to hospital under general surgery

Gemma Cuesta<sup>2</sup> (1), Luis Daniel Mujica<sup>3</sup> (2), Aris Somoano<sup>2</sup> (1), M Pressler<sup>1</sup> (3), R Dewar<sup>1</sup> (3), Irene Manzanar<sup>2</sup> (1), María Madruga<sup>2</sup> (1), Saleta María Goñi<sup>2</sup> (1), Blanca Garmendia<sup>2</sup> (1), Carmen Ros<sup>2</sup> (1), Paola Reinoso<sup>4</sup> (4), J Fox<sup>1</sup> (3), R Harris<sup>1</sup> (3), Eleanor Abbott (3), F Hunt<sup>1</sup> (3), Arturo Vilches-Moraga<sup>1</sup> (3)

(1) 2Hospital Central de la Cruz Roja San Jose y Santa Adela (Madrid, Spain), (2) 3Hospital Universitario de Guadalajara (Spain), (3) 1Ageing and Complex Medicine, Salford Royal NHS Foundation Trust (UK), (4) 4Hospital Universitario La Paz (Madrid, Spain)

**Introduction:** Living with frailty is a risk factor for increased short- and long-term mortality. We aimed to describe the uptake of escalation of care and resuscitation status discussions in frail older patients admitted to general, colorectal, and upper gastrointestinal wards.

**Methods:** Prospective observational study of all patients aged 65 years and over admitted under general surgery during two periods: 11th February to 11th March 2022 and 1st to 31st of October 2022. We scored frailty using the clinical frailty scale (CFS) and identified escalation of care discussions through review of electronic patient records.

**Results:** Were included 196 patients: 90 female, 106 male; average age 75.9 years. 54.6% were emergency admissions, 45.4% electives. 32.7% were frail, 67.3% not frail. Average length of stay was 14 days, higher in frail patients. 7 patients died in hospital: 4 frail, 3 non-frail (1 without resuscitation decision). Resuscitation discussions occurred in 36.4% of frail patients and 4.9% of non-frail patients. Discussion percentage increased in frail patients from 24% to 42.4% overall, while 92% of non-frail patients were not offered discussion.

**Conclusions:** 1 in 3 patients in our cohort of older adults hospitalised under surgery were frail. Higher frailty scores were associated with increased in-hospital mortality. 30% frail and 8% non-frail older patients underwent resuscitation discussions. We advocate early proactive discussions of resuscitation status and advance care planning in high-risk surgical patients.

## P-230

### Advanced heart failure as admission reason in a medium-term palliative care unit in the community of Madrid: beyond oncological pathology

Gemma Cuesta<sup>1</sup> (1), Saleta María Goñi<sup>1</sup> (1), Lucía Gómez<sup>1</sup> (1), Concepción Jiménez<sup>2</sup> (2), Javier Gómez Pavón<sup>3</sup> (3)

(1) Geriatric Service. Hospital Universitario Central de la Cruz Roja<sup>1</sup>, (2) Palliative Care Unit. Hospital Universitario Central de la Cruz Roja<sup>2</sup>, (3) Head of the Geriatric Service. Hospital Universitario Central de la Cruz Roja<sup>3</sup>

**Objectives:** To analysed 30 advanced heart failure patients receiving palliative care in a Medium-Stay Palliative Care Unit (UCPME) from December 2019 to June 2022. They were compared to 105 non-oncological patients (PNO) and 295 oncology patients (PO) to evaluate characteristics, treatment, and outcomes.

**Materials and Methods:** The study was a retrospective observational analysis that collected data on epidemiological, clinical, therapeutic, and evolutionary variables.

**Results:** The heart failure patients were compared with a group of 105 patients with non-oncological conditions (PNO) and 295

oncology patients (PO). The majority of heart failure patients were under 85 years old, while the majority of non-oncology patients were over 85. Most heart failure patients were admitted from hospitals, similar to non-oncology patients, while oncology patients were often referred from Home Palliative Care Teams. The discharge rate from UCPME was similar across the patient groups. Around 40% of heart failure patients died within the first 6 days, with a notable number experiencing early death within the first 3 days, especially among those with cardiac pathology. Symptom management in end-of-life care involved continuous subcutaneous infusion for heart failure patients and continuous intravenous infusion for cancer patients. Family presence during hospitalization was high for all patients in UCPME.

**Conclusions:** Elderly heart failure patients at UCPME had comparable mortality rates to oncology patients, including early deaths. Symptom complexity was similar, with more subcutaneous than intravenous infusion. Family presence remained constant. Non-oncological advanced heart failure is increasingly recognized as requiring palliative care and is being integrated into end-of-life programs.

## P-231

### Investigation of opinions of older persons on volunteering in Greece

Manolis Mentis (1), Konstantinos Stolakis (2), George Kolokythas (1), Mara Vandorou (3), Artemis Garantoudis (4), Georgia Dimakou (1), Christos Marneras (5)

(1) University of Patras, Department of Educational Sciences & Social Work Sciences, Greece, (2) School of Medicine, University of Patras, Greece, (3) ELIX–Non-Governmental Organization, Greece, (4) Psychologist, private researcher, Greece, (5) University General Hospital of Patras, Greece

**Introduction:** Greece is among the last countries of the European Union regarding the participation of older people in voluntary actions, although active aging is internationally a good practice for good health and quality of life.

**Methods:** The survey was nationwide and was conducted in October 2023. Its purpose was to investigate the attitudes of older people towards volunteering. The sample of the study was 379 people from all over Greece and it was obtained by purposive sampling (snowball technique using gatekeeper). The confidence level was 90% with a margin of error of 5%. The research tool involved a volunteering scale with a maximum possible value of 50 and a minimum of 10 in combination with qualitative questions. The Cronbach's Alpha reliability index was 0.868. The research is part of the "AEITHALEIA" program and was financed by the Active citizens fund program.

**Results:** Most of the sample was female (69.7%), married (58.3%) and graduates of six-year basic education (25.1%). The mean age was 69 years (SD ± 7.71). The survey showed that the sample had a positive attitude towards volunteering (mean value 32.92 SD ± 11.693). Limited time, health problems and the fear of exploitation were found as disincentives to volunteering, while social solidarity, the feeling of usefulness and the participation of friends were found as motivations.

**Conclusions:** There is great scope for increasing the participation of the elderly in voluntary actions, but awareness actions are needed.



**P-232****Prevalence of psychological therapy and antidepressant treatment in European home care and nursing homes**

Jitka Pokladníková (1), Jindra Reissigová (2), Daniela Fialová (3), Ilona Barańska (4), Katarzyna Szczerbińska (5), Karlijn J. Joling (6), Eline C.M Kooijmans (7), Emiel O. Hoogendijk (7), Mark Hoogendoorn (8), Hein P. J. van Hout (7)

(1) Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové, Charles University in Prague, Czech Republic, (2) Department of Statistical Modelling, Institute of Computer Science of the Czech Academy of Sciences, Prague, Czech Republic, (3) Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové, Charles University in Prague, Czech Republic; Department of Geriatrics and Gerontology, 1st Faculty of Medicine, Charles University, Prague, Czech Republic, (4) Laboratory for Research on Aging Society, Department of Medical Sociology, The Chair of Epidemiology and Preventive Medicine, Medical Faculty, Jagiellonian University Medical College, Kraków, Poland, (5) Laboratory for Research on Aging Society, Department of Medical Sociology, The Chair of Epidemiology and Preventive Medicine, Medical Faculty, Jagiellonian University Medical College, Kraków, Poland; University Hospital, Jagiellonian University Medical College, Kraków, Poland, (6) Department of Medicine for Older People, Location Vrije Universiteit Amsterdam, Amsterdam UMC, Amsterdam, Netherlands, (7) Department of General Practice, Amsterdam UMC, location VU University medical center, Amsterdam, the Netherlands, (8) Department of Computer Science, Vrije Universiteit Amsterdam, De Boelelaan 1111, 1081 HV Amsterdam, The Netherlands

**Introduction:** Psychological therapy plays an important role in the management of chronic health conditions in older people and is recommended either alone or in combination with pharmacological treatment.

**Aim:** To assess the prevalence of psychological therapy (PT) and antidepressants (AD) in patients 65 + with depression in the European and Israeli nursing homes (NHs) and home care (HC).

**Methods:** Secondary analyses of baseline data of the SHELTER project (1) (2009–2010), n = 4156 of NH residents; Czech Rep., Germany, Finland, France, England, Israel, Italy, the Netherlands and the IBENC project (2) (2013–2015), n = 2884 of HC clients; Belgium, Germany, Finland, Iceland, Italy. Standardized interRAI-LTCF (1) and -HC (2) geriatric assessments were used. Depressive patients were defined by diagnosis of depression or Depression Rating Scale (score 3 +). ATC code = N06A\* and 1 + session/week were used for AD and PT use, respectively.

**Results:** In NHs, PT was provided to 3.3% of 1379 depressed NH residents (ranging from 0% in Germany and England to 7.7% in Italy) and AD treatment to 50.7% of 1743 depressed residents (40.4% Italy–61.2% France). In HC, PT was used in 1.5% of 799 depressed HC clients (0.6% Belgium–3.7% the Netherlands) and ADs in 32.8% of 638 depressed clients (12.5% Finland–69.1% Iceland).

**Conclusion:** In Europe and Israel, the majority of older people with depression in home care and nursing homes did receive AD more frequently than PT. Further research should examine the push and pull factors of the low use of PT and develop strategies to identify patients who would benefit from PT the most. Study was supported by the I-CARE4OLD project (HORIZON2020–GA965341).

**P-233****The German evidence-based clinical practice guideline for Comprehensive Geriatric Assessment in the inpatient setting**

Filippo Maria Verri (1), Barbara Kumlehn (1), Simone Brefka (1), Thomas Kocar (1), Werner Hofmann (2), Bernhard Iglseider (3), Sonja Krupp (4), Thomas Münzer (5), Maria Cristina Polidori (6), Ulrich Thiem (7), Rainer Wirth (8), Michael Denking (1)

(1) Geriatric Centre at AGAPLESION Bethesda Hospital Ulm, and Institute for Geriatric Research, Ulm University Medical Center, Ulm, Germany, (2) Institute for General Practice, University Hospital Schleswig–Holstein (UKSH), Campus Lübeck, Lübeck, Germany, (3) University Hospital for Geriatrics, Paracelsus Medical University, Salzburg, Austria, (4) Research Group Geriatrics Lübeck, Red Cross Hospital–Geriatric Centre, Lübeck, Germany, (5) Geriatrie Klinik St Gallen, St Gallen, Switzerland, (6) Ageing Clinical Research, Department of Internal Medicine II–Nephrology, Rheumatology, Diabetology, and General Internal Medicine at University Hospital Cologne, and Cologne Excellence Cluster on Cellular Stress–Responses in Aging–Associated Diseases (CECAD), University of Cologne, Köln, Germany, (7) Medical–Geriatric Hospital, Albertinen Haus, Centre for Geriatrics and Gerontology, and University Clinic Eppendorf, Hamburg, Germany, (8) Hospital for Geriatric Medicine and Early Rehabilitation, Marien Hospital Herne, University Hospital of the Ruhr University Bochum, Herne, Germany

**Background:** Evidence-based guidelines are essential for optimal clinical practice and contribute to healthcare delivery by optimizing services and treatments. The current literature demonstrates effectiveness of Comprehensive Geriatric Assessment (CGA), yet a German evidence-based clinical practice guideline (CPG) is unavailable. Our project to create a German CPG started in 2022 and focuses on the inpatient setting.

**Methods:** After registration at the AWMF (Association of the Scientific Medical Societies in Germany), a panel group of members from German-speaking geriatric societies and more than 20 specialist societies and organizations was formed. A broad array of PICO (S) questions was used to carry out a systematic literature review for aggregated evidence. Additional clinical questions will be answered either evidence-based or by a Delphi process.

**Results:** From 5301 database entries, 45 papers were selected for data extraction, based on a quality assessment using the AMSTAR 2 tool. Quality and certainty of evidence are currently being rated using the GRADE approach. All results were summarized in evidence tables, and stratified according to the following settings: geriatrics, emergency department, oncology and orthogeriatrics/surgery. Our CPG will focus on evidence-based statements and recommendations with different levels of evidence and strength of recommendations.

**Conclusions:** With the development of the first German evidence-based CPG on this topic, we translate the benefits of CGA into clinical practice recommendations, for a targeted geriatric therapy in an interdisciplinary setting. Statements and evidence will be presented at the congress.

**P-234****The WHO's ICOPE Screening Tool Sensitivity, Specificity, and the Prevalence of Loss of Intrinsic Capacity in Older Adults: a Scoping Review**

Vitor Pelegri de Oliveira (1), Eduardo Ferrioli (2), Roberto Lourenço (3), Emmanuel Gonzáles-Bautista (4), Philippe Barreto dos Santos (4), Renato Mello (5)

(1) Hospital de Clínicas de Porto Alegre, (2) Universidade de São Paulo, (3) Universidade Estadual do Rio de Janeiro, (4) Centre Hospitalier-Universitaire de Toulouse, (5) Universidade Federal do Rio Grande do Sul

**Background:** The World Health Organization developed the Integrated Care for Older People, a public health strategy to maintain older adults' functional abilities and promote healthier aging. Among a 5-step pathway that composes the approach, Step 1 regards the screening for impairment in functions, and Step 2 is the in-depth evaluation to confirm the presence and severity of functional impairment. These initial two steps are crucial to determine the subsequent plan of care (Step 3) and follow-up (Step 4). The fifth step encompasses actions to support families and caregivers and to engage communities. This review aimed to gather data from the literature on the prevalence of intrinsic capacity positive screenings detected by the program's first-step screening tool, and on currently available results regarding the instrument's sensitivity and specificity.

**Methods and findings:** Electronic searches were conducted in PubMed, Cochrane, Embase, and SciELO databases, the medRxiv platform, and recent human aging scientific events, looking for research analyzing the approach's screening instrument. Studies showing data on the prevalence of positive screenings for loss of intrinsic capacity using the proposed screening tool and/or findings on the instrument's sensitivity, specificity, or accuracy were included. A total of 7 publications with participants aged 50 years or older were selected. The prevalence of at least one intrinsic capacity impairment detected by the instrument varied among the studies from 17.1 to 94.3%. Sensitivity ranged from 26.4% to 100% and specificity from 22 to 96% depending on the setting and the assessed domain.

**Conclusion:** Currently available data are heterogeneous, and different results were found among the studies due to diverse settings and methodologies. The evidence on the program's screening tool's performance in different populations is still scarce and reinforces the need for further research worldwide.

## P-235

### Infectious diseases in elderly patients

Denis Ugarin (1)

(1) graduate student

**Introduction:** Age-related conditions are the risk factor of infectious pathology because of the decrease of general resistance to infections, comorbidity, physical and cognitive frailty. This actualizes prevention, diagnosis and treatment of infectious diseases in condition of geriatric syndromes and age-related diseases.

**Methods:** The prospective analysis of the structure of infectious pathology in the office of infectious diseases in the outpatient clinic № 134 of Moscow from April to May 2023.

**Results:** A total number of patients was 421, 168 of them (42,0%) were over 65 years old. The structure of diseases in elderly patients had differences from younger. After 65 years were frequently diagnosed bacterial diseases (erysipelas), (25,0%), reactivation of latent infections, often of herpesvirus etiology (11,3%). At the same time, some infectious diseases had tendency to decrease their activity in old age (hepatitis of viral etiology) (10,1%),  $p < 0,05$ . Infectious diseases in the elderly were characterized by a protracted course (65,5%), polypharmacy (75,0%), falls (45,0%) and disorders of functional ability (67,2%),  $p < 0,05$ . In spite of this data the geriatric approach to such patients, including comprehensive geriatric assessment, were not applied in outpatient clinic for infectious diseases.

**Conclusion:** Age-related conditions and geriatric syndromes, but not age itself, are the reason of the increased number of infectious diseases. This requires new studies of the model of implementation of comprehensive geriatric assessment and the development on this base of an individual care plan.

## P-236

### The knowledge that the elderly have about Geriatrics

M. Esther Vuelta-Calzada (1), Álvaro Da Silva-González (2), M. Carmen Palmero-Cámara (3), Alfredo Jiménez-Eguizábal (4)

(1) Department of Geriatric Medicine, Hospital Santiago Apóstol, Miranda de Ebro (Burgos), Spain., (2) Department of Geriatric Medicine, Nursing Home Diputación Provincial Burgos, Spain, (3) Department of Educational Sciences, Burgos University, Spain, (4) Department of Educational Sciences, Burgos University, Spain

**Introduction:** The purpose of this research study is to analyze the knowledge that the elderly population have about Geriatrics and to evaluate the access of those who suffer from three or more diseases, consume three or more medications daily or live alone at home to the geriatric outpatient clinic.

**Material and method:** Single-center, cross-sectional and retrospective research study performed at the geriatric outpatient clinic of the Hospital Santiago Apóstol in Miranda de Ebro, Burgos, (Spain) from July 2, 2018 to July 7, 2020. Participants were patients and accompanying persons aged 65 or over, who answered a brief survey in a standardized personal interview to obtain sociodemographic data and clinical information.

**Results:** A total of 198 older people took part in the study of whom 35.86% (n = 71) had never heard of Geriatrics. In this group with a mean age of 79.9 years, 70.42% (n = 50) were women, 59.15% (n = 42) were married and 19.72% (n = 14) had no studies. Those who knew the specialty of Geriatrics were younger ( $p < 0.05$ ). The 24.32% (n = 45) of the interviewed who lived alone, 52.97% (n = 98) who suffered from three or more chronic diseases and 60.00% (n = 111) of those who consumed three or more medications daily had never attended a geriatric outpatient clinic.

**Conclusion:** The urgency of implementing socio-sanitary policies aimed at the elderly population focused on increasing knowledge of existing health and social resources to promote access for the population over 80 years of age to geriatric outpatient clinic, impacting on the improvement of their health and autonomy.

## P-237

### Uncovering the relationship between transcriptomic clocks and biopsychosocial frailty

Matthis Janning (1), David Meyer (1)

(1) Universität zu Köln

**Background:** Much debate is ongoing on the ability of aging clocks to predict biological age beyond chronological age thus enabling health-sustaining measures much in advance to the onset of disease. The consideration of the biopsychosocial nature of the aging process as well as of multidimensional frailty as a solid proxy of biological age in real life might shed light on the physiological relevance of the different clocks that have been developed so far.

**Methods:** RNA sequencing for the analysis of Q10 and Q0 transcriptome aging clocks was performed in peripheral blood mononuclear cells of 165 men and 136 women aged 65 to 98 years ( $77,6 \pm 7,0$  y) admitted to the Emergency Department of the University Hospital of Cologne, Germany predominantly for infections as well as cardiovascular and gastrointestinal diseases. Together with usual urgent care, all patients underwent a comprehensive geriatric assessment (CGA) with calculation of the multidimensional prognostic index (MPI), which assesses comorbidities, drug treatment, daily functions as well as nutritional, cognitive and social status

and delivers a 0 to 1 score across the continuum from robustness (0) to severe frailty (1).

**Results:** Preliminary analysis at the time of abstract submission shows a strong association between chronological age but not MPI and the Q10 clock, which uses a novel quantization normalization approach to improve chronological age prediction accuracy. Interestingly, the Q0 clock, which uses un-quantized data and is therefore including a higher variance, appears to be not as powerful as the Q10 clock in predicting the chronological age, but significantly correlates with biopsychosocial frailty as a proxy of biological age measured by the MPI.

**Conclusions:** Using multidimensional frailty measures of age beyond chronological age might disclose transcriptomic clocks able to grasp complex processes associated to increasing age.

## P-238

### Important characteristics of colonoscopic findings in geriatric patients

Konstantinos Paschos (1), Anestis Chatzigeorgiadis (1)

(1) General Hospital of Drama

Acute aging of the general population is a widely accepted phenomenon in the western world. People older than 65 years appear to increase sharply their proportion the last decades, while they constitute the main focus of interest for the health services.

**Methods:** This study investigates the incidence and endoscopic types of colorectal lesions diagnosed with colonoscopy in geriatric patients. Consecutive elder patients who underwent colonic endoscopy between 2018 and 2022 (n = 745; 292 men and 453 women, age 29–96 years) were examined retrospectively. Furthermore, correlations between age, sex and number of lesions were analyzed.

**Results:** The incidence of advanced tumors was significantly correlated with increasing age in men (p = 0.02), while they were detected predominantly in the sigmoid colon and rectum in both sexes. Right-sided colon cancer was significantly more frequent in women compared with men (p < 0.001). Polyps (precancerous lesions) were detected throughout the colon and their incidence was correlated significantly with increasing age in women (p = 0.01). Also, diverticula were frequently detected in the ascending and sigmoid colon in both sexes. Left-sided diverticula were significantly more common in women compared with men (p < 0.001). Angioectasia, a relatively rare pathology, was slightly more common in the cecum and the ascending colon in women.

**Conclusions:** The incidence of advanced tumors correlated with increasing age in men, and right-sided cases were significantly more frequent in women than in men. The incidence of polyps correlated with increasing age in women, while left-sided diverticula appeared more frequently in women than in men.

## P-239

### Clinical profile and outcomes of symptomatic cholelithiasis in geriatric patients

Konstantinos Paschos (1), Kirkenidou Ioanna (1), Christos Tsopozidis (1), Anestis Chatzigeorgiadis (2)

(1) General Hospital of Drama, (2) General Hospital of Drama

There is a heavy burden of cholelithiasis on the world's population. The incidence and severity of symptoms increase with age. There is

often a delay in presentation, leading to complicated disease and increased morbidity.

**Methods:** This study investigates the spectrum of presentation and management of symptomatic cholelithiasis in the older patients aged over 65 years. Any association with age, sex and comorbidities, including diabetes mellitus, hypertension and thyroid disorders was also sought. Patients above the age of 65 years presenting to the surgical outpatient and emergency departments (ED) from 2018 to 2022 with symptomatic cholelithiasis were included. Details of history and physical examination, blood test data and imaging of the abdomen (ultrasonography, CT and Magnetic Resonance Cholangiopancreatography-when indicated) were recorded. Details of management and outcomes, including hospital stay, mortality, and morbidity, were noted.

**Results:** A total of 126 patients were evaluated, of which 71.8% were female. The mean age was  $76.8 \pm 8.7$  years. The majority of patients (67.2%) were admitted through the ED. The most common presenting complaint was abdominal pain (96%). Clinical jaundice was noted in 8.5%. Complicated cholelithiasis was revealed more frequently in the female population (55%). Complicated disease was mainly found in patients with diabetes mellitus (p < 0.05) and hypothyroidism (p < 0.05). Postoperative complications were increased in older patients (> 80years, p < 0.05).

**Conclusion:** Older citizens can present with both complicated and uncomplicated cholelithiasis. The presence of hypothyroidism or diabetes mellitus may complicate the disease. Early surgical intervention can be beneficial, decreasing complications associated to the disease and the operation.

## P-240

### The state of muscle and bone tissues in older patients

Linda Tokareva (1), Anton Naumov (1), Alina Polyanskaya (1)

(1) Russian Gerontological Scientific and Clinical Center

**Aim:** To assess the association of decline in muscle function (dynapenia) and bone mineral density (BMD) in older patients.

**Materials and Methods:** 90 patients aged 60 years and older were included (70 women and 20 men). Median age was  $70.2 \pm 7.6$  years, Charlson comorbidity Index was  $4.04 \pm 1.8$  points. Median number of geriatric syndromes was 4.9, while 48% of the cohort were frail. The prevalence of visual impairments were 67%, chronic pain was 64%, polypharmacy was 38%. Comprehensive geriatric assessment was performed. Diagnosis of dynapenia included a SARC-F questionnaire and functional tests (hand-held dynamometry, chair stand test). Bone mineral density loss was assessed using dual-energy x-ray absorptiometry (DXA) and radiofrequency echographic multi spectrometry (REMS).

**Results:** 23 (25%) of patients had a decrease in arm muscle strength (according to the results of hand-held dynamometry), 57 (63%) of the cohort had a decrease in leg muscle strength (according to the results of the chair stand test). According to the DXA and REMS data, 37 (41%) of patients had osteopenia, 14 (16%) of patients had osteoporosis. Either, a low bone mass was detected in 51 (56%) cases. Among all patients, a combination of loss of muscle strength and a low bone mass were detected in 46 (51%) cases. In patients with a combined low bone mass and muscle strength the average SPPB (short physical performance battery) score was  $8.15 \pm 0.7$ , in patients who had only bone mass loss (14 patients)  $-11.07 \pm 0.82$ , p < 0.05. **Conclusion:** Thus, the association of decline in muscle function and bone mineral density (BMD) was 51% among the cohort. Moreover, patients with dynapenia and BMD loss had decline in physical functioning.

**P-241****Obturator hernia: Analysis of 11 elder patients**

Konstantinos Paschos (1), Christos Tsopozidis (1), Anestis Chatzigeorgiadis (2)

(1) Genral Hospital of Drama, (2) General Hospital of Drama

Obturator hernia (OH) is a relatively rare type of abdominal hernia, where abdominal contents protrude through the obturator canal, frequently leading to small bowel obstruction. Its rarity and nonspecific signs and symptoms make the preoperative diagnosis difficult.

**Methods:** This study analyzed geriatric patients with OH in a secondary Greek hospital. The medical records of 11 elder patients (2010–2023) who were treated for small bowel obstruction due to OH were retrospectively evaluated. Demographics, clinical presentation, preoperative radiological findings, operative treatment, complications and outcomes were recorded.

**Results:** All patients were women (mean age: 79.2 years, 71–88 years). Their mean body mass index was 17.7 kg/m (11.5–21.2 kg/m). Most common symptoms were abdominal pain and vomiting (mean duration of symptoms: 4.6 days, 1–12 days). All patients were preoperatively diagnosed with OH through an abdominopelvic computed tomography (CT) scan. They all underwent a laparotomy. Of the 11 patients, 6 (54.5%) had left-sided, 4 (36.4%) right-sided, while 1 had bilateral hernias. Intestinal resection was performed to 5 patients (45.5%) due to perforation or strangulation. All underwent simple closure of the hernia defect with interrupted or purse-string sutures. While 9 patients recovered uneventfully, 2 presented wound seroma and ileus. Recurrence was not observed in the 3 year follow-up.

**Conclusions:** OH hernia should be included in the differential diagnosis of intestinal obstruction, especially in emaciated elderly women with chronic disease. Early surgical intervention is imperative to avoid high postoperative morbidity and mortality associated with intestinal strangulation.

**P-242****G8 geriatric screening tool in the frailty assessment of women with endometrial cancer: FRAIL-B: A prospective interdisciplinary trial**

Valerie Catherine Linz (1), Katharina Anic (1), Emma Liebau (1), Mona Wanda Schmidt (1), Marcus Schmidt (1), Annette Hasenburg (1), Marco Johannes Battista (1)

(1) University Medical Centre of the Johannes Gutenberg University Mainz, Mainz, Germany

**Introduction:** Frail patients need to be identified preoperatively to reduce their risk of adverse surgical outcomes. These are the first results of a systematic, preoperative frailty screening of endometrial cancer (EC) patients regarding their perioperative outcome.

**Methods:** All EC patients, regardless of their actual cancer stage and previous treatments, were screened preoperatively with the G8 geriatric screening tool at the University Medical Centre Mainz between May 2020 and May 2023. If a patient was considered to be G8-frail, various geriatric assessment tools followed. The main outcome measures were the relationship between perioperative laboratory results, intraoperative surgical parameters and the incidence of immediate postoperative in-hospital complications with the preoperatively evaluated frailty status.

**Results:** 47 patients with EC were included. 36.2% (n = 17) of the patients were classified as G8-frail (cut-off  $\leq 14$  points). Mean age was 67.6 ( $\pm 7.7$ ) years. Polypharmacy ( $\geq 5$  medication) was found

more often in the G8-frail cohort (47.1 vs. 16.7%;  $p = 0.04$ ). The G8-frail cohort showed a numerically but not statistically significantly higher Clavien-Dindo-Score than the G8-non-frail cohort (grade  $\leq 2$ : 76.5 vs. 90.0%, grade  $\geq 3$ : 23.5 vs. 10.0%;  $p = 0.14$ ). The surgical revision rate seemed to be higher in the G8-frail cohort (17.6% vs 3.3%;  $p = 0.13$ ). One patient in the G8-frail cohort died during the hospital stay.

**Key Conclusions:** This first interim-analysis implies that preoperative frailty assessment with the G8 geriatric screening tool for patients with EC might be associated with more severe postoperative complications as well as more surgical revisions during the hospital stay and indicates polypharmacy.

**P-243****FRAIL-B: Preoperative G8 geriatric screening tool for ovarian cancer patients to identify women with a worse perioperative outcome**

Valerie Catherine Linz (1), Katharina Anic (1), Emma Liebau (1), Mona Wanda Schmidt (1), Marcus Schmidt (1), Annette Hasenburg (1), Marco Johannes Battista (1)

(1) University Medical Centre of the Johannes Gutenberg University Mainz, Mainz, Germany

**Background:** Frail patients with ovarian cancer (OC) should be identified preoperatively to reduce their risk of adverse surgical outcomes. We present first results of a systematic, preoperative frailty screening of OC patients regarding their perioperative outcome.

**Methods:** OC patients regardless of the previous treatments or the histological type were screened preoperatively by the G8 geriatric screening tool. If a patient was considered to be G8-frail (cut-off:  $\leq 14$  points), multiple geriatric assessment tools followed. The main outcome measures were the relationship between perioperative laboratory results, intraoperative surgical parameters and the incidence of immediate postoperative in-hospital complications with the preoperative frailty status.

**Results:** So far, 42 OC patients treated with laparotomy for tumour debulking/ extirpation were included at the University Medical Centre Mainz between May 2020 and May 2023. Mean age was 69.2 years. Most of the patients (71.4%) had advanced stage OC ( $\geq$  FIGO IIB). The G8-frail cohort seemed to have a higher prevalence of polypharmacy ( $p = 0.098$ ) and more surgical revisions (21.1 vs. 4.3%;  $p = 0.158$ ) than the G8-non-frail cohort. Furthermore, the G8-frail cohort appeared to have a longer mean hospital stay (10.7 vs. 17.7 days;  $p = 0.096$ ) and appeared to be readmitted to hospital more often than the G8-non-frail cohort (15.8 vs. 8.7%;  $p = 0.096$ ). One patient in each cohort died during hospital stay.

**Key Conclusions:** Preoperative frailty assessment with the G8 geriatric screening tool for elderly women with OC might indicate polypharmacy, a longer hospital stay and a higher rate of readmission. Further results will be expected soon.

**P-244****Frail-B: A prospective interdisciplinary trial to evaluate a systematic two-step frailty screening before gynaecological oncology surgery**

Valerie Linz (1), Katharina Anic (1), Emma Liebau (1), Mona Wanda Schmidt (1), Marcus Schmidt (1), Annette Hasenburg (1), Marco Johannes Battista (1)

(1) University Medical Centre of the Johannes Gutenberg University Mainz, Mainz, Germany

**Introduction:** Frailty as an underdiagnosed multidimensional age-related syndrome has grown in importance for the need of a better understanding of the health and functional status of older persons. This study investigates the impact of a standardized, two-step multidisciplinary frailty assessment concerning the perioperative outcome in women with gynaecological malignancies.

**Methods:** In this prospective clinical trial, all women with gynaecological malignancies regardless of the histological type and previous treatments have been systematically screened preoperatively at the University Medical Centre Mainz since May 2020. All participants take part in the two-step frailty assessment with selected screening tools (Screening I + II), peripheral blood results as well as a comprehensive geriatric assessment (CGA) if necessary. The main outcome measures are the association of the preoperatively evaluated frailty status with perioperative laboratory results, intraoperative surgical parameters, the incidence of immediate postoperative in-hospital complications and the oncological outcome.

**Results:** This is an ongoing trial. So far, 158 patients have been recruited for the study including patients with ovarian cancer (n = 56; 35.4%), endometrial cancer (n = 52; 32.9%), cervical cancer (n = 7; 4.4%), vulvar and vaginal cancer (n = 33; 20.9%), and other gynaecological tumours (n = 10; 6.3%). 57 (36.1%) patients have been classified as G8-frail according to the G8 geriatric screening tool and underwent the second frailty assessment.

**Key Conclusions:** To ensure a possible operationalization of frailty, we have initiated a two-step frailty assessment in our gynaecological oncology department. This screening helps to identify a significant proportion of women who should receive perioperative optimization of their global health status to provide their best individual surgical treatment.

## P-245

### Impact of an interdisciplinary acute geriatric unit on length of hospital stay and hospital readmission in very elderly patients with multimorbidity

Mireia Mascaro Sopena (1), Victor Villamajor Blanco (1), Javier Gonzalez Bueno (1), Natalia Hernandez Pascual (1), Laura Feltrer Martinez (1), Rosa Guillermina Ojeda Manrique (1), Maria Cogollos Lorente (1), Francisco Javier Carreras Gomez (1), Jordi Mart

(1) Hospital Dos de Maig (Consorci Sanitari Integral), (2) Hospital de la Santa Creu i Sant Pau

**Introduction:** To explore differences between two models of clinical practice [Interdisciplinary Acute Geriatric Unit (int-AGU) ] vs Conventional Medical Unit (CMU) ] on length of hospital stay and 30-days hospital readmission in very elderly patients ( $\geq 80$  years) with multimorbidity.

**Methods:** Observational retrospective study of very elderly patients with multimorbidity admitted between June-2022/May-2023 to the int-AGU or CMU from a secondary care centre and who required intermediate care after discharge. Int-AGU provides interdisciplinary care including daily meetings where patient's individual therapeutic goal and social resources needs are agreed. Further, a medication review by the Patient-centred Prescription Model (González-Bueno J, et al.2022) is performed. CMU provides conventional medical care. Variables collected: demographics, Barthel index, burden of disease index (BDI) (higher scores mean higher morbidity), intensity of diagnostic and therapeutic effort (DTE) according with Fontecha-Gómez et al.2018 categories.

**Results:** 283 patients (65.6% female, mean  $88.7 \pm SD4.8$  years) were included. There were no differences ( $p > 0.05$ ) between patients admitted to the int-AGU (n = 180) vs CMU (n = 103) in terms of age ( $88.5 \pm 4.9$  vs  $89.1 \pm 4.6$  years) or Barthel index [median 45 (RIQ:25–60) vs 45 (20–55)]. Differences were identified in terms of BDI [0.76 (0.61–1.00) vs 0.85 (0.64–1.11);  $p = 0.44$ ], DTE categories (category 3: 30.0% vs 45.6% and categories 4–5: 70.0% vs 48.5%;  $p = 0.002$ ), length of hospital stay [9.0 (6.1–13.3) vs 13.0 (7.8–20.2) days;  $p < 0.001$ ] and the rate of 30-days hospital readmission (5.0% vs 12.6%;  $p = 0.021$ ).

**Conclusions:** An interdisciplinary approach that includes a comprehensive geriatric assessment, patient-centered medication review, and individualized management of social resources improves effectiveness in the care of very elderly patients.

## P-246

### How can health care professionals understand and incorporate spirituality into Comprehensive Geriatric Assessment?

Julie Whitney (1), Lorraine Turner (2)

(1) King's College London, (2) St Augustine's College of Theology

**Introduction:** little is known about how Health Care Professionals (HCPs) conducting Comprehensive Geriatric Assessment (CGA) assess spiritual needs. The aim of this study was to better understand how UK HCPs understand and incorporate assessment of spirituality into CGA for community dwelling frail older people.

**Methods:** Semi-structured interviews were undertaken with HCPs who regularly undertake CGA in the community as well as Anna Chaplains (ACs) whose remit is to provide chaplaincy to community dwelling older people. An inductive approach was taken using a topic guide to structure the interviews. Thematic analysis was undertaken using NVIVO. Ethics approval was granted through St Augustine's College of Theology.

**Results:** three HCPs and two ACs were interviewed. Three themes emerged. Firstly, that spiritual assessment needs time, trust and skill and cannot be established using checklists. Assessment hinges on building a rapport between the patient and HCP. HCPs and ACs suggested potential questions that could support assessment of spiritual needs. Secondly, supporting spirituality is focused on sustaining identity, fostering hope and encouraging spiritual growth. Finally, health care professionals lacked confidence and understanding in how to recognise and meet spiritual needs. Several suggestions were made as to how to address this.

**Key Conclusion:** All participants agreed that incorporating assessment of spirituality into CGA was important but that doing so effectively requires understanding and skill. The questions suggested by participants mapped well onto existing models of spirituality in ageing and frailty. Study findings could be used to develop training for HCPs undertaking CGA.

## P-247

### A scoping review of remotely delivered cognitive assessment tools that could be used in comprehensive geriatric assessment

Julie Whitney (1), Emirah Arjunaidi Jamaludin (1), Jessica Bollen (2), Abi Hall (2), Alison Bethel (2), Julia Frost (2), Aseel Mahmoud (2), Naomi Morley (2), Sam Freby (2), Vicki Goodwin (2)

(1) King's College London, (2) University of Exeter

**Introduction:** Community-based comprehensive geriatric assessment (CGA) reduces hospital admissions but the optimal way in which CGA can be delivered is not well understood. Digital and Remote Enhancements for the Assessment and Management of older people living with frailty (DREAM) is a programme of research seeking to develop an enhanced community CGA intervention. We aimed to identify candidate cognitive assessment tools (CATs) that could be undertaken remotely and enhance CGA.

**Methods:** Searches were carried out on Medline, PsycINFO, CINAHL and Cochrane databases. Papers published since 2008 were included if they analysed the validity, reliability or acceptability of CATs that could be undertaken remotely in a domestic setting and were tested on older people.

**Results:** Of 4286 papers identified, 56 were included. Four types of CAT were identified: computer/tablet/smartphone applications (23-tools/27papers), telephone (16tools/23papers), video (2tools/2papers) and specialist equipment (4tools/4 papers). 14 tools demonstrated excellent accuracy for identifying mild cognitive impairment or dementia (specified as  $AUC > 0.80$  or sensitivity/specificity  $> 80\%$ ). 42 papers presented concurrent/convergent validity, 14 reliability and 16 acceptability data. Time taken to perform tests ranged between 2–30 min. Of the 23 computer/tablet/smartphone applications, 7 tools are currently available to download.

**Key Conclusions:** Remote CATs could be used in CGA. Computer/tablet/smartphone applications and some specialist equipment could enhance assessment by quickly and accurately identifying cognitive impairment, in some cases with greater accuracy than traditional tests. Tools that use ‘games’ may be more appealing than conventional pen and paper tools. However, many of the computer/tablet/smartphone applications tested are not available for clinical use.

## P-248

### Rapid Geriatric Assessment and Related Interventions in Older Inpatients-A Pilot Study

Sibel Çavdar (1), Batuhan Çakmak (2), Mert Anıl Altun (2), Fatma Ozge Kayhan Koçak (1), Sumru Savaş (1)

(1) Ege University Faculty of Medicine, Department of Internal Medicine, Division of Geriatrics, Izmir, Turkey., (2) Ege University Faculty of Medicine, Izmir, Turkey

**Introduction:** It is important, but might not be feasible to evaluate all older hospitalized patients for geriatric syndromes (GS). ‘Rapid Geriatric Assessment’ (RGA) is a quick and standardized tool for primary care physicians to detect GS. Evaluating GS by practical tools, and performing targeted interventions are substantial for all older inpatients at any department as in the geriatric sections. We aimed to assess GS by RGA in older inpatients at our Internal Medicine Department (IMD), and also to investigate related interventions.

**Methods:** This study was conducted between January and May 2023 in patients aged  $\geq 60$  years at an IMD. RGA including the FRAIL, SARC-F, Simplified Nutritional Assessment Questionnaire (SNAQ), and Rapid Cognitive Screen (RCS) tools was implemented. The interventions for GS were also investigated through medical records.

**Results:** A total of 135 patients (mean age  $71.9 \pm 8.7$  years, 56.3% women) were enrolled. Of all; 63.7%, 27.4%, 57%, and 48.9% of the participants met the screening criteria for frailty, pre-frailty, the risk of sarcopenia and weight loss (WL), respectively whereas 40.7%, and 28.9% were screened positive for dementia, and mild cognitive impairment. Among screened inpatients; 2%, 1.4%, 5.3% and 1.2% of them were further evaluated and interventions were carried out for frailty, sarcopenia, WL and dementia, respectively.

**Conclusion:** Though the prevalence of frail and prefrail as well as older inpatients at risk of sarcopenia and WL were substantially high in IMD by RGA, awareness and targeted interventions were very low. Recognition and intervention of GS with standardized methods need to be disseminated.

## P-249

### Validation of frailty index based on comprehensive geriatric assessment (IF-VIG) in correlation with clinical frailty scale (CFS) in institutionalized older patients

Cristina Jiménez-Domínguez (1), Loreto Álvarez-Nebreda (1), Lourdes Rexach-Cano (1), Carlos Verdejo-Bravo (2)

(1) Hospital Ramón y Cajal, Madrid, Spain, (2) Hospital Clínico San Carlos, Madrid, Spain

**Introduction:** Frailty has emerged as a geriatric syndrome related to an increased vulnerability to adverse events and mortality. Different frailty screening tools discriminate between various degrees of frailty. As an initial step to validate the Frail-VIG index (IF-VIG) based on comprehensive geriatric assessment in older institutionalized patients, we compare it with the CFS (Clinical Frailty Score).

**Methods:** Observational prospective multicentric study of a cohort of institutionalized older patients, over 4 months. A Comprehensive Geriatric Assessment was performed at baseline for all patients and their IF-VIG score and CFS were calculated. Global features of this frailty index were analyzed. The concurrent validity of the IF-VIG with the CFS was measured by a linear regression model, calculating the Pearson correlation coefficient ( $r$ ).

**Results:** 468 patients were included, mean age  $87 \pm 8$ , 80% women. The prevalence of frailty ( $IF-VIG \geq 0.20$ ) was 97.6%. The mean IF-VIG score was  $0.46 \pm 0.12$ . When applied to institutionalized patients, IF-VIG maintains some characteristics described for any frailty index: 99.7% of the total have an  $IF-VIG < 0.70$ , and there was an asymmetric distribution of scores with a coefficient of  $-0.29$ . IF-VIG values did not depend on age but men and those patients who were more dependent (Barthel Index  $IB < 20$ ), with severe cognitive impairment (Reisberg’s Global Deterioration Scale ( $GDS > 6$ )) and higher CFS were frailer. There was a strong correlation with CFS ( $r = 0.91$   $p < 0.01$ ).

**Key Conclusions:** The correlation of IF-VIG with CFS supports its use in this population. Future studies will assess how the IF-VIG changes over time and its predictive ability of mortality.

## P-250

### A systematic review of Comprehensive Geriatric Assessment (CGA), or interventions aimed at its components, in older patients undergoing Transcatheter Aortic Valve Implantation (TAVI)

Katherine Chin (1), Rosalind Jones (1), Rebekah Schiff (2)

(1) Guy’s and St Thomas’ NHS Foundation Trust, (2) Guy’s and St Thomas’ NHS Foundation Trust; Honorary Reader, King’s College London

**Introduction:** Older adults living with frailty who have severe aortic stenosis are often offered a TAVI, however increasing frailty is associated with worse outcomes post-procedure. This study evaluates the evidence to determine whether CGA, or interventions aimed at its component, may improve outcomes for this population.

**Methods:** EMBASE, MEDLINE, Cochrane, CINAHL, ClinicalTrial.gov and WHO Trials were searched on 09/01/23 for trials that

evaluated CGA, or its components, in over 65-year-olds pre- or post-TAVI. The review was conducted using PRISMA guidelines and registered on PROSPERO (CRD4202299955). Two independent reviewers independently screened and assessed included papers for risk of bias using the Cochrane RoB and ROBINS-I tool.

**Results:** Nineteen studies met the eligibility criteria. Of those, one observational study evaluated the effect of CGA in older adults undergoing TAVI. Eighteen studies evaluated an intervention targeting a domain of CGA. All studies had at least a moderate risk of bias, with the majority having a high risk of confounding due to lack of randomisation or adequate control groups. There was very low-quality evidence suggesting that CGA may improve functional independence and physical performance post-TAVI, but conflicting results regarding the impact of exercise-based programmes and multicomponent interventions.

**Conclusion:** There is an absence of evidence to support CGA, or interventions targeting component domains, improving outcomes in older adults post-TAVI. The strong evidence base for CGA in peri-operative care, paired with the results of this review, support the need for well-designed trials to determine whether CGA improves outcomes for older adults living with frailty undergoing TAVI.

## P-251

### Loneliness is More than What It Looks in elders

Yelda Ozturk (1), Ezgi Odacı Comertoglu (2), Meltem Koca (3), Cafer Balci (2), Burcu Balam Dogu (2), Meltem Gülhan Halil (2), Özlem Erden Aki (4), Mustafa Cankurtaran (2)

(1) Eskisehir City Hospital, Geriatrics Clinic, (2) Hacettepe University Faculty of Medicine, Division of Geriatrics, (3) Bilkent City Hospital, Division of Geriatrics, (4) Hacettepe University Faculty of Medicine, Department of Psychiatry

**Introduction:** The aim of the study was to evaluate the effects of the perception of loneliness.

**Methods:** 136 outpatients ( $\geq 65$  years) were enrolled. Patients were divided into two groups according to the Loneliness Scale for the Elderly (LSE). Whereas Group 1 (LSE score 0–4) had 45, Group 2 (LSE score  $\geq 5$ ) had 91 patients.

**Results:** Patients were less dependent according to instrumental activities of the daily living scores in Group 1 ( $p = 0.030$ ). The Multidimensional Scale of Perceived Social Support (MSPSS,  $p < 0.001$ ) and Quality of Life scale (CASP-19,  $p < 0.001$ ) were higher in Group 1 than in Group 2. Therefore, the Death anxiety scale (DAS) was lower in group 1. 13.3% of Group1 and 36.3% of Group2 were at risk of malnutrition (MNA-SF score  $< 12$ ) ( $p = 0.005$ ). According to Tilburg Frailty Indicator, 17.8% of Group 1 and 80.2% of Group 2 were frail ( $p < 0.001$ ). 2.2% of Group 1 and 22.0% of Group 2 had anxiety according to the 7-item Generalized Anxiety Disorder (score  $\geq 10$ ) ( $p = 0.003$ ). 15.6% of Group 1 and 42.9% of Group 2 had a risk of depression according to Geriatric Depression Scale-15 (score  $\geq 5$ ) ( $p = 0.002$ ). DAS ( $\beta = 1.22$ ,  $p < 0.027$ ), CASP-19 ( $\beta = 0.91$ ,  $p < 0.045$ ), and Tilburg ( $\beta = 1.85$ ,  $p < 0.001$ ) were independently associated with LSE in regression analysis.

**Conclusion:** LSE is closely related to life quality, death anxiety and frailty. Patients with higher LSE scores are more prone to geriatric syndromes and developing future studies and strategies is crucial.

## P-252

### Investigation of the Impact of Stochastic Resonance Phenomenon on Whole-Body Postural Sway in the Elderly Using Entropy-Based CART Algorithm

Veysel Alcan (1), Fatma Kübra Çekok (2), Maryam Hassanpour (3)

(1) Department of Electrical and Electronics Engineering, Faculty of Engineering, Tarsus University, Mersin, Turkey, (2) Department of Physiotherapy and Rehabilitation, Faculty of Health Sciences, Tarsus University, Mersin, Turkiye, (3) Department of Engineering Sciences, Middle East Technical University, Ankara, Turkiye

**Introduction:** Understanding the relationship between stochastic resonance and the nonlinear dynamics of the body can provide insights into how noise-induced effects contribute to the optimization of balance control and stability in the elderly [1]. One possible application could be to analyze the entropy of sensory input signals and observe how it correlates with the phenomenon of stochastic resonance. This study aimed to assess the effectiveness of stochastic resonance interventions for balance and postural control in the elderly using an entropy-based CART (Classification and Regression Trees) algorithm.

**Methods:** The public dataset was used to assess the impact of stochastic resonance on balance and postural control in twelve healthy elderly [2]. White noise vibration was applied under the stimulator and non-stimulator conditions. The whole-body postural sway was quantified by affixing a reflective marker onto the right shoulder of each participant. The entropy algorithms were calculated including Sample Entropy, Fuzzy Entropy, Multiscale Entropy, Spectral Entropy, Phase Entropy, Distribution Entropy, and Attention Entropy [3]. CART algorithms were then employed to classify the sway patterns.

**Results:** The application of noise (vibration) through the vibrating insoles resulted in no significant changes in all entropy measurements in the elderly participants compared to the non-stimulator condition. While the CART algorithm achieved relatively high accuracy on the training data (81%), it did not perform well on unseen data, as indicated by the lower cross-validation accuracy (51%).

**Conclusions:** The present study indicated the potential of using an entropy-based CART algorithm did not reveal enough information content that contributes to optimal balance performance based on stochastic resonance effects.

## P-253

### A scoping review of wearable gait and balance assessment tools that could be used in comprehensive geriatric assessment

Julie Whitney (1), Jessica Bollen (2), Naomi Morley (2), Emirah Arjunaidi Jamaludin (1), Abi Hall (2), Alison Bethel (2), Tom Crocker (3), Helen Lyndon (4), Silvia Del Din (5), Julia Frost (2), Aseel Mahmoud (2), Vicki Goodwin (2)

(1) King's College London, (2) University of Exeter, (3) Bradford Teaching Hospitals and University of Leeds, (4) Cornwall Foundation NHS Trust, (5) Newcastle University

**Introduction:** The optimal way in which community Comprehensive Geriatric Assessment (CGA) can be delivered is not well understood. Digital and Remote Enhancements for the Assessment and Management of older people living with frailty (DREAM) is a programme of

research seeking to develop an enhanced community CGA intervention. We aimed to identify tools that could remotely assess gait and balance and enhance CGA.

**Methods:** Searches were carried out on Medline, Embase, CINAHL, AMED, PEDro and Cochrane. Papers published since 2008 were included if they analysed validity, reliability or acceptability of wearable gait or balance assessment tools (GBATs) that could be undertaken remotely in a domestic setting and tested on older people. **Results:** 6203 papers identified, 49 (22 tools) were included. 35 tools analysed gait, 7 balance and 7 both. 31 used a single sensor, the most common sensor placement being lumbar spine ( $n = 28$ ). Tools demonstrated discrimination for Parkinson's disease ( $n = 8$ ), cognitive impairment ( $n = 4$ ), falls ( $n = 4$ ), mobility disability ( $n = 3$ ) and frailty ( $n = 3$ ). 15 studies found good–excellent agreement between the wearable and another method of analysing the same aspect of gait or balance (e.g. gait mat). 9 tools correlated significantly with other related variables (e.g. muscle strength) and 9 presented reliability metrics. Tools were tested either in free living situations ( $n = 8$ ) or while undertaking specified mobility tasks ( $n = 41$ ). Key.

**Conclusions:** Wearables could enhance CGA by reliably and accurately identifying gait characteristics associated with clinical conditions including falls. Wearables can measure gait and balance while worn over several days or during a specific test.

## P-254

### Financial Planning As Part Of An Integrated Care Comprehensive Geriatric Assessment

Amy Lynch (1), Mary Okon (1), Dearbhla Murray (1), Karen Mannion (1), Maire Ni Neachtain (1), Edel Sheil (1), Mary Donohue (1), Fiona McClean (1), James Geoghegan (1), Michelle Canavan (1), Maria Costello (1)

(1) Galway University Hospital, Ireland

**Background:** Evaluation of social support networks including the need for support in managing finances independently is key in a Comprehensive Geriatric Assessment (CGA). Safeguarding of finances should be encouraged in all older adults in the event they lose capacity. Ireland brought in new legislation “The Assisted Decision Making Act” to inform decision making in adults with impaired capacity. We sought to evaluate financial competency and preparedness in a population attending our integrated care for older persons service (ICPOP). **Methods:** Participants included were new patients referred to ICPOP between January and May 2023 with completed CGAs. A retrospective analysis was conducted on patient demographics, ability to independently manage finances, dependency on personal and instrumental activities of daily living.

**Results:** Of our analytic cohort ( $n = 85$ ), 56% ( $n = 48$ ) were female, median age was 81. 48% of new referrals were for decline in cognition. Median Rockwood CFS was 5. Median Lawton- Brody score was 4/8 with 80% ( $n = 68$ ) patients scoring 1 in the financial section 60% ( $n = 51$ ) of patients collected their own pensions. No patient had an advanced care directive, 90% ( $n = 77/85$ ) did not have Enduring Power of Attorney and 41% ( $n = 35/85$ ) did not have a will. **Conclusion:** Few had EPoA in place and no person had a documented advanced care directive. Over half required some if not total assistance with financial matters. Supported decision making is essential to uphold the right of the older person to make choices on their welfare, property and affairs and CGA provides opportunity for intervention in this remit.

## P-255

### Comparison of Mini Nutritional Assessment Short Form (MNA-SF) and Malnutrition Universal Screening Tool (MUST) in screening of malnutrition in geriatric patients

Ozge Can (1), Meris Esra Bozkurt (1), Tugba Erdogan (2), Zeynep Fetullahoglu (1), Serdar Ozkok (3), Humeyra Ozalp (1), Cihan Kilic (1), Mehmet Akif Karan (1), Gulistan Bahat (1)

(1) Istanbul University, Istanbul Medical School, Department of Internal Medicine, Division of Geriatrics, (2) Tekirdag Dr. İsmail Fehmi Cumalioglu City Hospital, (3) Hatay Education And Research Hospital

**Introduction:** Malnutrition is defined as a chronic condition in which varying degrees of malnutrition and increased inflammatory activity alter body composition. Falls, sarcopenia and frailty in the elderly; are important geriatric syndromes with serious clinical consequences such as infections, malnutrition, hospitalizations, and death. Our aim is to investigate the relationship of MNA-SF and MUST tests with falling, fragility, probable sarcopenia and to evaluate the compatibility between the two tests.

**Methods:** The data of 2013 patients aged  $\geq 58$  years who applied to a university geriatrics outpatient clinic between November 2012 and August 2022, living in the community, were analyzed retrospectively. 852 patients with MNA-SF and MUST score data were included in the study. Frailty was screened with the FRAIL 5-item scale. Malnutrition was defined as a MNA-SF score of  $\leq 11$  and a MUST score of  $\geq 1$ . FRAIL score of  $\geq 3$  were evaluated as FRAIL. Hand grip strength was measured with a hand dynamometer and low detection was defined as probable sarcopenia. Low hand grip strength was defined according to the Turkish population-specific cut-off (35 kg / 20 kg male and female, respectively).

**Results:** Of the 852 older adults, 22.2% were found to be malnourished according to the MNA-SF and 29.5% according to the MUST. In univariate analyses, both screening tests were statistically significantly associated with age, probable sarcopenia, falling, frailty. MNA-SF and MUST were statistically highly correlated ( $r: -0.749$ ,  $p < 0.001$ ). In multivariate analyses, after adjusting for age and gender, MNA-SF was statistically associated with probable sarcopenia, falling, and frailty; MUST was found to be associated with falling and fragility.

**Conclusion:** This study determined that MNA-SF was more associated with probable sarcopenia, which has a bidirectional relationship with malnutrition in elderly individuals compared to MUST. Although MUST increases the applicability of rapid screening with fewer questions in clinical practice, the relationship between probable sarcopenia and MNA-SF is superior.

## P-256

### Invasive candidiasis clinical case: an example of patient global assessment and interdisciplinary collaboration

Francesca Soler-Parets (1), Beatriz Echarte-Archanco (2), Rodrigo Molero de Ávila-García (2), Marta Lorente-Escudero (2), Ángela Zulema Hernández-Amador (2), Karnele Garaioa-Aranburu (2), Marina Sánchez-Latorre (2), Belén González-Glaría (2)

(1) Geriatrics Department, Hospital Universitario de Navarra (HUN), Pamplona, Spain; (2) Geriatrics Department, Hospital Universitario de Navarra (HUN), Pamplona, Spain

**Introduction:** Invasive candidiasis is an increasingly important infection. Although *Candida albicans* is the most common cause of



candidemia, there has been increased isolation of non-albicans species of *Candida* in recent years which, some of them, are intrinsic fluconazole resistant. Thus, knowing the secondary effects of candidemia treatment seems to be essential. Objective We present a case of hepatotoxicity secondary of treatment with anidulafungin in a 90-year-old patient with candidemia caused by *Candida krusei*. Methodology We collected the registered information, the complementary tests carried out and the evolution of the case.

**Results:** After developing a Comprehensive Geriatric Assessment (CGA), a change of treatment was made, suspending anidulafungin and initiating voriconazole, as a global decision with Pharmacology and Digestive Department. The evolution of hepatotoxicity was observed by monitoring liver enzymes and clinical signs of liver failure. The patient was finally discharged with a successful completion of treatment. At the discharge review, performed by his Primary Care Physician and supported by a specific geriatric unit specialized in dementia, the patient remained clinically stable, had recovered his functional basal situation and liver enzymes had practically normalized.

**Conclusion:** There are not a defined criteria for discontinue treatment in patients with hepatotoxicity due to treatment for candidemia. Thus, this decision should be individualized and based in a CGA performed by multidisciplinary team. Furthermore, this patient is an example of the importance of inter-specialty collaboration and continuity of care in complex chronic patients.

## P-257

### Geriatric assessment in patients with end stage kidney disease under Conservative Care

Mariana Freitas (1), Ana Farinha (1)

(1) Nephrology Department, Portugal

**Introduction:** Geriatric syndromes (GS) contribute to poor outcomes and impact in quality of life so they should be assessed in all end stage kidney disease (ESKD) patients (pts). We evaluate the prevalence of GS in a ESKD population on Conservative Care (CC).

**Methods:** We conducted a retrospective study in a single-centre followed on CC between January 2020 and April 2023. Data collected was demographic, social, clinical and the prevalence of different GS.

**Results:** 54 ESKD pts (35 women, 19 men), aged  $83.7 \pm 7.2$  years were included. Mean follow-up was  $7.7 \pm 6.2$  months. 48.1% patients were institutionalized. The median Charlson Comorbidity Index was 10 [6; 16] points. Frailty (assessed by the Clinical Frailty Scale), was 6 [3; 9]. The most prevalent GS were cognitive impairment (55.6%), sarcopenia (51.9%), malnutrition (48.1%) and visual and/or auditory impairment (44.4%). 22 pts had pressure ulcers (40.7%) prompted by immobility and instability that occurred in 27.8% pts. Social impairment and depression were observed in 33.3% and 24.1% pts, respectively. Lastly, 14.8% of the study population had chronic pain and 11.1% presented iatrogenesis and/or polypharmacy. In a univariate analysis, depression was associated with death by cachexia and the number of GS with worse CFS.

**Conclusions:** GS are common in elderly pts and even more common in ESK. Our results reveal a frail population with high prevalence of geriatric syndromes, whose identification is crucial to improve outcomes and provide a better and more personalized approach.

## P-258

### Long-term Consequences of Hypertension in the Elderly

Gabriela Cristina Chelu (1), Catalina Raluca Nuta (1), Ovidiu Lucian Bajenaru (1), Gabriel Ioan Prada (1), Sinziana Georgeta Moscu (1), Nicolae Ovidiu Penes (1), Anna Marie Hergelegiu (1)

(1) University of Medicine and Pharmacy “Carol Davila”, Bucharest, Romania

**Introduction:** Hypertension is both a risk factor and a pathology of the cardiovascular system, common in the elderly patients, with significant personal and public health implications, whose incidence is constantly increasing. Hypertension manifests its effects on the heart, causing atherosclerosis and heart failure, on the central nervous system, by the onset of dementia and possibly a stroke. This study aims to identify the extent to which patients with high blood pressure develop dementia, stroke and heart failure.

**Methods:** Total number of subjects included in the study was 336, age-range 50–95 years, with a diagnosis of hypertension alongside stroke, dementia and heart failure were included. Patients were divided into equal categories according to age and sex. The reference age groups were: 50–64 years, 65–74 years and 75 + years. Parameters considered: gender, age, level of education, place of residence (urban/rural), economic status, marital status, hypertension, heart failure, stroke and dementia.

**Results:** Stroke and heart failure, complications of high blood pressure, showed a tendency to increase their prevalence in male elderly people. The prevalence of heart failure was significantly increased in male hypertensive elderly. The prevalence of dementia in those with high blood pressure and stroke is influenced by age and sex, the female elderly subject being predominantly affected.

**Key Conclusions:** From the distribution of long-term complications in those with hypertension, we can observe that stroke is the main complication (41.88%), followed by heart failure (41.02%), dementia being much less common (17.09%).

## P-259

### Embracing Autonomy: Empowering Elderly Patients through Shared Decision-Making in Anticoagulation Therapy for Newly Diagnosed Atrial Fibrillation

José Pedro Mendes (1), Giulia Ober (1), Miguel Correia Machado (1), Janine Correia (1), Maria Ana Gaspar (1), João Marques Santos (1)

(1) USF Oriente

**Introduction:** Shared decision-making (SDM) is crucial and should be a common practice when dealing with complex medical cases. The decision-making process of anticoagulation treatment for a recently diagnosed atrial fibrillation (Afib) patient cannot be taken lightly. Balancing the treatment benefits with the risk of bleeding is even more important and complex in older individuals, who often have multiple comorbidities.

**Case report:** We present the case of an 89-year-old female with a known history of rheumatoid arthritis and vertigo, no previous history of cardiac conditions and a newly diagnosed Afib during a routine echocardiogram. The patient is independent in her activities of daily living and does not experience any cognitive impairment. Her GP clarified the new condition and, after assessing a CHA2DS2-VASc score of 3 and a HAS-BLED score of 2, discussed the available

therapeutic approaches for stroke prevention therapy, ensuring a comprehensive understanding of the associated risks and benefits. After considering the information, the patient decided not to start anticoagulation therapy, making a voluntary decision that was duly acknowledged and taken into consideration by her GP in the disease management plan.

**Conclusion:** There is growing consensus regarding the importance of involving patients in the decision-making process for managing Afib. While there may be a tendency towards a more paternalistic approach in the older population, patient empowerment and SDM have the potential to offer substantial benefits specifically within the geriatric population by addressing individual patient values, health goals, and concerns while respecting their autonomy.

## P-260

### The Italian Guideline on Comprehensive Geriatric Assessment (CGA) for the Older Persons: a collaborative work of 25 Italian Scientific Societies and the National Institute of Health

Alberto Pilotto (1), Pierangelo Lora Aprile (2), Nicola Veronese (3), Eleonora Lacorte (4), Paola Piscopo (4)

(1) 2. Italian Geriatric Society Hospital And Community (SIGOT), (2) General Practice and Primary Care Italian Society (SIMG), (3) University of Palermo, (4) Italian National Institute of Health (ISS)

**Background:** The guideline was promoted by the Italian General Practitioners/Primary Care (SIMG) and Geriatrics Hospital-Community (SIGOT) Societies with the National Institute of Health (ISS) and the Expert Panel including 25 representatives of Scientific and Health-Professional Organizations. Aim of the Guideline was to develop evidence-based recommendations for using CGA in older people across different clinical settings, including for clinical-decision making.

**Methods:** According to the recommendations of the Italian National System of Guidelines (SNLG), and NICE criteria (National Institute for Health and Care Excellence in England), the Guideline was produced in agreement with the Grading of Recommendations Assessment, Development and Evaluation (GRADE). Over 18,000 records were initially selected by databases search. Nine recommendations were issued focusing on primary care (Q1,29 studies included), specialty ambulatories in medical (Q2,8 studies) and surgical areas (Q3,5 studies), emergency department (Q4,17 studies), hospital medical-ward (Q5,41 studies), hospital surgical-ward (Q6,18 studies), rehabilitation setting (Q7,4 studies), nursing home/long-term care facilities (Q8,1 study), palliative care (Q9, no studies). Forty-three CGA-based prognostic studies were included for clinical decision-making mainly in Q1 (5 studies), Q2 (3 studies) and Q5 (33 studies).

**Results:** CGA should be used for decreasing hospitalization (Q1), mortality (Q2-oncogeriatrics), hospitalization (Q4), nursing-home admission (Q5), the risk of delirium (Q6). Further research on CGA in rehabilitation, nursing-home and palliative-care settings are recommended. CGA-based tools, particularly the Multidimensional Prognostic Index, could predict several negative outcomes in different settings, with good accuracy and calibration.

**Conclusions:** This Guideline may be useful in clinical practice and to address research on CGA of older persons.

## P-261

### Frailty At The Front Door Team Compliance With The 4Ms Of The International Healthcare Improvement Age-Friendly Healthcare System

Rachel Fitzgerald Fitzgerald (1)

(1) Cork University Hospital

Age-friendly health systems assess the 4Ms; 1) what matters most 2) mood/mental state 3) medication and 4) mobility/functional assessment. This study measured Frailty at the Front Door compliance with the 4Ms. An interdisciplinary team including geriatric medicine doctors, physiotherapists, occupational therapists, speech and language therapist and dietitian completed abbreviated '4Ms' Comprehensive Geriatric Assessments (CGAs). Data from scanned CGAs between January- December 2022 was entered onto Excel by trained administrators. Compliance with the 4Ms assessment was retrospectively assessed. Data was analysed using descriptive statistics. 588 CGAs were scanned. 96 excluded due to incomplete data (n = 93), or age under 65 years (n = 3). Mean (SD) age was 83 (7.8) years. Female:Male ratio was 1.4:1. Mean (SD) CFS was 5 (1.2). 83% (n = 412) answered 'what matters most'. Common themes were; home (20%), family/friends/pets (18%), independence (7%), health (6%), and miscellaneous (40%). 100% had a 4AT documented, mean (SD) 4AT of 2 (2.9). The presence/absence of dementia was recorded in 73% (n = 364). 80% (n = 395) recorded presence/absence of depression. 11% (n = 57) had current or previous depression. 87% (n = 450) had a medication screen ± review performed. 27% (n = 126) of presentations were related directly to medications or falls. 96% (n = 473) had a mobility/functional assessment recorded. There was 83% or greater compliance across all areas of the 4Ms. Cognition, mobility and functional status demonstrated the highest compliance rates. Data capture was incomplete due to the inefficiency of scanning CGAs. Feasible future steps will be to accredit the Emergency Department as an age-friendly healthcare system.

## P-262

### Importance Of The Interdisciplinary Approach To Pressure Ulcers In Elderly Patients. About A Case

Sandra Gracia Polo (1), Pilar Cantin Sánchez (1), Gema Naranjo Soriano (2), Magdalena Linge Martín (1)

(1) Servicio de Geriatria, Hospital San José, Teruel, (2) Servicio de Cirugía General, Hospital Obispo Polanco, Teruel

**Introduction:** Pressure ulcers are a public health problem due to their repercussions on the quality of life of patients, the prolongation of hospital stay and the increase in spending and nursing care. For all these reasons, it is important to carry out an interdisciplinary approach that favors its adequate evolution.

**Methods:** Analysis of the clinical case of an elderly patient with superinfected grade IV sacral pressure ulcers where the interdisciplinary approach was a fundamental tool in its resolution.

**Results:** A 75-year-old male patient admitted to the Geriatric Service after prolonged hospitalization for cerebrovascular accident. Previously, he was independent for all the basic activities of daily life, presenting dependency to the total income. During his stay, he was assessed by the surgery and nursing team for a grade IV sacral pressure ulcer, and he was fitted with a vacuum-assisted closure system (VAC), with good evolution. Physiotherapy and occupational therapy teach strength and coordination exercises to help in postural changes, promote patient self-care. After achieving an improvement

at the functional level, hospital discharge was delivered, continuing with the interdisciplinary approach at the Geriatric Day Hospital thanks to the nursing, physiotherapy, occupational therapy and social work team, with special emphasis on postural control and care of the pressure ulcer.

**Conclusions:** Pressure ulcers are a geriatric syndrome with a complex approach, which benefits from adequate interdisciplinary management. The collaboration between different health professionals allows clinical and functional improvement of the patient, favoring the adequate evolution of the lesions in the medium-long term.

## P-263

### Documenting Medication-Related Needs Of Older Persons Assessed By Frailty At The Front Door Teams

Rachel Fitzgerald (1), Isweri Pillay (2)

(1) Cork University Hospital, (2) Cork Univeristy Hospital

Older persons presenting with frailty syndromes, polypharmacy and significant comorbidities to Emergency Departments (ED) have a higher rate of adverse outcomes. The aim of this study was to describe medication-related needs of persons over 65 years seen by a frailty at the front door (FFD) team in ED. An inter-disciplinary team (IDT) performed Comprehensive Geriatric Assessments (CGAs) between January–December 2022. A pharmacy prioritisation toolkit collected data such as excessive polypharmacy, use of high-risk medications, specific medication concerns, fall or medication-related admission and kidney injury. Age, gender, CFS, pharmacy toolkit triggers and Geriatrician review were entered onto Excel and analysed using descriptive statistics. 529 CGAs were included. 60 were excluded due to incomplete data ( $n = 57$ ) or aged under 65 years ( $n = 3$ ). Mean (SD) age 82.9 (7.9) years. Female:Male ratio 1.5:1. Mean (SD) CFS = 5.2 (1.1). 25% ( $n = 131$ ) had a fall or medication-related admission. 20% ( $n = 109$ ) had an acute kidney injury (AKI) or chronic kidney disease (CKD). 26% ( $n = 141$ ) had excessive polypharmacy. 53% ( $n = 284$ ) were on one or more high risk medications. 9% ( $n = 50$ ) had a specific medication concern. 46% ( $n = 246$ ) triggered pharmacy review. 72% ( $n = 178$ ) required geriatrician review. Use of high risk medications, excessive polypharmacy and medication/fall related admission are the most common reasons for pharmacy review. Geriatrician review is needed in the majority of cases to assess medication-associated risk and effectively deprescribe. There is a need for pathways of care that allow for pharmacy and Geriatrician review of older persons seen by an FFD.

## P-264

### Experience in the early rehabilitation of proximal hip fractures

Marija Markovski (1), Hristijan Kostov (1), Bozidar Blazevski (2), Ilija Zdravkov (3), Nerhim Tufekcioski (4), Darko Talevski (1)

(1) GH 8th September, (2) GH8 th September, (3) GH8th Seteptember, (4) GH 8 th September

**Introduction:** eriatric hip fractures are public important health problem. Early rehabilitation is necessary because it is expected to lead to better functional capacity and less post-operative complications.

**Materials and methods:** A retrospective study of patients operated at the Department for orthopedics and traumatology at GH 8 September in one year period. The main inclusion criteria were: age of 65 years

or older and surgery for proximal hip fracture. Total number of 211 patients were included. We analyzed the differences between two groups of patients according to the duration of the early rehabilitation and the results of the early rehabilitation: The first group of patients with neurological and psychiatric disorders (extrapyramidal syndrome, psycho organic syndrome, and the second group other diseases (cardiological diseases, hypoglycemia, undernourishment) .

**Results:** Females 160 patients, males 51 patients. Femoral neck fracture (52.1%), trochanter region fractures 47.9%. Patients from the first group were 35.5%, and from the second group (64.5%). We used validated clinical scores and clinical judgment for assessment of the functional status before discharge. Patients from the first group were hospitalized in average for 6.8 days and patients from the second group were hospitalized for in average for 10.2 days. Patients from the first group had worse functional status at the discharge.

**Conclusion:** Elderly patients with neurological and psychiatric disorders are very complex patients who require multidisciplinary approach and national strategy.

## P-265

### Dizziness and near syncope in old woman—could it be cardiac disease?—Case report

Marija Markovski (1), Mitra Bogeska- Blazhevaska (2), Biljana Shishkova (2), Gordana Popovska—Tasevski (3)

(1) GH 8th September, (2) PHO Kardiomedika Srbinovski, Skopje, (3) Western Health Mercy Health, Australia

**Introduction:** Dizziness is a common presentation in the elderly population. However, the symptom of dizziness represents a spectrum of pathology from benign to serious. Cervical vertigo, also called cervicogenic dizziness is related to certain neck conditions: arthritis of the neck (cervical spondylosis), herniated discs or trauma. The symptomatic sick sinus syndrome represents with symptoms of fainting, syncope, breathlessness, tiredness. These two conditions may sometimes coexist, especially in elderly patients and cardiology evaluation is necessary to exclude serious pathology. Case report: We present a case of woman, 75 years old with symptoms of dizziness and near syncope in last few years but worsening in last few months. The symptoms were only partially associated with head movement and were not postural in nature. Radiographic findings of cervical spine showed osteophyte formation, disc space narrowing, degenerative changes of uncovertebral and facet joints, and calcifications of soft tissues, which changes were thought to be the cause for the symptoms. Her blood analyses were normal, and her 12 lead ECG during rest, Collor Doppler Echocardiography and ultrasound of carotid and vertebral arteries did not show pathology to explain her symptoms. But, 24 h Holter ECG monitoring showed significant bradycardia 35bpm and second-degree AV block with a Wenckebach periodicity (Mobitz I) which were registered during activity and strongly correlate with her symptoms. It was decided to implant a permanent pacemaker which was associated with significant clinical improvement.

**Conclusion:** Clinicians must be vigilant in evaluating patients presenting with dizziness and be mindful of red flags that may indicate serious pathology. Careful history taking and physical examination are pivotal in evaluating patients presenting with dizziness. A detailed cardiology examination is necessary.

## P-266

### Analysing The Social History Aspects Of A Community Geriatric Hub Comprehensive Geriatric Assessment Incorporating Patients Views And Wishes

Amy Lynch (1), Karen Dennehy (1), Catriona Reddin (1), Maria Costello (1), Michelle Canavan (1), Robert Murphy (1)

(1) University Hospital Galway, Ireland

**Background:** Evaluation of social well-being is an important component of a comprehensive geriatric assessment (CGA). There is no clear guidance about how best to examine these factors as part of a CGA. We sought to assess current practice with respect to assessment from a social care perspective across different Community Geriatric Hub (CGH) CGA proformas in Ireland. Method We completed a cross sectional study of the social care domain of CGH based CGA proformas. Operational leads for each CGH in Ireland were contacted and invited to share their local CGA. We completed a thematic analysis of the social care section including social, financial and wellbeing assessments.

**Results:** We included 16 CGAs that are in use across different CGH. All CGAs had a section for assessing social history with variability in what was included. Patient's wishes and expectations were commonly included but in varied ways. 7 (43%) specifically captured whether the patient has an enduring power of attorney in place, 5 (31%) collected information about formal advanced care directives, and 2 (12%) enquired about nominated assisted decision makers. Ability to manage finances was captured through the Lawton Brody scale in two CGAs. Half of CGAs included a section to capture carer strain and the term 'next of kin' was used in 6 of 16 CGAs.

**Conclusion:** There is significant heterogeneity in the structure of the social care section of a CGAs across different Community Geriatric Hubs. Signposting of patients' wishes and expectations was useful for focusing on patient-centred care.

## COVID-19

### P-267

#### Predictors of Contracting COVID-19 in Nursing Homes in Iran: Implications for Clinical Practice

Ali Darvishpoor Kakhki (1), Mohammad Sadegh Aghili (2), Latif Gachkar (3), Patricia M. Davidson (4)

(1) Department of Medical and Surgical Nursing, School of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran., (2) Student Research Committee, School of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran., (3) Department of Infectious Diseases, Loghman Hakim Hospital, Shahid Beheshti University of Medical Sciences, Tehran, Iran., (4) Vice-Chancellor, Wollongong University, Wollongong, Australia

**Background:** The aim of the study was to identify the predictors of contracting COVID-19 among older people in nursing homes in Iran. **Methods:** A case-control study was conducted on 409 nursing home residents aged 60 years and above, with a 1:2 ratio of those infected with SARS-CoV-2 to those not infected from six nursing homes in Tehran between March 25 and July 12, 2021. Participants completed a questionnaire comprising demographic and underlying disease

questions, practice about prevention principles of SARS-CoV-2 infection, probably predisposing factors of the infection, and environmental and staff characteristic of nursing homes. Logistic regression was used to determine risk factors associated with contracting COVID-19.

**Results:** The mean age was  $77.37 \pm 9.20$  years; 53.8% were female. A logistic regression model showed that predictors of becoming infected by SARS-CoV-2 included the fear of COVID-19 (odds ratio (OR) : 4.94, 95% confidence interval (CI) : 2.57–9.52,  $P < 0.001$ ), not using mask outside of room (OR: 3.93, 95% CI 1.94–7.98,  $P < 0.001$ ), longer staff shifts (OR: 2.77, 95% CI 1.48–5.20,  $P < 0.001$ ), using cloth mask or nothing (OR: 2.47, 95% CI 0.18–5.66,  $P = 0.031$ ), and physical distance less than two meters with no roommate (OR: 1.74, 95% CI 1.05–2.88,  $P = 0.030$ ).

**Conclusions:** The results indicate that a reduction in becoming infected by SARS-CoV-2 in older people in nursing home is possible by introducing strategies to reduce the fear of getting COVID-19, using surgical masks in common places, managing staff shifts duration, and maintaining physical distance of two meter and more when interacting with residents of other rooms.

### P-268

#### An Epidemiological Survey Of COVID-19 Serology And Its Association With Clinical Infection Among Older Adults-Does Antibody Titer Matter?

Dvorah Sara (Debbie) Shapiro (1), Refael Ellis (2), Jowad Zidan (2), Yonit Wiener-Well (2), Maskit Bar-Meir (2), Eli Ben-Chetrit (2)

(1) Shaare Zedek Medical Center affiliated with the Hebrew University-Hadassah Medical School, Jerusalem, Israel, (2) Shaare Zedek Medical Center, affiliated with the Hebrew University-Hadassah Medical School, Jerusalem, Israel

**Introduction:** Older adults are at increased risk of severe COVID19 infection. In this study we assessed the response to COVID19 vaccination and infection rates among nursing homes (NH) and assisted-living care home (ALCH) residents.

**Methods:** The study was conducted between August 2021 and January 2022, after widespread population vaccination with the third dose of Pfizer-BioNtech mRNA COVID-19 vaccine in Israel. Three groups were addressed: hospitalized older patients; NH and ALCH residents. Demographic data, COVID19 serology (anti-spike IgG antibodies) and PCR test results were obtained to assess the dynamics of antibody titers and its correlation to infection rates.

**Results:** Two-hundred eighty-five individuals were evaluated; 92 hospitalized patients; 100 ALCH residents and 93 NH residents. In the latter two groups two serology surveys were conducted three months apart. Hospitalized patients were younger than ALCH and NH residents (mean age  $80.4 \pm 8$  versus  $82.6 \pm 8$  and  $83.6 \pm 5$ , respectively,  $p = 0.01$ ), and had more comorbidities ( $p = 0.003$ ). The degree of decline in the antibody level overtime was similar in ALCH and NH residents. Infection rates were higher among NH residents than ALCH residents [35/90 (39%) versus 11/100 (11%),  $p < 0.001$ ]. Antibody level was lower among those infected [2113 (1271–3512) Au/ml versus 4113 (3364–5029) Au/ml,  $p < 0.001$ ]. Adjusted analysis showed that NH residence, but not antibody levels, were significantly associated with infection.

**Key Conclusion:** Among older adults, infection rates inversely correlated with antibody level. However, only nursing home residence was significantly associated with infection, suggesting that other

factors such as crowding considerably contribute to the risk of infection.

## P-269

### Improving discussions about resuscitation in COVID-19

Efioanwan Damisa (1), Louise Tomkow (1), Michaela Hubmann (1), Felicity Dewhurst (2), Barbara Hanratty (2), Chris Todd (1)

(1) University of Manchester, (2) Newcastle University

**Introduction:** Do Not Attempt Cardiopulmonary Resuscitation (DNACPR) discussions have been especially challenging during the pandemic. Hospital visiting restrictions and untimely deaths due to COVID-19 have disrupted usual modes of communication between staff, patients and relatives. This research aims to understand relatives' and carers' experiences of discussions about resuscitation during the pandemic.

**Methods:** Semi-structured interviews were used to explore the experiences of people who discussed resuscitation on behalf of a relative during the COVID-19 pandemic. An interview topic guide was developed in collaboration with patients and public involvement partners. Interviews were analysed using framework analysis.

**Results:** analysis of data from 39 semi-structured interviews has identified the following themes: I. The importance of communication. This includes the timing of communication about DNACPR and examples of good practice and the lack of information about DNACPR for patients and families. II. The multiple dimensions of resuscitation and DNACPR, with misunderstanding about what resuscitation involves, how the decision about DNACPR is made, and by who. III. Wide-ranging impacts of the DNACPR decision, feeling overlooked and disregarded by the medical team, guilt at not contesting a DNACPR decision, and consequent mistrust of the healthcare system.

**Key Conclusions:** Urgent action is needed to improve communication around DNACPR. Current practice results in frequent misunderstandings and lasting negative effects. This may have detrimental consequences for future relationships with healthcare professionals.

## P-270

### Investigation of the relationship between frailty, nutritional status and muscle strength with the incidence and severity of Covid-19 in Nursing Home results from the SENIOR cohort

Céline Demonceau (1), Fanny Buckinx (1), Jean-Yves Reginster (1), Olivier Bruyère (1)

(1) WHO Collaborating Center for Epidemiologic aspects of musculo-skeletal health and ageing, Division of Public Health, Epidemiology and Health Economics, University of Liège, Belgium

**Introduction:** Few studies have investigated the factors associated with the incidence of Covid-19 in nursing homes. The aim of this study was to investigate the relation between frailty, nutritional status, muscle strength and the Covid-19 incidence and severity in nursing home residents.

**Methods:** In the SENIOR (Sample of Elderly Nursing Home Individuals: An Observational Research) cohort, frailty, nutritional status and muscle strength were assessed according to Fried's criteria, Mini Nutritional Assessment and grip strength during the last two years of follow-up (i.e., 2018–2019). Covid-19 data were collected retrospectively from participants' medical records in 2022. Logistic

regressions, adjusted for covariates, were performed to assess the potential association between these three geriatric conditions and Covid-19.

**Results:** Of the 191 participants in the SENIOR cohort who were alive at the beginning of the pandemic, 116 were excluded due to insufficient data (59.7%) or loss to follow-up (1). The final analysis included 75 participants, with a mean age of  $87 \pm 9.93$  years and 74.7% women. Among them, 42 individuals were tested positive for Covid-19 and 18 experienced severe symptoms or died from it. No association was highlighted between frailty, nutritional status, grip strength and the incidence and severity of Covid-19.

**Conclusion:** The findings of our investigation must be considered with great caution due to some methodological limitations (i.e., small sample size, specific population, missing confounding variable). Further research is needed to clarify the role of these factors in the context of Covid-19.

## P-272

### Savings from Comanagement of a Covid-19 Outbreak in a Nursing Home in 2022

J. Corcuera Catalá (1), J. Mateos-Nozal (1), Manuel V Mejía Ramírez-Arellano (1), CM. Zárate-Sáez (1), MN. Vaquero-Pinto (1), C. Roldán-Plaza (1), Natan Rimer (2), C. Corral-Tuesta (1), A. Rodríguez-Díaz-Pavon (1), S. Lippo (1), CG. Alvarez-Pinheiro (1)

(1) HURYC, (2) RLNH

**Introduction:** COVID-19 outbreaks in nursing homes (NH) have changed healthcare provision, including new collaborations with Geriatric departments, new vaccines and specific treatments.

**Methods:** Observational study based on a prospective register of COVID-19 infection cases in a NH during two months of 2022, supported by a hospital-based Geriatric Liaison Unit with a specific protocol. We recorded demographic, clinical, functional and therapeutic variables from the hospital and NH records and calculated medical transportation costs avoided.

**Results:** 77 COVID-19 infections were detected in 380 NH residents. 66.2% of them had received three doses of the COVID-19 vaccine, and 33.8% four doses. Symptomatology was mild in 79.2% and severe in 15.6%. The median time from symptoms to assessment by the Geriatric Unit was 24 h. Nirmatrelvir/ritonavir (28.6%), remdesivir (11.7%), dexamethasone (9.1%), and oxygen (6.5%) were prescribed and started in the NH. At least 64 hospital transfers were prevented, with only one case of mild intolerance to treatment, saving 26,368 euros in urgent medical transportation. 11.6% of cases were referred to the emergency department, 10.4% admitted, and 3.8% died. The complication rate was 11.5% in patients with four doses vs 9.8% in patients with three doses ( $p = 0.54$ ) and 9.8% in patients assessed within the first 24 h by our unit vs 13% for those assessed later ( $p = 0.4$ ).

**Conclusion:** This co-management program of the NH COVID-19 outbreak stands out by the low rate of complete vaccination, the low frequency of complications, and the administration at the NH of new COVID drugs, avoiding hospital transfers and reducing costs.

## P-273

### The Impact of COVID-19 on Physical and Functional Health of Elders: Challenges and Opportunities for Intervention

PING I LIU (1), SHUN CHIN CHANG (1)

(1) Department of Geriatric Medicine, Buddhist Tzu Chi Medical Foundation Dalin Tzu Chi Hospital, Chiayi, Taiwan

This literature review focuses on the impact of COVID-19 on the physical and functional health of elders. The symptoms and characteristics of COVID-19 in elders are highly variable, with atypical symptoms such as diarrhea, loss of appetite, and delirium being more common. Long COVID symptoms in elders, including depression, fatigue, anxiety, dyspnea, joint pain, and cough. Which heterogeneity of symptoms and Long COVID may pose a challenge to the overall healthcare system [1]. The Clinical Frailty Scale (CFS) can be used to predict the mortality rate, length of hospital stay, and care needs of COVID-19 patients, emphasizing the importance of early identification and personalized intervention to reduce functional decline and care needs after discharge [2]. Social isolation indirectly affect nutrition and physical activity of elderly patients, which also increasing the risk of sarcopenia and leading to functional decline [3]. Patients who have been infected with COVID-19 may experience long-term sequelae, such as fatigue, dyspnea, and joint pain, and require a comprehensive rehabilitation plan. The European Geriatric Medicine Society developed a COVID-19 acute and late-stage rehabilitation program for elderly patients in 2022 to improve their function [4]. Telemedicine has been utilized for home exercise programs and physical therapy, with high satisfaction rates, but challenges still need to be addressed, such as the need for complete infrastructure development [5]. Frailty has been associated with earlier mortality and increased hospitalization time during the pandemic, and comprehensive geriatric assessments and interventions by geriatric specialists can improve physical and functional health for elderly patients with COVID-19 [6].

#### References:

- [1] Anne O'Malley, Patricia PhD, APRN-CNS. Frailty and Disability: Predictors or Outcomes or Both in Post COVID-19\*. *Critical Care Medicine*: June 2022—Volume 50—Issue 6—p 1023–1025 <https://doi.org/10.1097/CCM.0000000000005502>.
- [2] Vilches-Moraga, A., Price, A., Braude, P. et al. Increased care at discharge from COVID-19: The association between pre-admission frailty and increased care needs after hospital discharge; a multicentre European observational cohort study. *BMC Med* 18, 408 (2020). <https://doi.org/10.1186/s12916-020-01856-8>.
- [3] Kinoshita K, Satake S, Arai H. Impact of Frailty on Dietary Habits among Community-Dwelling Older Persons during the COVID-19 Pandemic in Japan. *J Frailty Aging*. 2022;11 (1) :109–114. <https://doi.org/10.14283/jfa.2021.45>. PMID: 35,122,098; PMCID: PMC8607062.
- [4] van Haastregt JCM, Everink IHJ, Schols JMGA, et al. Management of post-acute COVID-19 patients in geriatric rehabilitation: EuGMS guidance. *Eur Geriatr Med*. 2022 Feb;13 (1) :291–304. <https://doi.org/10.1007/s41999-021-00575-4>. Epub 2021 Nov 20. PMID: 34,800,286; PMCID: PMC8605452.
- [5] Osawa A, Maeshima S, Arai H. Applying Information and Communication Technology to Promote Healthy Aging in Older People: Japan's Challenges and Perspective. In: Linwood SL, editor. *Digital Health [Internet]*. Brisbane (AU) : Exon Publications; 2022 Apr 29. Chapter 5. PMID: 35605076.
- [6] O'Hanlon S, Dhesi J, Aronson L, Inouye SK. Covid-19: a call for mobilizing geriatric expertise. *Eur Geriatr Med*. 2021 Jun;12 (3) :597–600. <https://doi.org/10.1007/s41999-021-00500-9>. PMID: 33,891,278; PMCID: PMC8063189.

## P-274

### Utilising computational fluid dynamics to model airborne infections and outbreaks on a medicine for older people ward

Matthew Butler (1), Cyril Crawford (2), Clive Beggs (1), Ghassen Yahiaoui (2), Radu Chelariu (2), Alessandro Burkia (2), Victoria Keevil (1)

(1) Cambridge University Hospitals NHS Foundation Trust, (2) Dassault Systemes

**Introduction:** Airborne infections pose a significant risk in healthcare settings, particularly among vulnerable populations such as older adults. Understanding the spread of infections within hospital wards is crucial for effective infection control measures. This study aimed to utilize computational fluid dynamics (CFD) to model airborne infections and outbreaks in a medicine ward for older people.

**Methods:** A 3D model of a 27-bed inpatient ward, comprising four six-bedded bays and three side rooms, was constructed for the CFD simulations. Two simulations were conducted: the first with windows open, and the second with windows closed and a HEPA/UVC portable filtration system installed.

**Results:** The CFD simulations provided valuable insights into the airflow patterns and dispersion of airborne contaminants. The simulations show how natural ventilation (openable windows), as a means of supplementing ventilation in health-care settings can be highly variable and often inadequate for infection control purposes. Portable HEPA/UVC was shown to be an effective mitigation for poor ventilation.

**Conclusions:** This study demonstrated the effectiveness of utilizing CFD simulations to model airborne infections in a medicine ward for older people. The results highlight the importance of ventilation and support the adoption of strategies such as portable filtration systems to enhance infection control measures in healthcare settings. By leveraging CFD modeling, healthcare facilities can optimize their ventilation systems and implement evidence-based interventions to mitigate the spread of airborne infections and protect vulnerable populations, such as older adults, within hospital wards.

## P-275

### The effect of ventilation and filtration on airborne particulates, CO<sub>2</sub>, temperature and humidity on two medicine for older people wards

Matthew Butler (1), Renate Claassen (1), Andrew Conway-Morris (2), Theodore Gouliouris (1), Christine Peters (3), Rachel Thaxter (1), Clive Beggs (1), Victoria Keevil (2)

(1) Cambridge University Hospitals NHS Foundation Trust, (2) Cambridge University, (3) NHS Greater Glasgow and Clyde

**Introduction:** Maintaining good indoor air quality is crucial for the health and well-being of patients, especially in healthcare settings such as medicine wards for older people. This study aimed to investigate the impact of ventilation and filtration on airborne particulates, carbon dioxide (CO<sub>2</sub>), and vapor pressure in such a ward.

**Methods:** Six indoor air quality sensors were installed in two 27-bed wards, measuring particulates (PM<sub>1</sub>, PM<sub>2.5</sub>, PM<sub>4</sub>, and PM<sub>10</sub>), CO<sub>2</sub> levels, temperature, and humidity over a 15-month period, from February 8, 2022, to May 4, 2023. Portable High-Efficiency Particulate Air (HEPA) /UVC filtration units were installed in both wards, staggered between September 2021 and March 2022.

**Results:** The results revealed significant variations in airborne particulate concentrations, CO<sub>2</sub> levels, temperature and vapor pressure, observed on an hourly, daily, and monthly basis. The installation of HEPA/UVC filtration units resulted in a notable reduction of approximately 50% in particulate concentrations compared to the baseline measurements. The biggest contributor to particulate concentration was month of observation with the highest readings

observed in March presumably from external sources such as pollen and other pollutants.

**Conclusions:** This study highlights the importance of ventilation and filtration systems in maintaining optimal indoor air quality in medicine wards for older people. The results demonstrate that the installation of portable HEPA/UVC filtration units can significantly reduce airborne particulate concentrations by approximately 50%. These results provide valuable insights for healthcare practitioners and policymakers, guiding the design and implementation of effective ventilation and filtration systems in medicine wards for older people.

## P-276

### Delirium in older patients with COVID-19: prevalence, risk factors and clinical outcomes across the first three waves of the pandemic

Julia Minnema (1), Lisanne Tap (1), Floor J. A. van Deudekom (2), Miriam C. Faes (3), Steffy W. M. Jansen (4), Carolien M. J. van der Linden (4), Jacinta A. Lucke (5), Simon P. Mooijaart (6), Barbara van Munster (7), Raymond Noordam (6), Bas F. M. van Raa

(1) Division of Geriatric Medicine, Department of Internal Medicine, Erasmus MC, University Medical Centre Rotterdam, The Netherlands, (2) Department of Geriatrics, OLVG Hospital, Amsterdam, The Netherlands, (3) Department of Geriatrics, Amphia Hospital, Breda, the Netherlands, (4) Department of Geriatrics, Catharina Hospital, Eindhoven, the Netherlands, (5) Department of Emergency Medicine, Spaarne Gasthuis, Haarlem, The Netherlands, (6) Department of Internal Medicine, Section of Geriatrics and Gerontology, Leiden University Medical Centre, Leiden, The Netherlands, (7) Department of Internal Medicine and Geriatrics, University Medical Centre Groningen, Groningen, The Netherlands, (8) Department of Internal Medicine, Maasstad Ziekenhuis, Rotterdam, The Netherlands, (9) Department of Internal Medicine and Geriatrics, AmsterdamUMC, Amsterdam, The Netherlands

**Background:** Delirium is a serious condition in older patients, which poses treatment challenges during hospitalisation for COVID-19. Improvements in testing, vaccination and treatment might have changed patient characteristics and outcomes through the pandemic. We evaluated whether the prevalence and risk factors for delirium, and the association of delirium with in-hospital mortality changed through the pandemic.

**Methods:** This study was part of the COVID-OLD study in 19 Dutch hospitals including patients  $\geq 70$  years in the first (spring 2020), second (autumn 2020) and third wave (autumn 2021). Multivariable logistic regression models were used to study risk factors for delirium, and in-hospital mortality. Differences in effect sizes between waves were studied by including interaction terms between wave and risk factor in logistic regression models.

**Results:** 1540, 884 and 370 patients were included in the first, second and third wave, respectively. Prevalence of delirium in the third wave (12.7%) was significantly lower compared to the first (22.5%) and second wave (23.5%). In multivariable-adjusted analyses, pre-existing memory problems was a consistent risk factor for delirium across waves. Previous delirium was a risk factor for delirium in the first wave (OR 4.02), but not in the second (OR 1.61) and third wave (OR 2.59, p-value interaction-term 0.028). In multivariable-adjusted analyses, delirium was not associated with in-hospital mortality in all waves.

**Conclusion:** Delirium prevalence declined in the third wave, which might be the result of vaccination and improved treatment strategies. Risk factors for delirium remained consistent across waves, although some attenuation was seen in the second wave.

## P-277

### Effects Of The COVID-19 Pandemic And Gender-Related Factors On Caregiver Distress Within Home Care In Ontario, Canada

Charlene France (1), Chi-Ling Joanna Sinn (1), Caitlin McArthur (2), Luke Turcotte (3), Margaret Saari (4), Krista Mathias (5), John Hirdes (1)

(1) University of Waterloo, (2) Dalhousie University, (3) Brock University, (4) University of Toronto, (5) University of Saskatchewan

**Introduction:** Unpaid caregivers play a critical role in supporting people to live at home. Prior to the COVID-19 pandemic, one in three unpaid caregivers experienced distress, anger, or depression associated with caregiving, or reported being unable to continue in their caregiving role. Emerging qualitative studies suggest worsening caregiver health due to pandemic-related stresses such as changes in care routines, fewer supports, and concerns about health and safety. We describe and examine transitions in caregiver distress over the COVID-19 pandemic within home care in Ontario, Canada.

**Methods:** A retrospective cohort study was conducted using 74,172 Ontario home care client assessments completed between September 2018 and August 2021. Worsening caregiver distress was measured by comparing consecutive assessments. Binary logistic regression was used to estimate the effect of time (years before and during the COVID-19 pandemic), caregiving relationship, living arrangement, and care recipient needs.

**Results:** Caregivers reporting the highest levels of distress grew by 51%, from 14.9% in 2018 to 22.5% in 2022. Odds of worsening distress decreased in the first year of the pandemic, but increased in the second and third years. Caregivers caring for care recipients who were older (65 +), male, and had more complex health needs were more likely to experience worsening distress.

**Key Conclusions:** The COVID-19 pandemic and gender-related factors affected long-term patterns of caregiver distress within home care in Ontario, Canada. The sustainability of community-based care relies on supporting the health and well-being of caregivers.

## P-278

### Fatality of Covid-19 and vaccinations in older adults from Stockholm during the pandemic

Dorota Religa (1), Oliver Pihl (2), Steven Nehme (2), Martin Annetorp (3), Maria Eriksdotter (1), Sara Hägg (4), Laura Kananen (5)

(1) Division of Clinical Geriatrics, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet, Stockholm, Sweden; Theme Inflammation and Aging, Karolinska University Hospital, Huddinge, Sweden, (2) Division of Clinical Geriatrics, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet, Stockholm, Sweden, (3) Division of Clinical Geriatrics, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet, Stockholm, Sweden; Theme Inflammation and Aging, Karolinska University Hospital, Huddinge, Sweden; Research and Development Unit, Stockholms Sjukhem, Stockholm, Sweden, (4) Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Stockholm, Sweden, (5) Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Stockholm, Sweden; Faculty of Social Sciences (Health Sciences), Gerontology Research Center, Tampere University, Tampere, Finland

Fatality of acute Covid-19 (Sars-CoV-2) has been declining over the past three years. However, in-depth age- and sex-stratified analyses on Covid-19 mortality and vaccination coverage in the Stockholm county has not been investigated. Moreover, it is unknown if fatality of acute Covid-19 is now lower than for other common and fatal infections in old hospitalized geriatric patients. Thus, first, we assessed monthly excess mortality compared to that of in 2015–2019 and numbers of Covid-19 vaccination doses of all residents aged 60 + in the Stockholm county (n = 520,000, 53% women), stratified by age group and sex, until Jan 2023. Then, using electronic health records from patients hospitalized in nine geriatric clinics in Stockholm (n = 45,000, 58% women, mean age 82 years, March 2020–January 2023), we compared 30-days-mortality of patients with Covid-19 (n = 3,634), Covid-19-pneumonia (n = 1,462), pneumonia (n = 1,601), bacteremia (n = 1,396), or urinary tract infection (UTI, n = 5,359) to a reference patient group without the studied infections (n = 32,644). Analyses were adjusted for age, sex and health status (Charlson comorbidity index and Hospital frailty risk score). In county-level data, across all age groups and sex, an excess in mortality was present between March 2020 and February 2021, but not after. Vaccination coverage was the highest in the oldest ages. Women aged 60–69 years were more often vaccinated for two, three, four and five doses than men, but in the oldest age groups it was the opposite. The mortality rate in the geriatric hospitalized reference group ranged from 4–7%. In Covid-19-pneumonia patients, the rate lowered gradually from 29 to 8% and in Covid-19 patients from 17 to 4%. In other groups, the rates were 3–5% (UTI), 6–13% (pneumonia) and 8–15% (bacteremia). In the adjusted mortality analysis, risk of death was the highest in Covid-19-pneumonia (OR [95% CI]: 7.42 [5.83–9.42]) followed by Covid-19 (4.82 [3.78–6.14]) and these ORs were observed before February 2021. After May 2022, risk of Covid-19-pneumonia death was 2.05 [1.04–3.68] while in bacteremia it was 2.37 [1.57–3.48] and in pneumonia 1.78 [1.18–2.61]. Patients dying with Covid-19 without pneumonia did not differ from the reference group anymore (1.06 [0.72–1.50]). Our results show that vaccination coverage of older men and women in Stockholm change with age. Moreover, excess mortality was seen in the beginning of the pandemic while later on, Covid-19 mortality was equal or lower than for other fatal infections.

## P-279

### Covid-19 and Influenza: Appropriate measures to prevent and control outbreaks in nursing homes (the CIAO study) — Pillar I ‘Pandemic preparedness’

Daisy Kolk (1), Laura W. van Buul (1), Martin Smalbrugge (1), Cees M.P.M. Hertogh (1)

(1) Amsterdam UMC, Vrije Universiteit Amsterdam, Department of Medicine for Older People, Amsterdam Public Health research institute, De Boelelaan 1117, Amsterdam, Netherlands

**Introduction:** Nursing homes (NHs) were severely affected by the Covid-19 pandemic. Despite the obvious relevance of adequate infection prevention and control (IPC) measures, these also potentially impact on quality of life for residents and quality of work for NH professionals. The CIAO study investigates what useful and proportional measures are to prevent and control outbreaks in NHs. Pillar I of this study aims to investigate how NH organizations prepared for outbreaks of Covid-19, Influenza and future pandemics in Winter 2022/2023.

**Methods:** This study incorporated a mixed methods design. IPC protocols and crisis management plans were collected from 32 Dutch NH organizations. IPC items were collected from these protocols. Qualitative group interviews were conducted with members of each organization’s IPC committee. Interviews were audio-recorded and transcribed, and analyzed for preparedness strategies using thematic framework analysis.

**Results:** All organizations had IPC protocols for Covid-19 and 80% for Influenza. All organizations improved their crisis management during the Covid-19 pandemic, including improvements on communication, leadership, human resources, occupational health, and resource availability. 10% of the organizations had crisis management plans in preparation for future pandemics. All NH organizations experienced dilemmas in IPC practices with regard to quality of life of residents. In response to these dilemmas, many organizations deviated from general guidelines for IPC and adjusted their protocols.

**Key Conclusions:** Dilemmas in IPC measures and quality of life are main reasons for NH organizations to adjust IPC protocols. Organizations have ample experience in crisis management but are not fully prepared for future pandemics.

## P-280

### National mapping of municipality-based rehabilitation services for patients recovering from COVID-19 in Denmark: a cross-sectional study

Jan Christensen (1)

(1) Department of Occupational Therapy and Physiotherapy, Copenhagen University Hospital—Rigshospitalet

The aim of this study was to map and describe municipality-based rehabilitation services for patients recovering from COVID-19.

**Methods:** This was a cross-sectional, nation-wide survey. Key staff members from all 98 municipalities in Denmark were invited to participate. Participants had insight into the organisation and professional content of municipal rehabilitation. Structured telephone interviews were conducted by three interviewers between October and November 2020. The interview guide consisted of items that asked about the availability, content and organisation of municipality-based rehabilitation services.

**Results:** Total of 91 municipalities (93% response rate) participated in the study. Rehabilitation could be provided within pre-existing services in 98% of municipalities and 93% systematically assessed individual rehabilitation needs using a variety of measurement.

**Methods:** All municipalities reported that they had services in place to provide functional rehabilitation (eg gait training) and over 90% provided physical, cognitive and lifestyle-related rehabilitation. In contrast, 70% could provide COVID-19 education and 64% psychological therapy. Overall, 32% of municipalities had not received referrals for COVID-19 rehabilitation. Of the 62 municipalities that had COVID-19 rehabilitation experience, 73% rated the degree to which they could deliver coherent and coordinated rehabilitation for patients with complex rehabilitation needs as high or very high.

**Conclusions:** Overall, Danish municipalities reported that pre-existing services are in place to provide relevant, individualised rehabilitation for patients recovering from COVID-19. Nonetheless, future efforts should ensure that patient education is established, in step with health care providers accumulating knowledge, as well as integrated referral pathways between sectors, to deliver rehabilitation to patients with complex needs. Further, implementation of a national



data collection strategy would strengthen and inform future development of relevant services both nationally and internationally.

## P-281

### Mortality associated to COVID-19: On a prospective study on a characterized geriatric population

Sarah Boulahrouz (1), Gautier Varlot (2), David Tran (2), Sarah Laurent-Badr (2), Abd-El-Rachid Mahmoudi (2), Yacine Jaidi (2)

(1) Service de Médecine Interne et Gériatrie aigue du CHU de Reims, Hôpital Maison Blanche, France, (2) Service de Médecine Interne et Gériatrie aigue du CHU de Reims, Hôpital Maison Blanche, France

**Introduction:** This study focused on determining the gross rate and predictive factors for mortality within a characterized geriatric population hospitalized.

**Methods:** This observational, prospective, repeated transversal and unicentric study was conducted in the Department of Internal Medicine and Acute Geriatrics of Reims' University Hospital between April 2020 and February 2021. The mortality rate has been evaluated at 30 days, 3, 6 and 9 months after the presumed appearance of symptoms. A linear regression was created with the 30-day mortality rate as variable, then a multivariate linear regression model was made on the global sample, and another after splitting the sample in 1st and 2nd wave.

**Results:** A hundred and twenty-one patients have been included with an average age of 84.3 years. A third of the total sample was deceased in 30-days of the presumed appearance of symptoms. The bivariate analysis revealed that the patients were statistically older, showed more comorbidities, a more severe clinical form of Covid-19 and a more severe CT appearance. In a multivariate analysis, the severity of the form of Covid-19 contracted and the high level of comorbidities were statistically associated with a 30-days mortality risk.

**Conclusion:** Age and a high level of comorbidities seem to have a major role as risk factors for a serious form of the disease and an elevated mortality rate, highlighting the importance of standardized geriatric evaluation in the care for SARS-CoV-2 infections in elderly patients.

## P-282

### PROVID-Ger: Mortality and functional prognosis 18 months after hospitalization for COVID 19 in geriatrics patients

Claes Marion (1), Vallet Helene (1)

(1) Hôpital Saint Antoine APHP Paris

**Background:** Few data are available on the long-term mortality and functional status of geriatric patients who survived after a hospitalization for COVID-19. We aimed to compare the mortality and functional status 18 months after hospitalization for geriatric patients who were hospitalized for COVID-19 or another diagnosis.

**Methods:** We conducted a multicentric prospective study in 3 acute geriatric units in Paris from January 2021 to June 2021. We included patients aged 75 years and over who were hospitalized during this period and compared their vital and functional status 18 months after hospitalization stratified by COVID 19 status.

**Results:** 254 patients were included in the study (63 COVID patients, 191 other reasons). Patients hospitalized for COVID-19 were younger (median age  $86 \pm 6.47$  years vs  $88 \pm 6.41$ ;  $p = 0.03$ ), less frail (Clinical Frailty Scale (CFS) 5 [4–6] vs 6 [4–6],  $p 0.007$ ) and more independent at baseline (activity of daily living (ADL) 5.5 [4–6] vs 5

[3.5–6];  $p 0.03$  and instrumental activity daily living (IADL 3 [1–4] vs 2 [0–3];  $p 0.04$ ). At 18 months, 49.2% ( $n = 31/63$ ) COVID + patients were still alive compared with 34% ( $n = 65/191$ ) non COVID patients (log rank 0.03). Predictive factors of 18-month mortality after adjustment were cancer and atrial fibrillation (HRa 1.91 [1.21–3.03] and 1.50 [1.01–2.23]). Albuminemia rate appeared as a protective factor (HRa 0.94 [0.90–0.97]). In the multivariate analysis, after adjustment, positive COVID-19 status was not associated with significant higher mortality (HRa 0.67 [0.40–1.13]).

**Conclusions:** In this multicenter study of long-term mortality in geriatric patients hospitalized for COVID-19, positive COVID 19 status was not associated with an overmortality unlike cancer and atrial fibrillation.

## P-283

### Association between calcium and vitamin D in geriatric patients hospitalized for Covid-19: Results from the GERIA-COVID study

Bourgrais Alexis (1), Annweiler Cedric (2), Asfar Marine (1), Sacco Guillaume (3), Gautier Jennifer (1)

(1) CHU Angers, (2) CHU ANGERS, (3) CHU Nice

Vitamin D deficiency is common in the older population. It physiologically triggers secondary hyperparathyroidism resulting in normal circulating calcium levels. Hypocalcemia is common in COVID-19 older patients and blunted secondary hyperparathyroidism is the first hypothesis to explain this high prevalence. However, no studies focused on COVID-19 patients older than 75 years despite the high mortality rate in this population. In the present study, the association between different types of calcium (ionized calcium [CaI], adjusted calcium [CaA], total calcium [CaT]) and 25-hydroxy-vitamin D (25[OH]D) deficiency was investigated. This observational monocentric study focused on the GERIA-COVID database during the second wave of COVID-19 in France from October 2020 to March 2021. COVID-19 was diagnosed with RT-PCR and/or chest CT-scan. 25[OH]D deficiency was defined below 50 nmol/L. A population of 181 older COVID-19 patients ( $86.4 \text{ years} \pm 5.7$ ) was analyzed. Sixty-three patients (34.8%) were deficient in 25 (OH) D. The prevalence of total and ionized hypocalcemia was 44.1% and 39.2%, respectively. A negative association was reported in linear regression between 25 (OH) D deficiency and CaA ( $\beta = -0.052$  [–0.093; –0.010],  $p = 0.015$ ) as well as with CaT ( $\beta = -0.05$  [–0.09; –0.01],  $p = 0.034$ ) in the multivariate model. No association was found between vitamin D deficiency and CaI. In the multivariate models, there was no association between each type of calcium and PTH. In conclusion, this is the first study to provide evidence that blunted secondary hyperparathyroidism was present in older COVID-19 patients.

## P-284

### A Comparison of In-Hospital and Follow-Up Outcomes of Octogenarians Acutely Admitted During Pre-COVID (2017–2019) And COVID-19 Era (2019–2021)

Vojtech Mezera (1), Kamila Koudelkova (2)

(1) Geriatric Center, Pardubice Hospital, Czech Republic, (2) Pulmonary Department, Pardubice Hospital, Czech Republic

**Introduction:** Ctogenarians have been (and still are) at a high risk of death due to COVID-19. Additionally, chronic lung diseases,

especially chronic obstructive pulmonary disease (COPD) are often cited as important risk factors for a severe course of COVID-19.

**Methods:** Here, we compared two cohorts of octogenarians at a single site: the first were hospital inpatients admitted to a pulmonary department during the year 2017 ( $n = 167$ ); the second were admitted during the year 2019 ( $n = 178$ ). The admission diagnosis, survival and re-admission rates were evaluated.

**Results:** Neumonia was the most frequent cause for admission in both cohorts (54% resp. 52%), followed by acute spastic bronchitis, COPD exacerbations and malignancies. The in-hospital mortality was similar in both cohorts (21% resp. 20%). When comparing the full cohorts, there was a nonsignificant trend to higher mortality in the later cohort (60.1% versus 51.8% at 2-years follow up,  $p = 0.2277$ ) and to less frequent composite endpoint of re-admissions and death (68.5% versus 71.2% at 2-years,  $p = 0.1745$ ). When analyzing the subset of patients who survived the initial hospital stay, there was a significantly higher mortality in the later cohort (53.3% versus 48.5%,  $p = 0.0159$ ).

**Key Conclusions:** The octogenarians hospitalized in 2019 and surviving the acute hospital stay had higher mortality than those hospitalized in 2017. The follow-up period with the higher mortality corresponds to the COVID-19 era.

## P-285

### Initial functional disability as a 1-year prognostic factor in geriatric patients hospitalized with SARS-CoV-2 infection

Olivier BRIERE (1), Marie OTEKPO (1), Marine AS FAR (1), Jennifer GAUTIER (1), Guillaume SACCO (2), Cédric ANNWEILER (3)

(1) Department of Geriatric Medicine and Memory Clinic, Research Center on Autonomy and Longevity, University Hospital, Angers, France; (2) Department of Geriatric Medicine and brain clinic, Nice, France; (3) Department of Geriatric Medicine and Memory Clinic, Research Center on Autonomy and Longevity, University Hospital, Angers, France; UNIV ANGERS, UPRES EA 4638, University of Angers, Angers, France; Gérontopôle Autonomie Longévité des Pays de la Loire, France; Robarts Research Institute, Department of Medical Biophysics, Schulich School of Medicine and Dentistry, the University of Western Ontario, London, ON, Canada

**Background:** SARS-CoV2 infection has affected many older people and has required us to adapt our practices to this new pathology. Initial functional capacity is already considered an important prognostic marker in older patients particularly during infections. Aim. The objective of this longitudinal study was to determine whether baseline functional disability was associated with mortality risk after 1 year in older patients hospitalized for COVID-19.

**Methods:** All COVID-19 patients admitted to the geriatric acute care unit of Angers University Hospital, France, between March-June 2020 received a group iso-ressource (GIR) assessment upon admission. Disability was defined as a GIR score  $\leq 3$ . All-cause mortality was collected after 1 year of follow-up. Covariables were age, sex, history of malignancies, hypertension, cardiomyopathy, number of acute diseases at baseline, and use of antibiotics or respiratory treatments during COVID-19 acute phase.

**Results:** In total, 97 participants (mean  $\pm$  SD 88.0  $\pm$  5.4 years; 49.5% women; 46.4% GIR score  $\leq 3$ ) were included. 24 of the 36 patients who did not survive 1 year had a GIR score  $< 3$  (66.7%;  $P = 0.003$ ). GIR score  $\leq 3$  was directly associated with 1-year

mortality (fully adjusted HR = 2.27 95% CI 1.07–4.89). Those with GIR  $\leq 3$  at baseline had shorter survival time than the others (log-rank  $P = 0.0029$ ).

**Conclusions:** Initial functional disability was associated with poorer survival in hospitalized frail elderly COVID-19 patients.

## P-286

### Predicting One-Year Frailty in Severe COVID-19 Survivors: Insights from a Post-COVID Clinic Cohort Study

Daniela Cataneo-Piña (1), Natalia Sánchez-Garrido (2), Jorge Rojas-Serrano (1), Armando Castorena-Maldonado (1)

(1) Instituto Nacional de Enfermedades Respiratorias Ismael Cossio Villegas, (2) University of Toronto

**Introduction:** Older COVID-19 survivors have worse quality of life due to complications in multiple systems. Frailty is highly prevalent in older adults. There is evidence of an increase in the incidence of frailty after exposure to stressors such as COVID-19. This study aims to identify risk factors for developing frailty after one year of follow-up in severe COVID-19 survivors.

**Methods:** COVID-19 survivors were followed for one year: quality of life, frailty, and long COVID-19 symptoms were assessed quarterly. Frailty was determined with the FRAIL questionnaire with a cut-off of 3 points to be considered frail. Sociodemographic and hospital-related outcomes data were also collected. Descriptive and multivariate analyses were done.

**Results:** 321 participants were followed for a year; 54% were men, and 29.9% were frail, with a mean age of 66.6 (SD  $\pm$  13.7). The multivariate regression showed that having chronic obstructive lung disease, having a tracheostomy, and being 70 years or older were independent risk factors for developing frailty with OR 3.15 (95% CI 1.21–8.26), OR 7.8 (95% CI 1.41–43.4) and OR 2.37 (95% CI 1.31–4.29) respectively.

**Key Conclusions:** Being 70 or older and having a tracheostomy or chronic obstructive lung disease before having severe COVID-19 were predictors for frailty status after one year of follow-up among these patients. Identifying patients at risk for developing long-term detrimental sequels may help to target specific interventions to prevent or reverse frailty among COVID-19 survivors.

## P-287

### Consequences of Covid-19 Infection on Mortality, Institutionalization, and Functionality after Discharge in the Oldest-old Population

Christine Serratrice (1), Michèle Jean (2), François Herrmann (1), Katharine di Silvestro (1), Davide Moro (2), Oceana Lacroix (1), Martial Coutaz (2), Lena Perraudin (1), Sophie Boudier (2), Christine Trombert (1), Christophe Graf (1), Dina Zekry (1), Al

(1) University Hospital of Geneva, (2) Valais Hospital

**Introduction:** The study aimed to investigate the medium-term consequences of COVID-19 on post-hospitalization mortality rate, institutionalization, and re-hospitalization in the oldest-old population.

**Methods:** This prospective bicentric cohort study included all the patients older than 65 years hospitalized for a confirmed diagnosis of COVID-19 in the acute geriatric wards of the University Hospital of Geneva and the Hospital of Valais (Switzerland) during the first wave (from March to May 2020) and who survived after their hospitalization. We collected data on several geriatric domains, including Clinical Frailty Scale, Instrumental Activities of Daily Living, Activities of Daily Living, Mini-Mental Status Examination, Clock-drawing test, Frontal Assessment Battery, Geriatric Depression Scale, and Total Score of Anorexia.

**Results:** Eighty-three patients were included in this study. Within 18 months of hospital discharge, 10.5% of patients died, with no significant differences according to age, sex, or type of comorbidities. Sixty percent of patients felt that they have more memories problem than before COVID-19. A quarter of the patients were newly admitted to a nursing home following their hospitalization. The data showed that frailty and functionality were the main predictors of institutionalization. ( $p < 0.001$  and  $p = 0.0000$  respectively).

**Conclusion:** The study concluded that mortality post COVID-19 discharge is lower than after discharge for another reason in oldest old. However, loss of function after COVID-19 represents a risk for institutionalization.

## P-288

### COVID-19 pandemic and social isolation among older people living in social housing

Hélder Alves (1), Sónia Martins (2), Joana Guedes (3), Idalina Machado (4), Sara Melo (4), Filipa Melo (5)

(1) ISSSP, Porto Institute of Social Work. INESC TEC, Portugal., (2) ISSSP, Porto Institute of Social Work. CINTESIS@RISE, Faculty of Medicine, University of Porto, Portugal., (3) ISSSP, Porto Institute of Social Work. CLISSIS-Centro Lusiada de Investigação em Serviço Social e Intervenção Social, Portugal., (4) ISSSP, Porto Institute of Social Work. Institute of Sociology of the University of Porto, Portugal., (5) Domus Social Company-Porto City Council, Portugal

**Introduction:** During the COVID-19 pandemic, Social Isolation (SI) and feeling of loneliness in the older population may have increased. This study aims to analyze SI among older people living in social housing and whether COVID-19 pandemic may increase SI.

**Methods:** From the Porto Importa-se longitudinal project, two samples of old people ( $\geq 70$  y.o) living in social housing communities of Porto city (Portugal) were recruited before (between 2017–2019) and during (2020–2021) the pandemic. The Six-item Cognitive Impairment Test (cognitive impairment-CI), Barthel Index (Basic Activities of Daily Living-BADL), Lawton Index (Instrumental ADL) and Lubben Social Network Scale-6 (SI) were administered to all participants. Loneliness was measured with a categorical question. A multiple logistic regression model was performed to identify SI predictive factors.

**Results:** The total sample included 1537 old people (pre-pandemic  $n = 1152$ ; during pandemic  $n = 385$ ), mostly female (73%), with  $\geq 80$  y.o. (55%) and lived alone (59%). Based on logistic regression model, old people assessed during the COVID-19 pandemic had a higher risk of SI compared to those in the pre-pandemic period ( $p < 0.001$ ). In addition, older people who felt lonely had a 2.2.

higher risk of SI ( $p < 0.001$ ). CI and dependence on IADLs were also predictors of SI ( $p < 0.001$ ).

**Conclusions:** SI increased among older people living in social housing, mainly during the COVID-19 pandemic and among those who felt lonely and had CI and dependence on IADL. These results appear as a contribution to a better understanding of this social problem, identifying predictive factors and the effect of COVID-19 pandemic on SI.

## P-289

### An Atypical COVID-19 Infection and its Manifestation in the Elderly

José Manuel Montero Mejías (1), Pilar Cruzado Navarro (1), María González López (1), Rubí Esmeralda Sandoval Santoyo (1), Alba María Costa Grille (1), Jorge José Manzarbeitia Arambarri (1)

(1) Hospital Universitario de Getafe

During COVID-19 pandemic, the different clinical manifestations associated with this infection were unknown and this fact has represented a challenge for health professionals. Among the reported neurological manifestations of SARS-CoV2 infection, encephalitis is one of the less common. The pathophysiology of this condition is still unknown and has no treatment proven. An 85-year-old male was admitted to geriatrics department. Before admission, he was independent for the basic and instrumental activities of daily living, and he had no cognitive impairment known. Among his previous conditions, we highlight a long-standing endogenous depressive syndrome managed with selective serotonin reuptake inhibitors (SSRIs). At the emergency department he underwent a SARS-CoV-2 test with positive result, but no respiratory symptoms, developed an acute behavioural disorder that led to rapidly functional and cognitive decline. At admission we observed notable extrapyramidal signs (tremor and excessive rigidity) as well as alterations that suggested frontal involvement (echopraxia, echolalia and grasping). Clinical presentation was consistent with encephalitis. Among the potential causes of this condition, we considered the presence of a serotonergic syndrome, hypersensitivity to his usual treatment drugs or a metabolic or hormonal disorder. Considering that it could be also related to an autoimmune dysfunction, treatment with high-dose steroids was started with significant improvement of symptoms. He underwent cerebral imaging and functional tests (FDG-PET), this results, SARS-CoV-2 test and course of the symptoms along with the clinical response to the steroid therapy and other negative tests, we finally diagnosed SARS-CoV-2 encephalitis. However, that was not all. At the time of admission, the comprehensive geriatric assessment suggested that the patient had an underlying behavioural disorder and possible mild cognitive impairment. He had already presented decompensations in previous admissions and in the context of acute pathologies. Cranial CT and MRI scans were therefore performed and showed signs indicative of frontotemporal dementia. The diagnosis of diseases in the elderly is particularly difficult, especially in neurological pathology. This challenge means dealing with polypharmacy, cognitive issues such as delirium, dementia and depression, and increased odds of pathologies and chronic illnesses. This is a uniqueness of elderly people as its shown in this case.

## P-290

### Global impact of the confinement due to the sars-cov2 pandemic studied at a geriatric outpatient clinic

A. Rodriguez-Diaz-Pavon (1), M.L. Alvarez-Nebreda (1), N. Perez-Abascal (1), C. Sanchez Castellano (1), C. Corral-Tuesta (2), B. Montero-Errasquin (1), Ana Lopez-Iglesias (1), CM. Zarate-Saez (1), L.A. Hernandez-Sanchez (1), CG Alvarez-Pinheiro (1), V. Lavi

(1) Hospital Ramón y Cajal, (2) Hospital Clínico de Valladolid

**Objective:** To describe the impact of lockdown due to the SARS-COV2 pandemic on the cognitive, functional, social or clinical aspects of patients seen at a geriatric outpatient clinic.

**Method:** Observational, retrospective study which included all the patients assessed at the geriatric outpatient clinic during September 2020. Electronic health records were reviewed to collect patients or relatives' spontaneous reports about any confinement-related impacts: 1. cognitive (memory loss, executive dysfunction or worsening of cognitive impairment); 2. functional (functional impairment according to Barthel index or subjective feeling of greater difficulty for basic activities); 3. social (new institutionalization, less socialization); 4. clinical (residual symptoms of the infection, affective disorders).

**Results:** 158 patients, mean age  $87 \pm 6$  years, 68% women, Barthel  $80 \pm 24$ ; Lawton  $3.3 \pm 2.7$ ; FAC  $4.2 \pm 1.3$ . The confinement led to any cognitive impairment in 19% of cases (mainly an increase in memory loss), to clinical consequences in 17.7%, to functional disability in 13.3% (mainly physical deconditioning) and implied more social needs in 14.6%. 10.8% of the patients had already gone through the SARS-COV2 infection, requiring admission in 47.1%. Of them, 18.7%, 25% and 12.5% reported a cognitive, functional, or social impairment, respectively.

**Conclusions:** In this sample of patients one-fifth showed an impact on the cognitive area and almost 15% reported a confinement-related functional impairment, regardless of their previous cognitive status. This subjective bio-psycho-social impact of the lockdown anticipated the boom of geriatric syndromes that we have witnessed and that will require further clinical and sociological analysis.

## P-291

### Statins and grip strength in older COVID-19 patients treated with systemic steroids—lessons from the pandemic

Monika Ryś (1), Karolina Piotrowicz (1), Ian Perera (1), Barbara Wizner (1), Barbara Gryglewska (1), Tomasz Grodzicki (1), Jerzy Gąsowski (1)

(1) Department of Internal Medicine and Gerontology, Jagiellonian University Medical College

**Introduction:** Statins and steroids are associated with muscular side effects. Especially in patients with severe inflammation. We checked whether history of statin use would impact muscle strength in older COVID-19 patients receiving dexamethasone.

**Methods:** We analyzed data of patients 65 + years treated for COVID-19 in the University Hospital, Kraków, Poland. We collected information about the history of statin use, in-hospital use of i.v. dexamethasone and determined the pre-hospitalisation SARC F, baseline CFP and IL-6. Grip strength was assessed using a handheld dynamometer (Jamar®) grip test performed at the beginning of hos-

pitalization and at the time of discharge. We determined the risk of disease progression, new pneumonia, intensive care unit (ICU) transfer, and mortality.

**Results:** The mean (SD) age of 79 (48.2% women) patients on dexamethasone, for whom all data were available was 70.9 (4.9) years, baseline grip strength was 16.8 (10.6) kg in women and 28.7 (10.5) kg in men. Median baseline CRP was 86.0 (p5-p95 72.7–210.0) mg/l, IL-6 48.5 (25.7–164.0) pg/ml, SARC-F 1 (0–7). Pre-hospital statin use (35.4%) did not affect outcome. During hospitalization, grip strength increased by mean (SEM) 3.0 (0.7) kg and 2.2 (1.0) kg, patients who did not and did take statins, respectively. The change was not affected by statin use ( $p = 0.52$ ) (ANOVA sex stratified, adjusted for sex, age, and baseline: CRP, IL-6, grip strength, SpO2, SARC-F).

**Conclusion:** Pre-hospitalization statin use in patients prescribed dexamethasone did not affect muscle strength or patient outcome. Such treatment appears to be safe even in older patients with severe inflammation.

## P-292

### Out syndrome and the medical personnel. Looking back at the COVID-19 pandemic

Sabinne Marie Țăranu (1), Adina Carmen Ilie (2), Ana Maria Turcu (2), Ramona Ștefăniu (2), Ioana Dana Alexa (2)

(1) CIParhon Hospital Iasi, Romania, University of Medicine and Pharmacy “Grigore T. Popa” Iasi, Romania, (2) CIParhon Hospital Iasi, Romania, University of Medicine and Pharmacy “Grigore T. Popa” Iasi, Romania

**Introduction:** Burnout in medical personnel is permanently a subject to research, due to the modifiable factors that maintain reactivity to stress. All pandemic contexts have increased the level of stress among medical personnel, by generating particular stressors. A retrospective look at the Covid-19 pandemic confronts us with a series of new variables in increasing the burnout rate among health workers, whose influence is still felt.

**Purpose:** Identifying those factors associated with the burnout syndrome in medical staff during the COVID-19 pandemic.

**Methods:** In this study, we included participants from the health field, who worked in the national Covid-support and non-Covid healthcare units during the pandemic. They gave their free consent to answer questions regarding the level of stress related to the workplace and the changes produced there. The screening tool used included authorized questionnaires about adaptability to the reorganization of the work environment.

**Results:** Factors such as: reorganization of intrahospital circuits, fear of contacting or transmitting the infection, increase in overtime hours, insufficient information about the virus and care of infected patients were positively associated with burnout syndrome among all medical staff.

**Conclusions:** Our results identify those factors generated by the pandemic context with predictive value for the onset of burnout among health personnel. Their early recognition can help combat burnout in the pandemics that will follow.

Key words: BURNOUT ASSOCIATED FACTORS, MEDICAL STAFF, PANDEMIC.

**P-293****Is nutritional status a predictor of poor prognosis in older hospitalised patients with Covid-19? A hospital-based retrospective study in Belgium**

Kyriaki Panagiotopoulou (1), Christina Aygerinou (2), Marina Kotsani (3), Laurence Hogge (4), Petros Galanis (5), Rachid Mahmoudi (6)

(1) Geriatric Department, CHC-MONTLEGIA, Liege, Belgium, (2) Department of Primary Care and Population Health, University College London, London, UK, (3) Nursing Home LNA santé, France, (4) VIVALIA-Hôpital de Bastogne, Bastogne, Belgium, (5) National and Kapodistrian University of Athens, Athens, Greece, (6) PU-PH Médecine Interne Gériatrie et Biologie du Vieillissement, CHU de Reims, France

**Introduction:** Many studies conducted during the Covid-Era have demonstrated a negative effect of poor nutritional status on the severity and mortality of Covid-19 infection. The majority of these studies were conducted in the general adult population and in intensive care patients. The objective of our study was to evaluate the role of malnutrition on the clinical outcome of Covid-19 infection in geriatric patients hospitalized in two Covid units during the second wave in Belgium.

**Method:** This was a retrospective study that included computerised medical records of 110 patients aged over 75 years and hospitalised with Covid-19 from September to December 2020. Nutritional status was assessed using the Nutrition Risk Screening-2002 (NRS-2002) scale and logistic regression was performed, whereby Odds Ratio (OR) and 95% Confidence Intervals (95% CI) were estimated. Age, sex, NRS-2002 score and variables with a p-value < 0.10 in univariate analysis were included in multivariate analysis.

**Results:** After adjustment for age, sex, comorbidity (Charlson Comorbidity Index), poly medication and clinical severity of Covid infection (oxygen therapy), malnutrition measured by NRS-2002 score  $\geq 3$  (compared to NRS-2002 score < 3) did not show a significant association with mortality (OR 1.92; 95% CI 0.46–8.02). Female sex was associated with reduced risk of mortality (OR 0.31; 95% CI 0.12–0.81), whereas need for oxygen therapy was associated with increased risk of mortality (OR 3.33; 95% CI 1.16–9.54) in the multivariate analysis.

**Conclusion:** Our study found that malnutrition was not significantly associated with mortality in older hospitalised patients with Covid-19. However, the sample size was small, and larger scale studies are needed.

**P-294****Analysis of Factors Affecting Elderly Administering the COVID-19 Vaccine**

Mengshuo Shim (1), Hui Yen Liao (2)

(1) Puli Christian Hospital, (2) Dalin Tzuchi General Hospital

**Introduction:** Due to the COVID-19 is an emerging infectious disease, the information regarding COVID-19 changes rapidly, and contradictory or erroneous messages may appear from time to time. This study aims to understand the difference between the “health beliefs” and “willingness to vaccinate” of COVID-19 of elderly in Taiwan method: A total of 311 elders over the age of 55 living in

Nanto county at middle Taiwan were selected by random sampling and accepted the survey with questionnaire. This study uses univariate analysis to describe the characteristics of the study sample. The bivariate correlation analysis is conducted by chi square test, T-test, and single-factor variance analysis. The multivariate analysis is performed by general linear multiple regression and logistic regression. **Result:** Older adults with lower covid-19 vaccination rates but more frequent community activities have higher willingness to be vaccinated against covid-19. The main reasons affecting the application of covid-19 vaccines are: reducing worries and convenience of vaccination sites. The main factors that reduce the willingness to vaccinate against covid-19 are: fear of side effects, ignorance of the vaccine, and still being infected with covid-19 after vaccination. Advice from medical staff is the best way to increase the willingness of the elderly to be vaccinated, which requires good health education.

**Discussion:** This plan uses the health belief model to understand the difference between the “health beliefs” and “willingness to vaccinate” of COVID-19 of elders as a basis for the future development of elderly intervention plans. It provides a reference for related epidemic prevention measures.

**P-295****Link between vitamin d level and covid in hospitalized old patients from two populations with low and high vitamin d level**

Camille Beley-Titah (1), Lisa Philippe (1), Carlos Labat (1), Maturin Tabue-Teguo (2), Anna Kearney-Schwartz (1), Athanasios Benetos (1)

(1) University Hospital Center of Nancy and INSERM U1116, University of Lorraine, Nancy, France, (2) University Hospital of Martinique and INSERM 1219, Fort-de-France, Martinique, France

**Introduction:** Recent findings suggest a role of vitamin D deficiency in the risk of COVID-19 infection in older population. The objective of this work is to study the link between vitamin D and COVID infection in two geriatric hospitalized populations (Nancy, Lorraine and Pointe-à-Pitre, Guadeloupe).

**Methods:** Our data were obtained from medical records of hospitalized patients in geriatric departments of the University Hospitals in these two French regions between October 2020 till March 2022. An age- and sex- matched case-control analysis was conducted in 254 pairs of patients with and without COVID-19 (179 pairs in Nancy and 75 in Guadeloupe) .

**Results:** In Pointe-à-Pitre, the vitamin D level is 3.8 fold higher than in Nancy. In Nancy, COVID patients have significantly lower vitamin D levels than non-COVID patients ( $19.8 \pm 11.7$  ng/ml vs  $22.3 \pm 13.3$  ng/ml;  $p = 0.04$ ). In Guadeloupe, no difference was observed between COVID and no-COVID groups ( $85.8 \pm 38.3$  ng/ml vs  $73.7 \pm 37.6$  ng/ml,  $p = 0.12$ ). Mortality of unvaccinated COVID patients in these two populations was similar. In COVID patients of both populations, a positive relationship between vitamin D level and lymphocytes count was found ( $R = 0.17$ ; CI 95% 0.04–0.28;  $p = 0.008$ ).

**Conclusion:** Vitamin D seems to be more involved in populations with globally low vitamin D levels than in populations with high vitamin D levels. The positive relationship between vitamin D levels and lymphocytes count in patients hospitalized for COVID-19 suggests that vitamin D is involved in the maintenance of immunity against SARS-CoV-2 infection.

## Delirium

### P-296

#### C-reactive protein as a risk marker of postoperative delirium in older hip fracture patients: a prospective cohort study

Lucía Lozano-Vicario (1), Román Romero-Ortuno (2), Arkaitz Galbete-Jiménez (3), Joaquín Fernández-Irigoyen (4), Enrique Santamaría (4), Bernardo Abel Cedeño-Veloz (1), Fabricio Zambom-Ferraresi (3), Ramón San Miguel Elcano (5), Guadalupe Gutiérrez-García

(1) Department of Geriatrics, Hospital Universitario de Navarra (HUN), Pamplona, Spain., (2) Global Brain Health Institute, Trinity College Dublin, Ireland., (3) Navarrabiomed, Hospital Universitario de Navarra (HUN), Universidad Pública de Navarra (UPNA), Instituto de Investigación Sanitaria de Navarra (IdiSNA), Pamplona, Spain., (4) Proteomics Unit, Navarrabiomed, Hospital Universitario de Navarra (HUN), Universidad Pública de Navarra (UPNA), Instituto de Investigación Sanitaria de Navarra (IDISNA), Pamplona, Spain., (5) Department of Pharmacy, Hospital Universitario de Navarra (HUN), Pamplona, Spain., (6) Navarrabiomed, Pamplona, Spain., (7) Department of Orthopaedic Surgery and Traumatology, Clínica Universidad de Navarra, Pamplona, Spain., (8) Department of Orthopaedic Surgery and Traumatology, Hospital Universitario de Navarra (HUN), Pamplona, Spain

**Introduction:** Postoperative delirium (POD) after hip fracture surgery is a common and serious neuropsychiatric syndrome which leads to higher morbidity and mortality. Although pathophysiological mechanisms of delirium are not clear, neuroinflammation is one of the most plausible theories. In this study we investigate the association of C-reactive protein (CRP) with the occurrence of POD in older hip fracture patients.

**Methods:** Patients > 75 years admitted for surgical repair of an acute hip fracture were recruited. A comprehensive geriatric assessment was performed at admission and blood samples were collected pre-operatively when none of the subjects had delirium. Delirium was assessed daily until discharge with 4-AT scale. We compared CRP levels between patients with and without POD and examined the association of CRP and delirium severity. Mann–Whitney U and Spearman tests were used for group comparisons.

**Results:** Sixty patients were included, of whom 21 (35%) developed POD. Concentrations of serum CRP were significantly higher in patients who developed delirium ( $p = 0.011$ ) but no significant association was found between CRP and delirium severity ( $p = 0.079$ ). In a multiple regression model including the most representative clinical variables associated with delirium (age, comorbidity, grip strength, frailty and dementia) and CRP, the existence of cognitive impairment was the best predictor of POD ( $p = 0.004$ ).

**Key Conclusions:** Our findings show that not only pre-morbid cognition is a risk factor for POD after hip fracture surgery in older adults, but also high CRP serum levels which highlights a low-grade inflammatory state in these patients.

### P-297

#### Effectiveness of a multicomponent exercise training program for the management of delirium in hospitalized older adults using Near-Infrared Spectroscopy (NIRS) as a biomarker of brain perfusion: study protocol

Lucía Lozano-Vicario (1), Fabiola Zambom-Ferraresi (2), Fabricio Zambom-Ferraresi (2), Antón De la Casa-Marín (2), Iranzu Olló-Martínez (2), Mikel L. Sáez de Astearu (2), Bernardo Abel Cedeño-Veloz (1), Chenhui Chenhuichen (1), Irene Criado-Martín (1), Ro

(1) Department of Geriatrics, Hospital Universitario de Navarra (HUN), Pamplona, Spain, (2) Navarrabiomed, Hospital Universitario de Navarra (HUN), Universidad Pública de Navarra (UPNA), Instituto de Investigación Sanitaria de Navarra (IdiSNA), Pamplona, Spain, (3) Global Brain Health Institute, Trinity College Dublin, Ireland, (4) Department of Orthopedic Surgery and Traumatology, Clínica Universidad de Navarra, Pamplona, Spain

**Introduction:** Delirium is an important cause of morbidity and mortality in older adults admitted to hospital. Multicomponent interventions targeting delirium risk factors, including physical exercise and mobilization, have been shown to reduce delirium incidence by 30–40% in acute care settings. However, little is known about its role in the evolution of delirium, once established.

**Methods:** This study is a randomized clinical trial conducted in the Acute Geriatric Unit of Hospital Universitario de Navarra (Pamplona, Spain). Hospitalized patients with delirium and > 75 years, will be randomly assigned to the intervention or the control group. The intervention will consist of a multicomponent exercise training programme, which will be composed of supervised progressive resistance and strength exercise training during 3 consecutive days. Functional Near-Infrared Spectroscopy (NIRS) will be used for assessing cerebral and muscle tissue blood flow.

**Results:** The objective is to assess the effectiveness of this intervention in modifying duration and severity of delirium and functional status. Other outcomes will be assessed such as polypharmacy, frailty, malnutrition, length of stay and mortality.

**Key Conclusions:** This study will contribute to determine the effectiveness of physical exercise in the management of delirium. It will be the first study to evaluate the impact of a multicomponent intervention based on physical exercise in the evolution of delirium using NIRS technology as a non-invasive biomarker of brain perfusion.

### P-298

#### Postoperative delirium is significantly associated with a proteomic profile in serum and cerebrospinal fluid: a prospective cohort study in older hip fracture patients

Lucía Lozano-Vicario (1), Robinson Ramírez-Vélez (2), Arkaitz Galbete-Jiménez (2), Joaquín Fernández-Irigoyen (3), Enrique Santamaría (3), Bernardo Abel Cedeño-Veloz (1), Fabricio Zambom-Ferraresi (2), Guadalupe Gutiérrez-García (4), José Ramón Ortiz-Gómez

(1) Geriatric Unit, Hospital Universitario de Navarra (HUN), Pamplona, Spain., (2) Navarrabiomed, Hospital Universitario de Navarra (HUN), Universidad Pública de Navarra (UPNA), Instituto de Investigación Sanitaria de Navarra (IdiSNA), Pamplona, Spain., (3) Proteomics Unit, Navarrabiomed, Hospital Universitario de Navarra (HUN), Universidad Pública de Navarra (UPNA), Instituto de Investigación Sanitaria de Navarra (IDISNA), Pamplona, Spain., (4) Navarrabiomed, Pamplona, Spain., (5) Department of Anesthesiology and Reanimation, Hospital Universitario de Navarra (HUN), Pamplona, Spain., (6) Department of Orthopaedic Surgery and Traumatology, Hospital Universitario de Navarra (HUN), Pamplona, Spain., (7) Department of Orthopaedic Surgery and Traumatology, Clínica Universidad de Navarra, Pamplona, Spain

**Introduction:** Postoperative delirium (POD) is a common neuropsychiatric complication in geriatric inpatients after hip fracture surgery and its occurrence is associated with poor outcomes. Current predictive models of delirium risk are based on clinical factors which are subjective and imprecise. The purpose of this study was to investigate the relationship between preoperative biomarkers in serum

and cerebrospinal fluid (CSF) and the development of POD in hip fracture older patients.

**Methods:** Sixty hip fracture patients were recruited. Blood and CSF samples were collected at the time of spinal anesthesia when none of the subjects had delirium. POD was daily assessed with 4AT scale postoperatively and based on these results, patients were divided into POD and non-POD groups. Forty-five cytokines were analyzed in 30 patients with the Olink® platform.

**Results:** Twenty-one patients developed POD (35%). In the sub-sample of 30 patients in which proteomic analysis was performed with Olink®, patients with POD had significantly higher levels of CXCL12, EGF, CSF3, TGFA but lower levels of CSF3, CXCL9, IL10, CCL2, CXCL8, CCL3, CXCL9, CCL4 compared with patients without POD. CXCL9 had the most accurate value having a correlation between serum and CSF samples of patients with POD ( $R^2 = 0.809$ ).

**Key Conclusions:** Despite of the small sample size, this study gives preliminary evidence of biomarkers role in POD which may provide a basis for the development of new delirium predictive models involving biomarkers as a non-invasive, accessible and reproducible tool.

## P-299

### Clinical risk factors and baseline characteristics of patients with postoperative delirium after hip fracture surgery

Lucía Lozano-Vicario (1), Robinson Ramírez-Vélez (2), Arkaitz Galbete-Jiménez (2), Joaquín Fernández-Irigoyen (3), Enrique Santamaría (3), Bernardo Abel Cedeño-Veloz (1), Fabricio Zambom-Ferraresi (2), Ramón San Miguel Elcano (4), José Ramón Ortiz-Gómez

(1) Geriatric Unit, Hospital Universitario de Navarra (HUN), Pamplona, Spain., (2) Navarrabiomed, Hospital Universitario de Navarra (HUN), Universidad Pública de Navarra (UPNA), Instituto de Investigación Sanitaria de Navarra (IdiSNA), Pamplona, Spain., (3) Proteomics Unit, Navarrabiomed, Hospital Universitario de Navarra (HUN), Universidad Pública de Navarra (UPNA), Instituto de Investigación Sanitaria de Navarra (IdiSNA), Pamplona, Spain., (4) Department of Pharmacy, Hospital Universitario de Navarra (HUN), Pamplona, Spain., (5) Department of Anesthesiology and Reanimation, Hospital Universitario de Navarra (HUN), Pamplona, Spain., (6) Department of Orthopaedic Surgery and Traumatology, Hospital Universitario de Navarra (HUN), Pamplona, Spain., (7) Department of Orthopaedic Surgery and Traumatology, Clínica Universidad de Navarra, Pamplona, Spain

**Introduction:** Postoperative delirium (POD) is a common neuropsychiatric complication in hip fracture patients after surgery that is associated with higher morbidity, mortality and worse functional and cognitive recovery. Knowing the predisposing and precipitating factors of POD could help to prevent delirium by correcting modifiable factors.

**Methods:** Sixty hip fracture patients aged 75 or older without delirium on admission were recruited at Hospital Universitario de Navarra (Pamplona, Spain). A Comprehensive Geriatric Assessment was completed before surgery and POD was determined daily until discharge using the 4-AT. Mann–Whitney U, independent t-test and Fisher’s exact were used to compare patients who developed POD versus patients who did not.

**Results:** Twenty-one patients developed POD (35%). Patients who developed delirium were older ( $p = 0.085$ ), had increased comorbidity ( $p = 0.814$ ), sensorial impairment ( $p = 0.053$ ), depression ( $p = 0.055$ ) and worse functional ( $p = 0.059$ ), cognitive ( $p < 0.001$ )

and nutritional status ( $p = 0.013$ ) before surgery. In addition, these patients showed lower handgrip strength ( $p = 0.216$ ) and quality of life at admission ( $p = 0.118$ ) but higher frailty ( $p = 0.194$ ) and anticholinergic burden ( $p = 0.073$ ) compared with patients without POD. Patients who developed POD had more infections ( $p < 0.001$ ), needed more psychotropic drugs ( $p < 0.001$ ) and more opioids ( $p = 0.013$ ) during hospitalization than patients without POD. Patients who remained longer without walking after surgery had higher incidence of POD ( $p = 0.003$ ).

**Key Conclusions:** Anticholinergic burden, malnutrition, sensory impairment, infections and delay in mobilization after hip fracture surgery are the most significant modifiable risk factors of POD. Implementing strategies aimed at these conditions may reduce the incidence of POD among older adults with hip fracture.

## P-300

### Assessing inpatient sedative use in older adults with delirium using electronic prescribing records

Irini Kounoupas (1), Mark Rawle (2)

(1) Barts and the London Medical School, (2) 2. Geriatric Medicine Department, Whipps Cross Hospital, Barts Health NHS Trust

**Introduction:** Non-pharmacological de-escalation techniques are effective in managing agitated patients with delirium[1], yet are often overlooked in favour of pharmacological management. Sedatives including benzodiazepines and antipsychotics are commonly prescribed despite negative associations including increased falls[2] and extrapyramidal side effects[3]. We conducted an audit assessing use of sedatives in older adults with delirium within an acute hospital in the UK.

**Methods:** Utilising inpatient electronic prescribing records, we collected data on all patients aged  $\geq 65$  prescribed a sedative acutely during May 2022. Based on best-practice guidelines, formulated standards were: fewer than 10 cases of sedatives prescribed monthly, 100% of cases screened for delirium, 90% have non-pharmacological delirium management .

**Methods:** trialled, 100% have rationale for sedative prescription documented, and 100% of prescriptions reviewed within 24 h. Of cases prescribed a benzodiazepine, 100% should have haloperidol contraindications documented.

**Results:** Thirty-six patients met the inclusion criteria. Of these, 92% ( $n = 33$ ) were screened for delirium, 86% ( $n = 31$ ) had the rationale documented and 75% ( $n = 27$ ) were reviewed within 24 h. Only 6% ( $n = 2$ ) of patients had non-pharmacological methods documented and 17% ( $n = 5$ ) of cases noted a contraindication to haloperidol. None of the standards set were met in the first wave of data collection.

**Key Conclusions:** There was extensive sedative use within the studied population, and limited attempts to utilise non-pharmacological management. This may be characteristic of wider delirium management. Our project highlights the utility of electronic prescribing in identifying problem prescriptions, and has allowed us to pilot a targeted education initiative to improve documentation and non-pharmacological management.

### References:

- [1] Inouye, S.K., Westendorp, R.G., Saczynski, J.S. 2014 ‘Delirium in elderly people’ *The Lancet*, 383 (9920), p.911–922. [https://doi.org/10.1016/s0140-6736\(13\)60688-1](https://doi.org/10.1016/s0140-6736(13)60688-1).
- [2] Weich, S., Pearce, H.L., Croft, P., Singh, S., Crome, I., Bashford, J., Frisher, M., 2014 ‘Effect of anxiolytic and hypnotic drug prescriptions on mortality hazards: retrospective cohort study’ *BMJ*, 19 p.348. <https://doi.org/10.1136/bmj.g1996>.

[3] Rajiv T. 2002 'Extrapyramidal Side Effects of Antipsychotic Treatment: Scope of Problem and Impact on Outcome' *Annals of Clinical Psychiatry*, 14 (2) p.123–129. <https://doi.org/10.1023/a:1016811222688>.

### P-301

#### Audit: Delirium Recognition on an Acute Medical Ward

Ciara Gibbons (1), Mary Casey (1), Orla Shanley (1), Megan Connolly-Bree (1), Olivia Lipsett (1), Caitriona Rothwell (1), O'Malley Grainne (1)

(1) Sligo University Hospital

**Introduction:** Delirium is a serious medical condition in older hospitalized adults. Guidelines recommend that this cohort should be screened for delirium. Our aim was to assess whether delirium was being recognized and documented on a General Medical Ward (GMW) and to trial a multifaceted intervention to improve delirium detection.

**Methods:** We completed weekly prospective chart reviews on all patients aged  $\geq 65$  years on a GMW over a month-long period. We screened all identified patients using the 4AT. We completed a multidisciplinary quality improvement initiative encompassing a comprehensive awareness and education program. We introduced standardized delirium screening using recognized tools and a new management tool for delirium for placement in medical notes. A re-audit was carried out.

**Results:** We included 37 patients ( $n = 37$ ) in the pre-intervention study—mean age 81 years; 23 women (62%). 1 (2.7%) patient had a 4AT documented in their chart. We identified  $n = 5$  patients with a 4AT  $\geq 4$  consistent with acute delirium. Of these 5, 2 (40%) had been flagged by the CNM and 1 (20%) by the medical team as delirious. We included 39 patients ( $n = 39$ ) in our post-intervention study with similar demographics. 64% (25) of patients had a 4AT or SQUID documented. We identified  $n = 3$  patients with a 4AT  $\geq 4$  (67%) were flagged by the CNM and 3 (100%) by the medical team. Two thirds (66.67%) were documented as delirious in the medical notes.

**Conclusion:** Our audit demonstrates that a comprehensive education and awareness program can improve the detection of delirium in older adults on a GMW. This initiative was designed as a quality improvement project to support the development of a standardized program to be rolled out across all relevant units in a level 3 hospital.

### P-302

#### Introducing NuDESC to Facilitate Systematic Awareness Towards Delirium in Geriatric Inhospital Patients: A Feasibility Study

Anna-Sofie Rosholm (1), Mette Børgesen (1), Anette Ekmann (2)

(1) Department of Geriatric and Palliative Medicine, Copenhagen University Hospital Bispebjerg and Frederiksberg, Denmark, (2) Department of Geriatric and Palliative Medicine, Copenhagen University Hospital Bispebjerg and Frederiksberg, Denmark. Geriatric Research Unit, Department of Geriatric and Palliative Medicine, Copenhagen University Hospital Bispebjerg and Frederiksberg, Denmark

**Introduction:** Delirium in geriatric patients is common. If left untreated it has severe adverse consequences. To meet the challenges of detecting delirium in clinical practice, Gaudreau et al. [1] developed The Nurses Delirium Screening Scale (NuDESC) with intended

systematic awareness in every shift. The primary aim of this study was to investigate the feasibility of substituting the Confusion Assessment Method with NuDESC as preferred screening tool in a geriatric department and secondary, to investigate the effect on acknowledged incidence of delirium.

**Material and Method:** NuDESC was implemented in June 2022. Patients ( $+ 65$ y) admitted between March–April 2021 and January–March 2023 with no registration of delirium at admission were eligible for inclusion. Data containing acknowledged incidence of delirium, use of screening tool, risk factors and triggering causes were collected from medical records. Data were analyzed using Cox Regression.

**Results:** In total of  $N = 160$  patients were included (mean age 83.3y (SD = 7.1), 62.9% women). Mean daily screenings/patient were 0.5 (SD = 0.6) and 1.7 (SD = 0.5), ( $p < 0.001$ ) before and after implementation of NuDESC, respectively. Before implementation of NuDESC, 12.2% were identified with delirium compared to 20.5% after implementation. aHR for being identified with delirium by NuDESC was 2.11 (95% CI 0.88–5.08) and mean time to identification was lowered from 9.0d, SD = 8.0 to 5.6d, SD = 3.7, ( $p = 0.001$ ).

**Conclusion:** Implementing the NuDESC in geriatric departments is feasible. Even though, still not fully incorporated as intended, implementing the tool have added daily systematic awareness of delirium in all patients. This have resulted in borderline significant more and earlier acknowledged incidences of delirium.

#### Reference:

[1] Gaudreau JD, Gagnon P, Harel F, Tremblay A, Roy MA. Fast, systematic, and continuous delirium assessment in hospitalized patients: the nursing delirium screening scale. *J Pain Symptom Manag.* 2005;29 (4) :368–75.

### P-303

#### Potential role of Interleukin-10 and Brain-Derived Neurotrophic Factor as delirium biomarkers in hip fracture older patients: preliminary results of a pilot study

Maria Cristina Ferrara (1), Beatrice Arosio (2), Lara De Luca (2), Alessio Greco (1), Maurizio Corsi (3), Paolo Mazzola (1), Riccardo Gamberale (1), Cristina D'Orlando (1), Silvia Brunelli (1), Giuseppe Bellelli (1)

(1) School of Medicine and Surgery, University of Milano-Bicocca, Milan, Italy, (2) Department of Clinical Sciences and Community Health, University of Milan, Milan, Italy, (3) Orthogeriatric Unit–Fondazione IRCCS San Gerardo dei Tintori, Monza, Italy

**Introduction:** Delirium is a common complication in older patients with hip fracture (HF). However, its pathophysiology remains largely unknown. This study investigated the role of inflammatory markers and neuroplasticity on delirium occurrence in older patients undergoing HF surgery.

**Methods:** Plasma markers were measured in 53 patients with HF before (T0) and after (T1) surgery, and delirium was assessed clinically. Baseline concentrations and changes between T1 and T0 of Interleukin-10 (IL-10) and Brain-Derived Neurotrophic Factor (BDNF) were compared among patients stratified by delirium occurrence and pre-existing dementia.

**Results:** Median patients' age was 85 (Interquartile Range, IQR, 80–89.5) and 81.1% were females. Delirium occurred in 28 (52.8%) patients, 13 of whom had delirium alone (DEL + DEM-). Twenty-one patients (39.6%) had neither delirium nor dementia (DEL-DEM-). Elevated preoperative levels of IL-10 and a postoperative decrease in BDNF levels were observed in the DEL + DEM- group, but not in



the DEL-DEM-. Regression analyses, adjusted for age, sex, dementia, comorbidity, and time from fracture to surgery, found a significant association between higher preoperative IL-10 and delirium (Odds Ratio, OR = 2.95, Confidence Interval, 95% CI 1.07–8.13), and suggested that BDNF postoperatively increasing may have a protective role against delirium (OR = 0.42, 95% CI 0.17–1.07).

**Key Conclusions:** These results suggest that IL-10 and BDNF may have potential as delirium biomarkers for perioperative delirium risk stratification. In particular, the patient's failure to mount an adequate anti-inflammatory response and neuroprotection during acute stress may be suggestive of a high risk for developing delirium.

## P-304

### Delirious Patients Without Dementia

Anna Victoria Routhier (1)

(1) Geriatric Department, M3, Slagelse Hospital, Denmark

**Introduction:** Delirium, a common occurrence among geriatric patients, often signifies a profound, distressing experience for the patients and their relatives. Its presentation can be the first indication of emerging cognitive impairment. However, in Denmark, there is currently no systematic follow-up protocol for patients experiencing delirium. Our study aims to improve our understanding of the personal experiences of delirious patients and their families, and to identify and initiate clinical assessment of early cognitive decline.

**Methods:** We offered a 3-month follow-up consultation to patients with no prior cognitive impairment who experienced delirium during admission to a geriatric ward from May 2022 to May 2023. The follow-up included three key interventions: a debriefing conversation with a nurse for the patient and their relatives, provision of written information about delirium, and the administration of the Mini Mental State Examination (MMSE). Patients scoring below 27/30 on the MMSE were offered referral to a memory clinic.

**Results:** Among the delirious patients without pre-existing dementia, 73% retained memories of their hospitalization and delirious episode. Their experiences ranged from exhibiting unusual behaviour to experiencing anxiety, hallucinations, and even expressing death wishes. At the time of follow-up, 45% reported subjective cognitive complaints. Every patient agreed to undergo the MMSE, 45% of whom were recommended for referral to a memory clinic. Of these, 60% accepted the referral.

**Conclusion:** Our study suggests a potential need for systematic follow-up protocols for delirious patients without dementia. However, further investigations are necessary to substantiate these findings and design effective intervention strategies.

## P-305

### Delirium at the neurology department: An incidence and prevention study

Ralph Vreeswijk (1), Vivianne Kemperman (2), Kees Kalisvaart (1)

(1) Spaarne Gasthuis, (2) Spaarne gasthuis

**Background:** Delirium is a common neuropsychiatric complication of critical illness, characterized by an acute onset of confusion and fluctuating inattention. The aim: To investigate the incidence, severity and duration of delirium in older patients admitted to the neurology ward, and to measure the effect of a prevention program on those outcomes.

**Method:** A prospective observational control-intervention study. In two phases, we assessed the incidence, severity and duration of delirium, before and after implementing the hospitals delirium prevention protocol. Patients: Older neurology patients (age > 70). Tools used: For risk for delirium the Delirium Risk Assessment Score (DRAS), for screening for delirium the Confusion Assessment Method and Delirium Observation Screening and for severity the Delirium-O-Meter and Delirium Rating Scale-Revised-98. Intervention: Multicomponent prevention protocol (Best Supportive Care).

**Results:** Included in control group 71 patients, 60 had a DRAS > 5 of which 11 got delirium (18.3%), median duration 4 days, mean severity of DOM 27.1 and DRS-R-98 33.6. Included in the intervention 53 of which 8 developed delirium (15.1%). There is a relative risk reduction of 31.2% in patients with DRAS 7 to 9, and 42.8% in patients with DRAS ≥ 10. Delirium duration was shorter: median 1 days (p = 0.016) and delirium was less severe: DOM 17.4 (p = 0.001) and DRS-R-98 25.9 (p = 0.022).

**Conclusion:** This study shows that a multicomponent prevention program Best Supportive Care protocol of the Spaarne Gasthuis, can lead to a lower incidence of delirium in older neurological patients. The combination of nursing and medical interventions significantly decreases delirium duration and severity.

## P-306

### From Delirium Detection to Correction: Enhancing Peri-Operative Care for Older Patients

Caoimhe McManus (1), Edward Murphy (1), Niamh O'Regan (1), Patrick Doyle (1)

(1) University Hospital Waterford

Delirium is a common peri-operative complications in older adults. It is associated with poorer outcomes including functional decline, increased length of hospital stays, increased admissions to long term care and higher mortality. Therefore, this project aimed to assess the peri-operative care of older patients admitted under the surgical service in accordance with the standards set by the Collaborative for Peri-operative Optimisation of People (CPOP) and British Geriatrics Society (BGS) Peri-operative Care for People Living with Frailty undergoing Elective and Emergency Surgery Guidelines. The study examined four key aspects of the guidelines: (1) staff training on delirium; (2) proactive screening in for delirium in surgical patients; (3) proactively documenting delirium and implementing delirium guidelines; and (4) documentation of delirium diagnosis in discharge summaries. Data were collected from 72 surgical admissions over a fourteen-day period, of which 26 patients were aged > 65. Results indicated suboptimal adherence to the guidelines, with only 4/26 older patients (15.4%) being screened for delirium. Three of 4 of these patients screened positive for delirium using the 4AT. No patients had delirium mentioned in their discharge summaries. Additionally, a survey of surgical doctors revealed that only 4/16 (25%) had received formal training on delirium. In response to these findings, interventions were implemented, including teaching at surgical grand rounds, hospital-wide education for World Delirium Awareness Day, delirium care bundles, and an updated discharge summary template for surgical patients. A re-audit is underway to evaluate the impact of these interventions on guideline adherence and peri-operative care quality for older patients. These initial findings underscore the need for improved staff education and adherence to CPOP and BGS guidelines. The re-audit will provide valuable insights into the effectiveness of the implemented interventions in enhancing the peri-operative care experience for the older patient cohort.

**P-307****Feasibility Of A Delirium Intervention Pathway By A Frailty At The Front Door Team**

Rachel Fitzgerald (1), Bevelyn Mallorca Bupada (1), Anya Leonard (2), Lisa Cronin (1), Ellen Coakley (1), Sarah Allen (1), Maria Cahill (1), Isweri Pillay (1)

(1) Cork University Hospital, (2) Cork University Hospital

**Introduction:** Intervention strategies reduce delirium and its adverse outcomes by 30–40%. Frailty at the front door (FFD) services perform 4AT as a routine component of comprehensive geriatric assessment. The aim of this study was to benchmark delirium with and without dementia in patients assessed by a FFD team and assess feasibility of an inter-disciplinary delirium intervention pathway.

**Methods:** Age, gender, clinical frailty score (CFS), 4AT, AD8 and dementia diagnosis recorded in 500 consecutively recorded patients in a database were analysed using descriptive statistics. An inter-disciplinary delirium pathway, consisting of blood tests, anti-cholinergic cessation, neuro-imaging, individualised patient, carer, staff education was embedded into practice and use of the pathway recorded over a subsequent 2 month period.

**Results:** Mean (SD) age was 83 (6.9) years. Female to male ratio was 1.5:1. Mean (SD) CFS was 5 (1.2), with CFS unrecorded in 10%. 91% (n = 456) had 4AT recorded. 50% (n = 230) had a 4AT of zero. 38% (n = 177) had a 4AT of 1–3. 25% (n = 114) had a 4AT of > / = 4. Of those where dementia diagnosis was recorded, n = 74, 40% (n = 29) had a 4AT of > / = 4. Where AD8 was measured, 50% (n = 12) had a 4AT of > / = 4. The delirium intervention pathway was applied to 16% (n = 70) over a 2 month study period.

**Conclusion:** 4AT > / 4 was benchmarked at 25% in this population. Recording of dementia diagnosis and AD8 was low. Targeting resources to prevent delirium resulted in two-thirds of the expected population receiving standardised delirium prevention. Dedicated delirium intervention resources will further improve outcomes.

**P-308****Improving caregivers and physicians understanding about delirium in patients aged 75 and over in a non-geriatric inpatient unit: a study before-and-after a multimodal educational intervention**

DREVET Sabine (1), GAVAZZI Gaëtan (2), TRINCHERO Franck (3), FORESTIER Emmanuel (3), BOUSSAT Bastien (2)

(1) Mentorship, CHU Grenoble Alpes France, (2) CHU Grenoble Alpes, (3) Centre Hospitalier Métropole Savoie, France

**Background:** Delirium is a common geriatric syndrome which has a poor prognosis if not managed rapidly. Our main objective was to improve the knowledge of a non-geriatric care team concerning delirium in the older patients through a multimodal educational intervention.

**Materials & Methods:** We carried out a monocentric descriptive cohort study in an infectious diseases unit (France), with a retrospective phase (March to May 2021) and a prospective phase (October to December 2021). The multimodal educational intervention on delirium was conducted in September 2021. The primary endpoint was the difference in the percentage of correct responses from the Delirium Knowledge Questionnaire (DKQ) before and after the intervention. The secondary objectives concerned the progression of the knowledge of the Confusion Assessment Method (CAM), the different forms of delirium and the impact of the intervention on the

frequency of diagnosis of delirium, on the patient care pathway and on the quality of care.

**Results:** The rate of DKQ correct answers of the 24 health caregivers included in the study improved significantly (89.3% vs 84.7%, p = 0.02). The CAM was known by 1/5th of caregivers before the intervention and reached 83.3% after training. More than half of the caregivers were aware of all 3 forms of delirium after training.

**Conclusion:** Our multi-modal educational intervention resulted in an improvement in caregivers' knowledge of the topic of delirium. Given the frequency of diagnosis and the severity and costs associated with the occurrence of delirium, it seems of major interest to integrate initial and ongoing training for carers on delirium.

**P-309****Geriatric syndromes and frailty in patients with delirium**

Silvia Bellés Andreu (1), Carlota Lisset Toapanta Gaibor (2), Andrea Parra Plaza (3), Pere Medina Martí (3), Mireia Navas Rabasco (4), Aina Capdevila-Reniu (2), Eduarda Micaela da Cunha Ferreira Gonçalves Alves (3), Marta Arroyo Huidobro (2)

(1) Hospital Clínic Barcelona—Geriatric Department, (2) Hospital Clínic Barcelona- Geriatric Department, (3) Hospital Clínic Barcelona- Internal Medicine Department, (4) Hospital Clínic Barcelona- Physiotherapy Department

**Introduction:** Delirium is a common associated clinical syndrome in hospitalized elderly patients. It has been known for a long time now, however its incidence is still growing, producing a huge impact on elderly patients and requires giving more importance in their care in the different clinical units. Delirium is multifactorial in most cases, depending on the interaction between predisposing and triggering factors. **OBJECTIVE:** We aimed to evaluate the relationship between geriatric syndromes and frailty in patients with delirium.

**Methods:** Descriptive study of a retrospective cohort of patients older than 75 years admitted to the Geriatric ward in the Hospital Clínic in Barcelona between July and December 2022, that presented delirium during their admission. Statistic analysis: REDCAP, SPSS V28. We analyzed their Frailty, assessed using the Clinical Frailty Scale (CFS) (range 1–9; 1–2 = 'robust', 3–4 = 'prefrail', > 5 = 'frail'), and some of the most prevalent geriatric syndromes in patients with delirium (sensory deficits, falls, polypharmacy), and previous delirium history. We also analyzed common complications during their admission.

**Results:** We analyzed 180 patients (89 females, 91 males) with an average age of 88.6 years. The Barthel score averaged 50 points (partial dependency). Based on the CFS, 8.86% were robust, 29.11% pre-frail, and 62% frail. Geriatric syndromes included polypharmacy (77%;47% women, 52% men), previous acute confusional syndrome (71%), falls (35%), visual deficit (27%), and hearing impairment (19%). The pre-frail and frail groups more frequently present geriatric syndromes such as polypharmacy and falls, whereas in the robust group, these syndromes appear at a lower percentage. Adverse events during admission included food aspiration (1.66%), urinary infection (3.33%), pressure ulcers (1.11%), functional decline (18%), and mortality (8%).

**Conclusions:** Geriatric syndromes and frailty are closely related to the appearance of delirium during hospital admission in older patients. Most of them were already frail before, being especially relevant to the polypharmacy and the history of delirium in previous admissions in all of them; and the hearing and visual impairment and previous falls in women. The increasing risk of delirium in frail patients highlights the need for early screening for frailty and comprehensive delirium prevention. Clinicians should implement

appropriate interventions to manage delirium, which may reduce adverse clinical outcomes in hospitalized patients.

## P-310

### Comorbidity and polypharmacy in patients with delirium

Carlota Lisset Toapanta Gaibor (1), Silvia Bellés Andreu (1), Pere Medina Martí (2), Andrea Parra Plaza (2), Mireia Navas Rabasco (3), Aina Capdevila-Reniu (1), Eduarda Micaela da Cunha Ferreira Gonçalves Alves (2), Marta Arroyo Huidobro (1)

(1) Hospital Clínic Barcelona-Geriatric Department, (2) Hospital Clínic Barcelona-Internal Medicine Department, (3) Hospital Clínic Barcelona, Physiotherapy Department

**Introduction:** Delirium is a common and serious neuropsychiatric syndrome characterized by acute cognitive dysfunction and disturbance in attention. Identifying risk factors for delirium, such as comorbidities and previous treatment, is crucial for prevention, early detection, and targeted management.

**Objective:** We analyzed the relationship between the comorbidity and polypharmacy in patients with delirium during their admission.

**Methods:** Descriptive, retrospective study of a cohort geriatric patients ( $\geq 75$  years), admitted to the geriatrics department of Hospital Clínic de Barcelona from July to December 2022, who presented with delirium on admission. Statistical analysis: REDCAP, SPSS V28. We used the Charlson Comorbidity Index (CCI) adjusted for age to assess comorbidity and grouped patients according to their scores. We also analyzed polypharmacy in relation to comorbidity.

**Results:** Among 180 patients (89 females, 91 males with a mean age of 88.6 years), all had CCI scores  $\geq 3$ , indicating high comorbidity. CCI scores ranged from 3–4 (9%), 5–6 (37%), 7–8 (40%), to  $\geq 9$  (14%). Common medications included proton pump inhibitors (PPIs) (56%), diuretics (42%), antipsychotics (41%), antidepressants (24%), and hypnotics (24%). PPI use was highest in patients with a CCI score of 7–8 (57%), while diuretics were more common in those with scores  $\geq 9$  (60%). Antipsychotics were predominantly used in patients with scores  $\geq 9$  (52%) and 7–8 (46%). Antidepressants were commonly used in patients with scores of 5–6 and 7–8 (26% each), and hypnotics were prevalent in scores  $\geq 9$  (40%), followed by scores of 5–6 and 7–8 (21% each).

**Conclusions:** Polypharmacy in relation to the degree of comorbidity in elderly patients is strongly associated with delirium during hospital admission. In our study, most patients had CCI scores of 5–8 points. PPIs were the most commonly prescribed medication, followed by diuretics, antipsychotics, antidepressants, and hypnotics. Higher CCI scores were correlated with increased use of diuretics, antipsychotics, and hypnotics. These findings highlight the complex management of comorbidities and medication selection in elderly patients with delirium. Further research is warranted to optimize treatment strategies for this population.

## P-311

### Polypharmacotherapy, anticholinergic burden, delirium and mortality: a retrospective analysis

Stefania Peruzzo (1), Silvia Ottaviani (1), Mariya Muzyka (1), Alessio Nencioni (1), Fiammetta Monacelli (1)

(1) Section of Geriatrics, Department of Internal Medicine and Medical Specialities (DIMI), University of Genoa, Genoa, Italy

**Objectives:** This study examines the link between polypharmacotherapy, anticholinergic burden, delirium onset and mortality in a cohort of elderly patients. Delirium occurs in 23% of hospitalized patients. Several factors, such as polypharmacotherapy and anticholinergic burden, contribute to its occurrence.

**Materials and Methods:** The study analyzed 1031 patients in 2019. Patients who died during hospitalization and those whose therapy was not available were excluded from the analysis, recruiting a total of 430 patients. Data on age, sex, pre- and post-hospitalization drug therapy, The CBA score, delirium and survival were collected. Statistical analysis was conducted using bivariate analysis and regression analysis.

**Results:** Of the sample (141 M, 289 F, mean age 83.46  $\pm$  6.88], 29.8% cognitive impairment) 252 subjects with delirium (58%). Significant differences were found between the number of medications and CBA score before and after hospitalization ( $p < 0.001$ ). Patients who died were taking a higher number of medications pre- and post-discharge ( $p < 0.001$ ). The ACB score before and after hospitalization was higher in patients with delirium ( $p < 0.001$ ). There were no significant differences in the number of medications between patients with and without delirium, nor significant correlations between delirium onset, survival and number of medications taken. For every one point increase in the ACB score there was a 30% increase in the risk of developing delirium.

**Conclusions:** A high pre-hospitalization anticholinergic burden represents a risk factor for delirium. Anticholinergic burden should be assessed and deprescribing practices adopted using tools such as START-STOPP or Beers criteria.

## P-312

### Enhancing The Care Of The Older Adult With Delirium In The Emergency Department: The Implementation Of Non Pharmacological Strategies

Michael Mitchell (1), Roisin Riches (2), Laura Binions (2), Siobhan Magner (2), Sive Carey (2), Deirdre Breslin (2), Helen Bowden (2), Rico Laguna (2), Claire McAteer (2), Colm Byrne (2), Lindsay MacKenzie (2), Sinead Cashman (2), Elizabeth Callay (2), Ro

(1) Mater Misericordiae University Hospital, (2) Mater Misericordiae University Hospital Dublin

**Background:** Frail older adults presenting to an acute setting are vulnerable to the adverse effects of hospitalisation including the risk of developing in-hospital delirium. Last year in Ireland the average ED waiting time for the  $> 75$  adult was over 13.8 h and a stay 3 times longer than those  $> 65$ . A stay of ten hours or more within the ED for the older adult will double the risk of developing in-hospital delirium within the following 72 h. This can potentially result in the further risk of mortality, morbidity, and dependence for long term care. MethodThe Frailty Intervention Team (FIT) completed Comprehensive Geriatric Assessment (CGA) with everyone over the age of 65 years old that attended the Emergency Department within hours of work. Once identified non-pharmacological strategies (orientation, early mobilisation, and comfort measures) were used to support the management of delirium. This was achieved by provision of seating, orientation clocks and a comfort trolley.

**Results:** Over 3-month period 64 patients reviewed by the FIT were highlighted as delirious or at risk of delirium. Once a patient was identified delirium protocol was followed and orientation, early mobilisation and comfort measure was provided by the FIT.

**Conclusion:** A delirium friendly environment, appropriate seating and access to non-pharmacological therapies promotes quality of care,

education, and best practice in delirium management within the Emergency Department.

### P-313

#### Delirium screening at the Front Door: comparing inter-rater agreement and feasibility of the 4AT and AMT10 tools

Jemima T Collins (1), Helen Croft (2), Katie Roth (3), Kirsty Preston (3), Erica Colwill (3), Kelly Millington (3)

(1) University of Nottingham, (2) Derbyshire Healthcare NHS Foundation Trust, (3) University Hospitals Derby and Burton NHS Foundation Trust

**Introduction:** The 4 'A's Test (4AT) is the preferred delirium screening tool, but completion rates in hospital are low. Furthermore, many clinicians still use the Abbreviated Mental Test (AMT) -10 (AMT10) on admission to hospital, although the AMT was originally developed to screen for mental impairment, and is not specific for delirium. The objectives of this study were i) to assess feasibility of performing 4AT in the emergency department (ED), and ii) to compare times for completion of both 4AT and AMT10.

**Methods:** Pairs of independent assessors performed timed evaluation of 4AT and AMT10 in patients  $\geq 65$  years of age presenting to ED. Time for completion was measured in seconds. Inter-rater agreement for both evaluations were calculated using the intraclass correlation coefficient.

**Results:** 37 independent evaluations were made in 21 patients, as a few patients only had one assessor due to being moved off the department. The 4AT score and AMT10 scores (mean  $\pm$  SD) were  $0.9 \pm 1.8$  and  $8.6 \pm 1.9$  respectively. The completion time in seconds for 4AT and AMT10 (mean  $\pm$  SD) were  $73.9 \pm 33.7$  and  $137.9 \pm 51.3$  respectively. The intraclass correlation coefficients were 0.656 for 4AT and 0.925 for AMT10 (both  $p < 0.05$ ).

**Key Conclusions:** Inter-rater agreement was good for both 4AT and AMT10, however AMT10 took almost twice as long to perform. Given that 4AT is quick and feasible to perform in ED and has a specific evidence base for predictive capability, this should be the preferred test for screening for delirium.

### P-314

#### Evaluation of the effectiveness of a non-pharmacological program to reduce physical restraints

Victoria Garcia Astudillo (1), Neus Gual Tarrada (2), Cristina Norberta Nicolás (3), Eulàlia Casanova (4), María Teresa Molins Vara (2), Enrico Gardellini (2)

(1) Geriatric Unit of Internal Medicine Department, Vall d'Hebron Hospital, Barcelona, (2) Geriatric Intermediate Care Unit, Pere Virgili Hospital, Barcelona, (3) Geriatric Intermediate Care Unit, Pere Virgili Hospital, (4) Geriatric Nursing, Pere Virgili Hospital, Barcelona

**Introduction:** Physical restraints are still commonly used in the care of hospitalized older people, despite their associated complications and adverse psychological effects. In an effort to avoid physical restraints, the Intermediate Care Hospital Parc Sanitari Pere Virgili has implemented a non-pharmacological based patient-centered care and staff education program in one of its wards. The objective of this study was to determine if physical and pharmacological restraints could be reduced through this program.

**Methods:** Prospective, quasi-experimental study conducted between January and March 2023. This study compared the use of physical and

pharmacological restraints (sedative and antipsychotic drugs) as well as delirium prevalence between the intervention ward and another usual care unit.

**Results:** 124 patients (55 in intervention group; 69 in control group), 54% were men, mean age 80, 30% living alone. The baseline characteristics of both groups were similar except for delirium at admission, which was significantly higher in the intervention group (30.9% vs 10.1%;  $p = 0.004$ ). In spite of the higher rate of delirium in the intervention group, physical restraints were more common in the control group (0% vs 4.3%). Also pharmacological restraints were used less frequently in the intervention group (20% vs 29%). Highlights the presence of 57% unresolved delirium at discharge in the control group compared to 17% in the intervention group.

**Conclusions:** The implementation of this program allowed us to manage patients admitted to intermediate care without using physical restraints, resulting in a reduction in the use of pharmacological restraints and greater resolution of delirium.

### P-315

#### Delirium and comorbidities in elderly patients

Pere Medina Martí (1), Andrea Parra Plaza (1), Carlota Lisset Toapanta Gaibor (1), Sílvia Bellés Andreu (1), Mireia Navas Rabasco (1), Marta Arroyo Huidobro (1), Eduarda Micaela Da Cunha Ferreira Gonçalves Alves (1)

(1) Hospital Clínic, Barcelona, Spain

**Introduction:** Delirium is a frequent syndrome in hospitalized elderly. It is known that it increases hospital stay, morbidity and mortality and has a significant impact on healthcare resources. For this reason, we have proposed to analyze which comorbidities are most prevalent in a cohort of patients with delirium.

**Methods:** This is a descriptive study (EARLY) of a retrospective cohort of patients over 75 years of age, admitted to Internal Medicine at Hospital Clínic de Barcelona, between July and September 2022 with a diagnosis of delirium. Data collection was made through Redcap and its analysis with SPSS.

**Results:** 180 patients (49.4% women, mean age of 88.6 years and mean Barthel of 48.83) were obtained. The most frequent comorbidity was arterial hypertension (78.83%), followed by heart disease (37.78%), and within this, atrial fibrillation (23.3%). Type 2 diabetes has been objectified in 30%, followed by dementia (28.9%), with Alzheimer's being the most frequent (12.2%). Moderate-severe chronic renal failure was observed in 24.4% and cerebrovascular disease in 17.22%.

**Conclusions:** Delirium was more prevalent in patients with arterial hypertension. This fact agrees with the literature, which describes that it is associated with cognitive compromise in the elderly due to microangiopathy and can progress to dementia[1]. In addition, the frequency of other diseases such as diabetes and heart disease has been verified. Moreover, a significant number of patients with dementia and cerebrovascular accidents were obtained, which justifies the higher risk of presenting delirium on admission.

**Reference:**

1. Hypertension and Cognitive Function in the Elderly. *Disease-a-Month*. 2010Mar1;56 (3) :106–47.

### P-316

#### Delirium Recognition on an Acute Hospital Ward

Mary Casey (1)

(1) Sligo University Hospital, Health Service Executive, Ireland

**Background:** One third of older general medical patients have delirium. However, it is frequently unrecognized, evaluated or managed appropriately resulting in poor outcomes. Aim, to assess whether or not delirium was being recognized and documented on General Medical Wards [GMW] and to trial a new intervention to improve detection and therefore, treatment.

**Methods:** We completed prospective chart reviews using an audit tool on all patients aged  $\geq 65$  years on a GMW over a month-long period. All identified patients, screened using the 4AT Test. We completed a multidisciplinary quality improvement initiative encompassing a comprehensive awareness and education program, with all staff working on the ward. We introduced standardized delirium screening using recognized tools and a new management tool for delirium to be placed in the medical notes. Re-audit post intervention. The standard measured against was the Health Service Executive [HSE] Delirium Guideline.

**Results:** 37 patients in the pre-intervention study, 1 [2.7%] patient had a 4AT documented in their chart over the study period. We identified 5 patients with a 4AT  $\geq 4$  consistent with acute delirium. 39 patients in our post-intervention study, 64% [25] of patients had a 4AT or SQUID documented in their notes that day. We identified 3 patients with a 4AT  $\geq 4$ –2 [67%]. Two thirds [66.67%] were documented as delirious in their medical notes.

**Conclusion:** An education program can improve the detection of delirium in older adults on an acute medical ward. This initiative was designed as a quality improvement project to support the development of a standardized program to be rolled out across all relevant units in the hospital. This improvement in delirium detection can lead to earlier initiation of investigations and treatment resulting in better outcomes for our patients.

**Reference:**

1. Marcantonio, E.R. 2017. ‘Delirium in Hospitalized Older Adults’. *NEJM*. 2017;377:1456–66. <https://doi.org/10.1056/NEJMcpl605501>  
 2.HSE. 2021. ‘Delirium on General Hospital Wards: Identifying Patients at Risk, Delirium Screening and Next Steps’0.3. HSE.2021. ‘Early Identification and Management of Delirium in the Emergency Department/Acute Medical Assessment Unit’.

## P-317

### Physical therapy as a strategy to prevent delirium

Karmele Garaioa Aranburu (1), Marta Lorente Escudero (1), Rodrigo Molero de Ávila (1), Ángela Zulema Hernández Amador (1), Beatriz Echarte Archanco (1), Francesca Soler Parets (1), Marta Díaz Jiménez (1), Aitor Dicastillo Ripa (1), Débora Moral Cuesta (1)

(1) Hospital Universitario de Navarra (Pamplona, Spain)

**Introduction:** Delirium is a clinical neuropsychological syndrome whose main element is the alteration of attention and level of consciousness. It has an acute onset and fluctuating course that is usually accompanied by other cognitive alterations and its incidence increases during hospitalizations. When it appears, it negatively marks the prognosis of the person suffering from it. The literature has already shown the importance of physical and occupational therapy in order to try to reduce its incidence. The main purpose of the study is to evaluate if the physical therapy (PT) can help to reduce the incidence of delirium in our cohort.

**Methods:** This is an observational study of 658 patients that were admitted during the months May– June 2021 and May–June 2022. We initially excluded all patients that already had delirium signs/symptoms at admission (249 patients). Out of the other 409, we collected administrative and demographic data, comorbidities (CIRS), geriatric

syndromes, functional status (Barthel, Lawton, GDS), diagnosis at discharge, data of delirium at admission (DDI), 4AT at admission, drugs at admission, carried out physical therapy as well as discharge data. We compare the incidence of delirium between the patients received PT and the one they did not.

**Results:** Out of 658 patients, 249 presented delirium signs or symptoms at admission. Out of the other 409 patients, 46 of them presented delirium during the admission. We are processing the rest of data.

**Conclusions:** Although we have not already processed all data, we believe that PT reduces the incidence of delirium.

## P-318

### Vigilance daily fluctuations in older inpatients: preliminary data for an early diagnosis of delirium

Maria Devita (1), Caterina Trevisan (2), Andrea Angelici (3), Gianluca Amendolagine (3), Vincenzo Livoti (3), Luca Cardinale (3), Adele Ravelli (4), Daniela Mapelli (3), Alessandra Coin (4)

(1) Department of General Psychology, University of Padua; Geriatrics Unit, Department of Medicine, University of Padua, (2) Department of Medical Sciences, University of Ferrara, (3) Department of General Psychology, University of Padua, (4) Geriatrics Unit, Department of Medicine, University of Padua

**Introduction:** Older inpatients commonly show cognitive, psychiatric, and motor abnormalities that change rapidly during the hospital stay and often fluctuate [1]. These alterations may progress to severe clinical conditions, such as delirium, compromising the overall clinical outcome of patients. This pilot study aims to investigate and monitor vigilance as a sign of incipient cognitive alterations four times a day during hospitalization.

**Methods:** Twenty-two older inpatients (mean age: 84.9 years, n = 12 females) were longitudinally observed using a computerized version of the Continuous Performance Test (CPT). CPT was administered in the early and late morning, in the afternoon, and before bedtime. Patients with acute cognitive alterations and severe dementia at hospital admission were excluded. Mean accuracy and reaction times were compared over time within each patient.

Results Accuracy levels significantly fluctuated over time, in particular in the late morning and in the afternoon (worst means: 69.8 [SD: 19.1] vs. 82.9 [SD: 16.2]). Reaction times also showed fluctuations along the day and the hospitalization, although such changes were not significant (worst performance in the early morning).

**Key Conclusions:** CPT may be a sensitive task to detect subtle vigilance alterations in older inpatients in terms of accuracy rather than psychomotor speed. Although literature reports a higher risk of developing delirium in the evening [2], this pilot study suggests clinicians monitor inpatients also in other moments of the day, especially in the morning. Data correlating CPT and Delirium incidence are necessary to corroborate these preliminary findings.

**References:**

[1] Tieges, Z., Evans, J. J., Neufeld, K. J., & MacLulich, A. M. (2018). The neuropsychology of delirium: advancing the science of delirium assessment. *International journal of geriatric psychiatry*, 33 (11), 1501–1511.  
 [2] Burns A., Gallagley A., Byrne J. (2004). Delirium. *J. Neurol. Neurosurg. Psychiatr.* 75, 362–367 <https://doi.org/10.1136/jnnp.2003.023366>.

**P-319****Association between known predisposing risk factors for delirium and the presence of delirium in patients admitted to an acute geriatric ward**

Ángela Zulema Hernández-Amador (1), Karmele Garaioa-Aranburu (1), Beatriz Echarte-Archanco (1), Francesca Soler-Parets (1), Itxaso Marín-Epelde (1), Débora Moral Cuesta (2), Belén González Glaría (2), Ana Sofía Pozo Vico (2), Marta Lorente Escudero (2)

(1) Geriatrics Department, Hospital Universitario de Navarra (HUN), Pamplona, Spain, (2) Geriatrics Department, Hospital Universitario de Navarra (HUN) Pamplona

**Introduction:** Delirium is a neuropsychiatric syndrome, defined as the presence of disturbance in attention and consciousness and at least one other cognitive deficit, developed in a short period of time [1] and is the most common neuropsychiatric syndrome occurring as a complication of hospital stay [2]. The causes of delirium are determined by predisposing and precipitating risk factors. Among Delirium's predisposing factors include advanced age, cognitive impairment, comorbidities, malnutrition and sensory deficit etc. [3]. The knowledge of their risk factors has a positive impact on the health care system and the patient's environment [4].

**Objective:** Description of known predisposing risk factors for delirium in patients with data of delirium entered to an inpatient ward.

**Method:** A descriptive observational analysis of 649 patients admitted to the Geriatrics Service of the University Hospital of Navarra during the months of May and June of two consecutive years 2021–2022 was carried out. The main variables used for the study were age, geriatric syndromes, delirium data, risk factors such as comorbidity by Cumulative Illness Rating Scale (CIRS), sensory deficits, etc.

**Results:** The predisposing factors found to be associated with delirium were: previous delirium, dementia, CIRS scale in neurological, psychiatric and lower gastrointestinal systems, no statistical association in malnutrition, sensory deficits, alcoholism, cardiovascular disease and polypharmacy.

**Conclusion:** Statistical association was found for some known risk factors [3] but not for other factors described, which is why it is important to continue studying the causes of this syndrome, which is so common and has such serious consequences.

**References:**

1. American Psychiatric Association, Diagnostic and Statistical Manual of Mental Disorders (DSM-5®), 5th Ed. Arlington, VA, American Psychiatric Association, 2014.
2. Maldonado JR. Acute Brain Failure: Pathophysiology, Diagnosis, Management, and Sequelae of Delirium. *Crit Care Clin.* 2017 Jul;33 (3) :461–519. <https://doi.org/10.1016/j.ccc.2017.03.013>. PMID: 28601132.
3. Wilson JE, Mart MF, Cunningham C, Shehabi Y, Girard TD, MacLulich AMJ, Slooter AJC, Ely EW. Delirium. *Nat Rev Dis Primers.* 2020 Nov 12;6 (1) :90. <https://doi.org/10.1038/s41572-020-00223-4>. Erratum in: *Nat Rev Dis Primers.* 2020 Dec 1;6 (1) :94. PMID: 33184265; PMCID: PMC9012267.4. Juárez SI, Hernández PA, Vázquez MLJF, Martínez CMÁ. Risk factors for delirium. *Acta Med GA.* 2022; 20 (3) : 258–265. <https://dx.doi.org/10.35366/105730>.

**P-320****Conversational virtual assistant to prevent delirium in hospitalized older persons: usability evaluation**

Marta Castro-Rodríguez (1)

(1) University Hospital getafe, Madrid, Spain

**Introduction:** Virtual assistants are a promising alternative for non-pharmacological interventions in delirium prevention during admission times. ADELA prototype was designed for this aim.

**Methods:** ADELA was designed to have the following functionalities: avoiding disorientation, deafferentation and isolation; prevention of immobility and dehydration; maintaining adequate sleep hygiene and circadian rhythms and enhancing cognitive stimulation. ADELA provides 25 intents (asking for the time, weather information and start a memory game, etc.), 8 reminders throughout the day (ie, personalized physical activity recommendations based on a personalized medical prescription), play relaxing music, receive phone calls, lighting control of the bedroom and cognitive games. We set ADELA in 2 bedrooms of our Acute Geriatric Medicine Ward and all the patients\* admitted to these 2 bedrooms were offered to have ADELA on. \*patients GDS > 5 were and severe deafness were excluded.

**Results:** Only 1 patient rejected ADELA. Patients who accepted to have ADELA (8 by the time of this abstract submission) were performed SUS (System Usability Scale), CUQ (Chatbot Usability Questionnaire). SUS and CUQ mean score was 75.5 and 85.94, respectively, so ADELA assistant can also be treated as very usable. Average age of participants was 90.1 years.

**Key Conclusions:** Older age and clinical setting (acute medicine ward) are not real barriers for the use of conversational virtual assistant to prevent delirium in hospitalized older people.

**P-321****Association of anticholinergic SCORE and delirium incidence in elderly institutionalized patients: a cohort study in a portuguese central hospital**

Ana Rita Soares (1), Beatriz Martins (1), Maria Melo (1), Rafaela Veríssimo (1), Mariana Gonçalves (1), Tiago Fernandes (1), Cristina Fernandes (1), Luísa Rocha (1)

(1) CHVNGE

**Introduction:** The use of drugs with anticholinergic potential in elderly people is associated with several adverse effects (mucosal dryness, constipation, urinary retention, increased heart rate, balance changes, cognitive decline and delirium), and consequent increase in mortality. These effects may be associated with the cholinergic potential of a single drug or the cumulative effect of using several drugs. The most frail or polymedicated elderly are even more susceptible.

**Methods:** The anticholinergic SCORE of prescribed drugs was evaluated in a one-day cohort of patients admitted to Internal Medicine, Surgery and Orthopedics services of a central hospital (total = 166), aged 65 years or older, excluding patients under chemotherapy protocols. The “ACB calculator” tool was used, which is based on the “Anticholinergic Burden Scale” risk stratification scale.

**Results:** From the 166 patients analyzed, 84.3% had a SCORE  $\geq 3$ , a value from which a high risk of experiencing anticholinergic adverse effects is considered. Delirium was identified in 18.6% of the studied population. It was found that the cumulative effect of the cholinergic potential resulting from the prescription of several drugs with an individual SCORE equal to 1 has a very significant impact on the total anticholinergic SCORE of the prescription.

**Key Conclusions:** The iatrogenesis associated with anticholinergic drugs should be evaluated upon admission to the nursing wards, to reduce the risk of complications during hospitalization, namely interactions between drugs and delirium. The strategy should be a multidisciplinary work between clinicians and pharmacists with the development of protocols that minimize their use.

## Diabetes

### P-322

#### Atherogenic Risk In Diabetic Women After Menopause

Opris Simona (1), Constantin Gianina Ioana (1)

(1) National Institute of Gerontology and Geriatrics

**Introduction:** At menopause, alterations in the lipid profile lead to an increase in plasma atherogenicity and consequently high risk of cardiovascular events. It is also shown that diabetes mellitus (DM) abolish the protective effect of estrogens. The purpose of this study was to identify if triglyceride-glucose index (TyG) and atherogenic index (AI) is associated with menopause and DM incidence.

**Methods:** Study was on 357 postmenopausal women patients, of which 176 DM and 181 control patients. TyG was calculated as  $\ln(\text{triglycerides} \times \text{glucose} / 2)$ . AI was calculated as  $\log(\text{triglycerides} / \text{HDL-cholesterol})$ .

**Results:** Data revealed an increase of triglyceride, TyG index and AI ( $p < 0.0001$ ) at DM patients vs. control. Linear regression equations showed a positive correlation of TyG with glycaemia ( $p < 0.0001$ ) and AI ( $p < 0.0001$ ) at DM patients vs. control. Diagnostic evaluation for TyG indicated: 72.55% assay accuracy, 87.50% sensitivity, 58.01% specificity, 49.30% disease prevalence and relative risk estimate = 2.08. For AI: 64.71% assay accuracy, 78.41% sensitivity, 51.38% specificity, 49.30% disease prevalence and relative risk estimate = 1.61. Multivariate logistic regression analysis showed that patients with high TyG are 9.67 times more likely to have DM compared to those with low risk [OR 9.67, 95% CI 5.66–16.52;  $p < 0.0001$ ]. Also, patients with high risk AI have 3.84 times to develop DM [OR 3.84, 95% CI 2.41–6.09;  $p < 0.0001$ ].

**Conclusions:** Reduction of estrogens in menopause leads to increased atherogenic and cardiovascular risk. TyG could be a reliable tool to measure insulin resistance and there is a correlation between TyG, AI and DM incidence. Studied indices could be used as markers for DM assessment.

### P-323

#### Relationship between relative handgrip strength and insulin resistance in healthy Korean elderly over 65 years of age

KyungJin Lee (1)

(1) Prof

**Background:** Handgrip strength is an index that reflects the overall muscle strength of the body, and it is related to cardiovascular disease, diabetes and other chronic diseases. Several studies have investigated the relationship between handgrip strength and insulin resistance, but there is no study targeting both healthy Korean elderly men and women over the age of 65. Therefore, for the first time, this study was conducted to investigate the relationship between relative handgrip strength and insulin resistance in healthy Korean elderly over 65 years of age.

**Methods:** The subjects of this study were 1,154 adults 65 years of age and older who participated in the 2019 National Health and Nutrition Examination Survey. The relative handgrip strength was used as the value obtained by dividing the maximum grip value measured 6 times with both hands alternately by the body mass index. Homeostatic model assessment for insulin resistance (HOMA-IR), a surrogate index, was used for insulin resistance. To verify the effect of relative handgrip strength on HOMA-IR, linear regression analysis was performed after adjusting the correction variables.

**Results:** As a result of analyzing the relative handgrip strength by dividing it into 4 groups according to quartiles, it was found that there was an inverse relationship in that the insulin resistance decreased as the relative handgrip strength increased in both men and women. ( $P_{\text{trend}} < 0.001$ ).

**Conclusions:** In healthy Korean elderly over 65 years of age, decreased relative handgrip strength was associated with increased insulin resistance in both men and women.

### P-324

#### Barriers and enablers for deprescribing Glucose Lowering-Therapy in older adults with type 2 diabetes: a systematic review of qualitative and mixed method studies using the Theoretical Domains Framework

Marion MELLOTT (1), Lina JAWAL (2), Thomas MOREL (3), Jean-Pascal FOURNIER (3), Florence TUBACH (4), Jean-Sébastien CADWALLADER (5), Antoine CHRISTIAENS (6), Lorène ZERAH (7)

(1) Assistance Publique-Hôpitaux de Paris (AP-HP), Hôpital Pitié Salpêtrière, Département de gériatrie, F75013, Paris France, (2) Sorbonne Université, INSERM, Institut Pierre Louis d'Épidémiologie et de Santé Publique, (IPLESP), F15013, Paris, France, (3) Faculté de Médecine, Nantes Université, Département de Médecine Générale, Nantes, France, (4) Sorbonne Université, INSERM, Institut Pierre Louis d'Épidémiologie et de Santé Publique (IPLESP), F75013, Paris, France, (5) Sorbonne Université, INSERM, Institut Pierre Louis d'Épidémiologie et de Santé Publique, (IPLESP), F75013, Paris, France, (6) Sorbonne Université, INSERM, Institut Pierre Louis d'Épidémiologie et de Santé Publique, (IPLESP), F75013, Paris, France, (7) Assistance Publique-Hôpitaux de Paris (AP-HP), Hôpital Pitié Salpêtrière, Département de gériatrie, F75013, Paris, France-Sorbonne Université, INSERM, Institut Pierre Louis d'Épidémiologie et de Santé Publique, (IPLESP), F75013, Paris, France

**Introduction:** The prevalence of type 2 diabetes (T2DM) in older patients is constantly increasing. Despite the various existing recommendations, over-treatment is frequent (40–60%) and must be avoided, either by prescribing an adapted anti-diabetic treatment or by deprescribing the treatment. Knowing the barriers and facilitators for deprescribing glucose lowering-therapy in older patients in order to understand the determinants that influence these behaviours is a necessary preamble to the implementation of effective interventions.

**Methods:** Our main objective was to identify and synthesise the barriers and facilitators for deprescribing glucose lowering-therapy in older adults with T2DM from a systematic review of qualitative and mixed methods studies. After setting up a search equation on CINAHAL, PubMed, Embase and a grey literature search, two reviewers selected the articles and a third reviewer resolved the conflicts. The quality of these articles was assessed using the Mixed Methods Appraisal Tool (MMAT). After data extraction by both reviewers, we used the Theoretical Domains Framework (TDF) version 2 to synthesise the results.

**Results:** The systematic search was performed on 03/15/2023. After eliminating duplicates, 2438 articles were found. Of these, 16 articles were selected on the basis of title and abstract and 4 articles published in the USA and the Netherlands between 2019 and 2022 were selected after full reading. Data extraction and synthesis are ongoing and will be ready for the EuGMS.

**Key Conclusion:** Our results may enhance the development of effective interventions for the successful implementation of deprescribing glucose lowering-therapy in older adults with T2DM.

### P-325

#### Specificities of elderly subjects with diabetes: about 100 cases

Ghada Mabrouk (1), Bilel Arfaoui (2), Salwa Laribi (2), Maher Beji (1)

(1) Military Hospital Bizerte, (2) Military Hospital Tunis

**Background:** Diabetes in the elderly has its specificity due to the frequency of complications, comorbidity and poly-pharmacy. This exposes them to fragility and loss of autonomy. The objective of the work was to describe the clinical, epidemiological and therapeutics features of diabetes in patient aged 65 and above.

**Methods:** This was a descriptive study of a series of cases with a cross-sectional collection of data dealing with diabetic patients over the age of 65, consultant in the medical intern department at the Bizerte military hospital for a period of six months from October 2020 to March 2021.

**Results:** One hundred patients with type 2 diabetes have been reserved. The mean age was 72.18 years with a sex ratio of 0.49 (M/F). Diabetes had been evolving for an average of 17.63 years, the average HBA1c was 8.98% and 73% had at least two chronic diseases associated with diabetes. Hypertension (HTA) and hyperlipidemia were identified respectively in 81% and 59%, and 81% were poly-medicated. Fifty-nine percent (59%) were sedentary, 85% had a body mass index  $\geq 25$  kg/m<sup>2</sup> and 15% were smoker. Metformin was prescribed in 73% of cases and 60% were on insulin therapy. Acute metabolic complications were observed in 59% mainly hyperglycemia (29 cases). We found in 51% of the cases retinopathy, 50% neuropathy, 40% chronic renal failure. Infectious complications dominated by oral infections teeth were present in 61%. For macroangiopathy: 5% cerebrovascular accident, 24% coronary insufficiency, 12% peripheral obliterative arteriopathy and 2% erectile dysfunction. The geriatric assessment concluded an increased risk of falling in 40%, a fall at least for 30%, depression for 8% and cognitive disorders for 4% of patients.

**Conclusion:** The diabetic elderly subject often presents complications as well as comorbidity and glycemic targets are not achieved for the majority. Therapeutic management should consider poly-pharmacy and geriatric syndromes common in this population.

### P-326

#### Specificities of elderly subjects with diabetes

Ghada Mabrouk (1), Bilel Arfaoui (2), Salwa Laribi (2), Maher Beji (1)

(1) Military Hospital Bizerte, (2) Military Hospital Tunis

**Introduction:** The elderly subject has specificities that increase fragility and the loss of autonomy. Our work aimed to analyze the clinical particularities, epidemiology and treatment of diabetics aged over 65.

**Methods:** This was a descriptive study of a series of cases with a cross-sectional collection of data dealing with diabetic patients aged over 65 consultant in Bizerte military hospital for a period of six months.

**Results:** One hundred patients with type 2 diabetes have been studied. The mean age was 72.18 years with a sex ratio of 0.49 (M/F).

Diabetes had been evolving for an average of 17.63 years, the average HBA1c was 8.98% and 73% had at least two chronic diseases associated with diabetes. Hypertension and hyperlipidemia were identified respectively in 81% and 59%. 81% were poly-medicated. Fifty-nine percent were sedentary, 85% had a body mass index  $\geq 25$  kg/m<sup>2</sup> and 15% were smoker. Metformin was prescribed in 73% of cases and 60% were on insulin. Metabolic complications were observed in 59%. We found in 51% of the cases retinopathy, 50% neuropathy, 40% chronic renal failure. Infectious complications present in 61%. For macroangiopathy: 5% stroke, 24% coronary insufficiency, 12% peripheral obliterative arteriopathy and 2% erectile dysfunction. The geriatric assessment concluded at an increased risk of falling in 40%, a fall at least for 30%, depression for 8% and cognitive disorders for 4% of patients.

**Conclusion:** Given the fragility in elderly subjects, periodic geriatric evaluation allows to adapt the treatment and to reduce the risk of loss of autonomy.

### P-327

#### Epidemiological Profile of patients with Diabetes attending Primary Care Consultations

Leticia Sierra-Martínez (1), M de Lluch Bennasar-Matesanz (1), Margarita Maria Detraux-Viguera (1), Carmen García-Casas (1), Luisa Hurtado-Rebollo (1), Sagrario Pérez-Garrachón (1), José Francisco Pérez-Pertejo (1), Ana Prado-Prieto (1), Ana Maria Ruiz-San Pedro (1)

(1) Valladolid Este Primary Assistance Gerency, Valladolid, Spain

**Background:** and objectives: The objective of this study is to know the epidemiological profile of patients with diabetes who attend primary care clinics in Valladolid Este using large databases that analyze routine clinical practice in a significant number of patients to guide our study. preventive and therapeutic intervention towards an approach to the disease that stops the development of complications.

**Method:** Cross-sectional descriptive study where the data of all patients with type 2 Diabetes Mellitus in 5 basic health areas of Primary Care (5345 patients) are collected retrospectively from the clinical history.

**Result:** The prevalence of patients with type 2 DM in our adult population is 8%, with a higher prevalence in men and in the 61 to 75-year-old group. 2. The epidemiological profile corresponds to a male patient aged 71.89 years, with a mean evolution of his disease of 9.70 years and who lives in a low-income urban area.

**Conclusions:** When reviewing some publications that describe the epidemiological and sociodemographic profile of patients with diabetes in the Spanish population, they point out a similar profile, since according to what they report, 79.44% of adults with diabetes live in low-income areas and 67% in urban areas.

### P-328

#### Glycemic control of patients with type 2 diabetes who attend Primary Care Consultations

Leticia Sierra-Martínez (1), M de Lluch Bennasar-Matesanz (1), Margarita Maria Detraux-Viguera (1), Carmen García-Casas (1), Luisa Hurtado-Rebollo (1), Sagrario Pérez-Garrachón (1), José Francisco Pérez-Pertejo (1), Ana Prado-Prieto (1), Ana Maria Ruiz-San Pedro (1)

(1) Valladolid Este Primary Assistance Gerency, Valladolid, Spain



**Background:** and objectives: The objective of this study is to determine the glycemic control of patients with diabetes who attend primary care clinics in Valladolid Este, using large databases that analyze routine clinical practice in a significant number of patients to guide our study. preventive and therapeutic intervention towards an approach to the disease that stops the development of complications. **Methodology:** Cross-sectional descriptive study where the data of all patients with Type 2 Diabetes Mellitus in 5 basic health areas of Primary Care (5345 patients) are collected retrospectively from the clinical history.

**Results:** The American Diabetes Association (ADA) recommends HbA1c values < 7% for good control. However, in all the latest ADA 2022 recommendations, the ESC 2021 (European Society of Cardiology) guidelines, RedGDPS Foundation (Network of Diabetes Study Groups in Primary Health Care) establish individualized HbA1c control targets. 53.2% of our patients have a short evolution and in these patients we set an HbA1c target of less than 7%, achieving that 64.5% had good glycemic control and even 43.6% had intensive metabolic control (HbA1c < 6.5%). In those with a long evolution, 65% had HbA1c values.

**Conclusion:** Patients with type 2 DM in our setting have good metabolic control of their disease, whether we perform analyzes with more lax or stricter values of glycosylated hemoglobin. Said control improves as we advance in age and in years of diabetes evolution, but worsens slightly when there are associated risk factors.

### P-329

#### Clinical profile of a type 2 DM patient treated in primary care

Leticia Sierra-Martínez (1), M de Lluch Bennasar-Matesanz (1), Margarita María Detraux-Viguera (1), Carmen García-Casas (1), Luisa Hurtado-Rebollo (1), Sagrario Pérez-Garrachón (1), José Francisco Pérez-Pertejo (1), Ana Prado-Prieto (1), Ana Maria Ruiz-San Pedro (1)

(1) Valladolid Este Primary Assistance Gerency, Valladolid, Spain

The objective of this study is to know the clinical profile of patients with diabetes who attend primary care clinics in Valladolid Este using extensive databases that analyze the usual clinical practice in a significant number of patients to guide our study. preventive and therapeutic intervention towards an approach to the disease that stops the development of complications.

**Methodology:** Cross-sectional descriptive study where the data of all patients with Type 2 Diabetes Mellitus in 5 basic health areas of Primary Care (5345 patients) are collected retrospectively from the clinical history.

**Results:** Arterial hypertension is the most frequent risk factor in our population (69.6%) and its frequency increases with age. More than half of the subjects had dyslipidemia (57.5%). Obesity is present in 43.8% of patients, more frequent in women and in those under 50 years of age. Chronic kidney disease is diagnosed in 10.2% of patients with type 2 DM. Its frequency is higher in hypertensive patients than in non-hypertensive patients. Regarding the group of men, in women there is a lower prevalence of diabetes, they have good control of their disease, greater associated comorbidity and are more obese.

**Conclusions:** The results obtained show that, despite the fact that most of our patients have good glycemic control, the associated comorbidity makes it necessary to direct therapeutic efforts towards a comprehensive approach based on age, cardiovascular risk and the presence of comorbidity to achieve a greater impact on their quality of life.

### P-330

#### Association between the degree of control of type 2 diabetes mellitus and renal function in the elderly: a retrospective cohort study

Mar Riera Pagespetit (1), Gorka Gómez Terrazas (2)

(1) Consorci Sanitari Alt Penedes-Garraf, (2) Hospital Universitario de Cruces

**Introduction:** The type 2 Diabetes Mellitus is a chronic degenerative disease with several complications; one of them being the Chronic Renal Insufficiency. In the geriatric, patient there is a tendency to make less strict controls of glycosylated haemoglobin. However, it is possible that a better diabetic control delays the apparition or progression of the Chronic Renal Insufficiency.

**Objective:** To study if the incidence of Chronic Renal Insufficiency in diabetics type 2 over 80 years old is related to the grade of control of the diabetes, measured by the levels of glycosylated haemoglobin in blood (HbA1c). DESIGN Retrospective cohort study of 1486 patients: Cohort 1 (patients with strict control) : HbA1c ≤ 7,5% during the tracing period. Cohort 2 (patients without strict control) : HbA1c > 7,5% during the tracing period.

**Expected results:** Lower incidence of Chronic Renal Insufficiency in the patients with strict control of the level of glycosylated haemoglobin.

**Conclusion:** Concluding that geriatric patients with diabetes have a higher risk of mortality, cardiovascular morbidity, and prevalence of geriatric syndromes, it is observed that there is a tendency to be less strict in controlling blood glucose levels in these patients due to fear of symptomatic hypoglycemia. However, a looser control of blood glucose levels could lead to more serious complications in the case of elderly patients with a longer life expectancy. Therefore, it is possible that stricter control of diabetes in elderly patients may result in better outcomes in terms of renal function for these patients.

### P-331

#### Glucose metabolism, geriatric syndromes and one-year mortality in nonagenarians: Russian cohort study

Anastasiya Balashova (1), Liubov Machekhina (1), Ekaterina Dudinskaya (1), Irina Strazhesko (1), Olga Tkacheva (1)

(1) Russian Clinical and Research Center of Gerontology of the N.I. Pirogov Russian National Research Medical University

**Introduction:** Numerous studies have showed the relationships between glucose metabolism, some geriatric syndromes, and mortality, however, the data for long-livers are limited. So, the aim of this study was to examine this associations in Russian nonagenarians.

**Methods:** We include people over 90 years from Moscow and the nearby regions. Each participant underwent interviewing, a comprehensive geriatric assessment, anthropometric measurements, functional and lab tests (glucose, insulin, HOMA-IR insulin resistance index, and glycated hemoglobin). Impaired glucose metabolism (IGM) was identified according to current guidelines of Russian endocrinology society as glucose ≥ 6.1 mmol/l and/or HbA1c ≥ 6.0% and/or taking glucose-lowering agents. One year after the inclusion, the data on the participants' vital status (alive/dead) was collected. The statistical analysis was carried out using R 4.1.3 and Python 3.9.12.

**Results:** Overall, 3811 participants (median age 92 years) were included in the study. IGM was found in 36.6% of the participants and was associated with risk of depression (OR 1.25, p = 0.006),

orthostatic hypotension (OR 1.35,  $p = 0.01$ ), and polypharmacy (OR 1.78,  $p < 0.001$ ). There were no statistically significant associations between IGM and other geriatric syndromes, or one-year mortality. Insulin levels (OR 0.98;  $p = 0.001$ ) and HOMA-IR values (OR 0.97;  $p = 0.02$ ) were inversely correlated with one-year mortality.

**Conclusion:** Nonagenarians with IGM could be at the risk of developing depression and orthostatic hypotension, IGM don't associated with one-year mortality, which suggest that the age of onset and duration of the disease could be far more important factors.

### P-332

#### An individualistic approach in managing two elderly women virtually

Muhammad Shoaib Zaidi (1)

(1) King Saud University Medical City

**Introduction:** A holistic and person-centered approach has been stressed upon in the ADA-EASD Consensus Statement, 2022. The following two cases were referred to me in February–March, 2023 and were managed on Whatsapp. Case 164 years old Indian housewife had polyuria, polydipsia, weight loss and fasting blood glucose levels upto 300 mg/dl & RBG upto 495 mg/dl, for 6 months. Vitaly stable. BMI 35 kg/m<sup>2</sup>, HbA1c 10.6%. Urinalysis- pyuria. Urine C/S- no growth. Other labs-unremarkable. SMBG reaching max. upto 467 mg/dl. Initially, the patient was put on Metformin, a sulfonylurea (stopped later) and an oral antibiotic for suspected UTI. Later on, Glargine (300units) and weekly Semaglutide were added. She was also put on intermittent, subcutaneous, flash glucose monitoring. AGP metrics-Latest value (06.06.2023) & the older value in brackets (21.03.2023) : Time in range 90% (60), Time above 180 mg/dl 0% (32), Time below 70 mg/dl 2% (0), Glucose management indicator 5.9% (7.5). Latest (18.05.2023) BMI 33 kg/m<sup>2</sup> and HbA1c 7.5%. Semaglutide & Glargine were replaced by a DPP-4 inhibitor. Case 286 yrs old Indian bed-bound house-wife, had Type 2DM, HTN, IHD, Primary Hypothyroidism, Vitamin D deficiency, Depressive illness & chronic urinary symptoms and bacteriuria. On Thyroxine, Anti-depressants B-blocker & Calcium channel blocker. Vitals-stable. BMI 31.33 kg/m<sup>2</sup>. On 14.02.2023, FBG 387 mg/dl, 2h Postprandial BG 426 mg/dl. HbA1c 13.8%, S. Creatinine 1.30umol/l (eGFR 40ml/min). LFTs (ALP 278 IU/l, GGT 162 IU/l). Urinalysis & C/S- pyuria & bacteriuria, E.coli + She was initially treated with Linagliptin and Gliclazide MR, along with an antibiotic for the UTI. On 20.02.2023, the patient was fully insulinized with Aspart and Glargine 300 (Gliclazide stopped). By 15.03.2023 (FBG 90–150 mg/dl, PP 100–180 mg/dl, HbA1c 11.5%). Later, the patient was switched over to oral Repaglinide instead of Aspart insulin on family request.

**Key Conclusions:** Every person with diabetes is unique and so needs a comprehensive and tailored management.

### P-333

#### Effect of de-intensification of hypoglycaemic drugs in older adults with type 2 diabetes: protocol for an emulation of a target trial

Antoine Christiaens (1), Noémie Simon-Tillaux (2), Wade Thompson (3), Alan J. Sinclair (4), Séverine Henrard (5), Benoit Boland (6), Yannis Slaouti-Jégou (7), Béranger Lekens (7), Dominique Bonnet-Zamponi (8), Florence Tubach (2), Lorène Zerach (9)

(1) Fonds de la Recherche Scientifique–FNRS; Clinical Pharmacy research group, Louvain Drug Research Institute, UCLouvain

(Brussels, Belgium); Sorbonne Université, INSERM, Institut Pierre Louis d'Epidémiologie et de Santé Publique (Paris, France), (2) Sorbonne Université, INSERM, Institut Pierre Louis d'Epidémiologie et de Santé Publique (Paris, France); Assistance Publique–Hôpitaux de Paris, Hôpital Pitié Salpêtrière, Département de Santé Publique, Centre de Pharmacoépidémiologie, Unité de Recherche Clinique, CIC-1901 (Paris, France), (3) Department of Anesthesiology, Pharmacology, and Therapeutics, Faculty of Medicine, University of British Columbia (Vancouver, Canada); Research Unit of General Practice, University of Southern Denmark (Odense, Denmark), (4) King's College London (London, United Kingdom); Foundation for Diabetes Research in Older People (Taplow, United Kingdom), (5) Clinical Pharmacy research group, Louvain Drug Research Institute, UCLouvain (Brussels, Belgium); Institute of Health and Society, UCLouvain (Brussels, Belgium), (6) Institute of Health and Society, UCLouvain (Brussels, Belgium); Geriatric medicine unit, Cliniques universitaires St Luc (Brussels, Belgium), (7) Claude Bernard, Resip, (Boulogne-sur-mer, France), (8) Sorbonne Université, INSERM, Institut Pierre Louis d'Epidémiologie et de Santé Publique (Paris, France); Observatoire des médicaments, dispositifs médicaux, innovations thérapeutiques d'Île-de-France (Paris, France), (9) Sorbonne Université, INSERM, Institut Pierre Louis d'Epidémiologie et de Santé Publique (Paris, France); Assistance Publique–Hôpitaux de Paris, Hôpital Pitié Salpêtrière, Département de gériatrie (Paris, France)

**Introduction:** Overtreatment with hypoglycaemic drugs (HDs: sulfonylureas, glinides, and/or insulins) is a frequent condition in older patients with type 2 diabetes (T2D), associated with increased 1-year mortality. De-intensification of HD is therefore a key issue. The primary objective of this study will be to estimate the effect of de-intensifying HD on clinical outcomes (hospital admission or death) within 3 months in older adults ( $\geq 75$  years) with T2D.

**Methods:** We will emulate a target trial using The Health Improvement Network (THIN) cohort, a large-scale database of data collected from electronic medical records of 2000 general practitioners in France. We will include patients  $\geq 75$  years who will have T2D, a stable dose of HDs, HbA1c value  $< 75$ mmol/mol (9.0%), and no de-intensification in the past year, from 01/01/2010 to 28/02/2019. The target trial will be sequentially emulated every month in the database. Patients will be classified at baseline of each sequential trial in the “HDs de-intensification” arm (decrease of  $\geq 50\%$  in the total dose of HDs) or “no-HDs de-intensification” arm. The primary outcome will be time to hospital admission or death, within 3 months. Secondary outcomes will be hospitalisation, death, and occurrence of HbA1c  $> 75$ mmol/mol within one year. Participants will be followed from baseline to 12 months after randomisation, or death. A pooled logistic regression will be used to estimate the treatment effect on the incidence of the outcomes.

**Conclusions:** Using this innovative methodological framework, we hope to provide essential answers for managing the treatment of type 2 diabetes in older patients.

### P-334

#### Echographic diagnosis of gallbladder diseases in elderly diabetic patients

Vito Carrieri (1), Grazia Angone (2)

(1) Casa di Cura Prof. Petruccianni Lecce Italy, (2) Casa di Cura Salus Brindisi Italy

**Introduction:** Aim of the paper is to investigate the role of ultrasonography in early detecting of gallbladder diseases in diabetic and obese elderly patients. Materials and .

**Methods:** Were selected 200 diabetic and obese elderly patients (75–95 years old, 120 women and 80 men). In all of them, with symptoms of abdominal pain or jaundice, abdominal ultrasonography was performed within 24 h of admission in the hospital.

**Results:** In 150 elderly patients (103 women and 47 men) ultrasonography revealed the following diseases of the gallbladder and biliary tract: 45 gallbladders with stones, 35 gallbladders with biliary sand, 3 gallbladders with cancer, 11 cholesterosis, 5 carcens of the common biliary duct, 5 carcens of the pancreatic head, 7 dilatations of intra and extrahepatic biliary tract. In 15 patients was detected cholecystitis, in 10 patients the gallbladder was increased in volume, in 10 patients was revealed hepatic cirrhosis, in 4 patients was detected hepatocarcinoma.

**Discussion and conclusion:** In elderly obese patients diabetes mellitus is often associated with gallbladder and biliary tract disease. Ultrasonographic detection of increased gallbladder volume is related to diabetic neuropathy with hypotonia of gallbladder and biliary tract. The ultrasonographic findings of gallbladder bile sand is associated with dyspeptic diseases of elderly diabetic obese patients. In addition ultrasonography can detect the reduced gastric and gallbladder motility which is very frequent in elderly diabetic patients. We observed acute cholecystitis with stones and gallbladder stones were detected especially in elderly diabetic obese women. Ultrasonography allows to detect early in elderly diabetic patients serious and often lethal complications. Jaundice often is the first symptom of a cancer in elderly patients and ultrasonography allows early diagnosis. In conclusion abdominal ultrasonography should always be performed in the first 24 h of hospitalization even if in the elderly diabetic patients are non detected symptoms of gallbladder, biliary tract and pancreatic diseases. The elderly patients hospitalization was 50% longer in the elderly diabetic patients in which ultrasonography was not performed within 24 h from admission.

## Education and Training

### P-335

#### The impact of the educational activities for improving mental health, quality of life and life satisfaction of community-dwelling elderly

Radka Bužgová (1), Radka Kozáková (1), Katka Bobčíková (1), Hana Matějovská Kubešová (1), Renáta Zeleníková (2)

(1) Department of Nursing and Midwifery, Faculty of Medicine, University of Ostrava, Czech Republic, (2) Department of Nursing and Midwifery, Faculty of Medicine, University of Ostrava, Czech republic

**Introduction:** The aim of our intervention study was to determine whether educational activities within the University of the Third Age contribute to the improvement of mental health, quality of life, and life satisfaction among elderly in the community.

**Methods:** The research sample included 121 elderly who participated in the annual education program 2021/2022 focused on mental health, prevention of cardiovascular diseases, and neurological diseases. The Geriatric Depression Scale (GDS), The Geriatric Anxiety Inventory (GAI), the Older People's Quality of Life Questionnaire (OPQOL-Lite) and the Life Satisfaction Index for the Thirds Age—Short form (LSITA-SF) were completed before and after the intervention. Differences were tested using the Wilcoxon paired samples test.

**Results:** The average age of the respondents was 71.45 years (SD = 4.61). The population was predominantly female (n = 110, 90.89%) and elderly who no longer worked (n = 105, 86.5%). Statistically significant improvement after the intervention was found

only in elderly people who had at least a moderate rate of depression (GDS < 5) and greater anxiety (GAI < 9) prior to the start of the intervention. In these elderly, improvements were found in all three endpoints: depression (mean: -1.9, z = -2.216, p = 0.027), anxiety (mean difference: -3.4, z = -3.408, p = 0.001), quality of life (mean difference: 3.6, z = -4.282, p < 0.001) and life satisfaction (mean difference: 2.1, z = -2.710, p = 0.007).

**Key Conclusions:** Educational activities for the elderly in the community can improve mental health, quality of life, and life satisfaction in the elderly with mild and moderate symptoms of depression and anxiety.

### P-336

#### Interdisciplinarity in geriatric medical humanities, a bibliometric survey

Emily Waldron (1), Katherine Wakefield (1), Desmond O'Neill (1)  
(1) Trinity College Dublin

**Background:** Geriatric medical humanities (also known as cultural gerontology) –understanding ageing through the lens of arts and humanities—is an important element of epistemology of ageing. As a boundary area between geriatric medicine/gerontology and arts/humanities disciplines, joint-working/interdisciplinarity is desirable. This project aims to assess the degree of joint-working manifested in cultural gerontology by authorship and acknowledgements in papers dedicated to cultural gerontology in five journals.

**Methods:** Observational survey of authorship in 5 journals from the founding of the specific sections on cultural gerontology or specific dedicated journals, assessing number of authors, disciplinary identities, and evidence of joint working within cultural gerontology.

**Results:** Of 591 papers, 481 (81%) were single authors. There was a spread of disciplinary affiliations, 247 (41.8%) gerontology/age-studies, 169 arts/humanities/social sciences (28.6%) and 133 of uncertain affiliation (22.5%): only 38 papers had a clear indication of joint working across the disciplines (6.4%). In the two geriatric medicine journals, European Geriatric Medicine and Journal of the American Geriatrics Society, authorship was almost exclusively from geriatric medicine/gerontology. There was extremely limited use of acknowledgements.

**Conclusion:** Our study indicates that single authorship is the most frequent mode of peer-reviewed publishing in cultural gerontology, while acknowledging that some authors may have scholarly training in multiple fields but are listed as undisciplinary. Leaders in the field and editors of relevant journals/section need to consider ways of encouraging and recognising joint working, through fuller descriptions of multiple affiliations, brief author biographies, fuller use of acknowledgements and consideration of brief accompanying discussant responses from complementary disciplines.

### P-337

#### What do hospital staff consider most important for health? Descriptive study of social determinants of health

Yanira Aranda Rubio (1), Claudia Ruiz Huerta (2), Irene Manzanar (1), Carmen Ros (1), María Asenjo (3), Carmen Alcaraz-L (1), (4), Isabel Tornero (5), Javier Gómez Pavón (5)

(1) Geriatrician. Hospital Central Cruz Roja, (2) preventive medicine. Hospital Central Cruz Roja, (3) Geriatrician. Hospital Príncipe de Asturias, (4), (5) Geriatrician

**Introduction:** Social determinants are the circumstances in which people are born, grow up, work, live and age, including the broader set of forces and systems that influence the conditions of everyday life. According to Marc Lalonde's theory, social determinants can be divided into 4: Those related to lifestyles, environmental factors, factors related to the genetic and biological aspects of the population and finally, those related to the health services provided to the population. All of these factors influence our state of health, with robust scientific evidence. The aim of the study was to find out whether health personnel have the same perception of the influence of social determinants on their health.

**Methods:** Descriptive study was carried out at Cruz Roja University Hospital (Madrid, Spain) by means of a survey sent to all hospital personnel (doctors, nurses, nursing assistants, administrative staff, orderlies...) on a voluntary anonymous basis by e-mail.

**Results:** We obtained a sample of 109 responses: 33% were doctors; 28.4% nurses; 13.8% others (social work, occupational therapy...); 9.2% nursing assistants, 7.3% administration staff. 78.9% of the sample considered lifestyle to be most important. 12.8% considered human biology (genetics) to be most important. Only 4.6% gave priority to the environment as a social determinant of health. And the rest (3.7%) voted for health policies. There were no differences between professions and votes, with responses being uniform.

**Key Conclusions:** Social determinants of health permeate our daily clinical practice. We need to know them in order to identify them.

### P-338

#### Effectiveness of the aged simulation suit on undergraduate nursing students' attitudes and empathy toward older adults: A systematic review and meta-analysis

Buru Akpınar Söylemez (1), Ecem Özgül (2), Merve Aliye Akyol (1), Özlem Küçükçüçlü (3)

(1) Dokuz Eylül University, (2) Izmir University of Economics, (3) ozlem.kguclu@deu.edu.tr

**Aim:** This study aims to investigate the efficacy of the aged simulation suit on undergraduate nursing students' attitudes and empathy toward older adults.

**Design:** This systematic review and meta-analysis seeks to determine the efficacy of the aged simulation suit on the attitudes and empathy of undergraduate nursing students toward older adults. This protocol for a systematic review and meta-analysis was registered as CRD 42023393879 on the PROSPERO database. Data sources: Databases CINAHL, Cochrane Library, PubMed, PsycINFO, and Web of Science, as well as ULAKBIM, Turkish Medline, Türkiye Klinikleri, and YOK National Thesis Center, were searched for the articles.

**Review methods:** The Joanna Briggs Institute Critical Appraisal Tools were used to evaluate the methodological quality of a study and the extent to which its design, conduct, and analysis addressed the possibility of bias.

**Results:** The meta-analyses of attitudes toward older adults included five studies (including 419 nursing students). The intervention group's attitudes toward older adults were found to be similar to those of the control group (SMD: 15.84,  $Z = 1.98$ ,  $p = 0.05$ ). The subgroup analyses revealed similarities between intervention group's and the control group's mean score on attitudes toward older adults (SMD: 4.85,  $Z = 0.70$ ,  $p = 0.48$ , for RCT; SMD: 23.05,  $Z = 2.02$ ,  $p = 0.04$ , for quasi-experimental). Three studies (involving 207 nursing students) revealed significantly higher mean empathy score for the intervention group compared to the control group following the intervention (SMD: 7.08,  $Z = 4.82$ ,  $p = 0.00001$ ). The subgroup analyses revealed statistically significantly higher mean level of

empathy for the intervention group compared to the control group was after the intervention (SMD: 7.49,  $Z = 3.15$ ,  $p = 0.002$ , for RCT; SMD: 6.83,  $Z = 3.65$ ,  $p = 0.0003$ , for quasi-experimental).

**Conclusions:** Nursing students should be aware of older adults' feelings and experiences aging-related changes, and aged simulation interventions can be a useful intervention to allow students to "walk in the shoes" of an older adult. Keywords: Attitudes, Empathy, Older, Nursing, Simulation Training, Students, Systematic Review, Meta-analysis.

### P-339

#### Integrating Pharmacology Concepts with Self-Learning Modules into a Geriatric Clinical Elective

Mariana Dangiolo (1), Andrea Berry (1), Laurel Gorman (1)

(1) University of Central Florida College of Medicine

**Introduction:** Given barriers to vertical integration during clinical rotations in medical school, many educators struggle with employing effective virtual strategies to revisit foundational sciences during the clinical years of the curriculum. Engaging in therapeutic application during this time is essential to developing effective and safe prescribing skills to improve patient safety.

**Methods:** We developed virtual geriatric pharmacology self-learning modules (SLMs) for a fourth-year geriatric elective. A pharmacologist developed 3 electronic interactive geriatric pharmacology SLMs in collaboration with a geriatric physician and a pedagogical expert. To evaluate effectiveness, learners were administered a pre- and post-elective quiz with survey.

**Results:** Out of 22 learners who took the elective, 18 completed the optional post-elective quiz and SLM survey. All learners indicated they used the geriatric SLMs and resources. Performance on geriatric pharmacology multiple choice questions (MCQ) items and ability to identify potentially dangerous drugs significantly improved after they used the SLMs and electronic learning resources.

**Key Conclusions:** Medical students improved performance after using SLMs, valued pharmacology clerkship integration and reinforcement, and agreed SLMs improved understanding, confidence, and attitudes. Thus, SLMs were an effective virtual method for integrating pharmacology that could be modified to teach other foundational sciences during the clinical years. Further, our findings suggest these tools could be ideal for other situations, like the COVID pandemic, where quality virtual teaching methods are essential.

### P-340

#### The project to learn the shared decision making competency on Advance Care Planning: Examining the difference between novel online and conventional face-to-face training

Yuko Goto (1), Hisayuki Miura (1)

(1) Department of Home Care and Regional Liaison Promotion, Hospital, National Center for Geriatrics and Gerontology

**Introduction:** Following COVID-19 pandemic, a new utility of digital technology has been promoted in the field of education targeting medical professionals, and the comparing the cost effectiveness of novel online and conventional face-to-face training will enable support for the selection of education methods.

**Methods:** A secondary analysis of data used to develop a training program for advance care planning (ACP), incorporating shared

decision making (SDM) skills training was performed, and the cost effectiveness of online and face-to-face training was assessed.

**Results:** We analyzed data from one training site. 23 (85%) of 27 enrolled participants completed the online training; whereas, 66 (92%) of 72 enrolled participants completed the face-to-face training. The online training workshops were held in 3 times (total 11 h) and the face-to-face training workshops in 2 times (total 9 h). In both online and face-to-face training, SDM skills of the trainees significantly improved, and a behavioral change to ACP practice was confirmed. The total cost required for the online training was 3,900 USD, while that for the face-to-face training was 1,400 USD. In the online training, the prior meeting for the trainer support was performed 3 times; whereas, in the face-to-face training, it was performed once.

**Conclusions:** The face-to-face training was found to be more cost-effective. However, the online training had apparent merit, such as burden reduction related to participants' movement to workshop venue. On the basis of these characteristics, we can select better suited training style.

### P-341

#### Awareness and Interest in Advance Care Planning Among Fifth-Year Medical Students

Sumito Ogawa (1), Masahiro Akishita (1)

(1) Department of Geriatric Medicine, Graduate School of Medicine, The University of Tokyo

**Introduction:** Advance care planning (ACP) plays a crucial role in ensuring patient-centered end-of-life care. However, medical students often lack exposure to ACP education. This study aimed to evaluate the impact of video-based pre-academic ACP education on medical students in Japan.

**Methods:** A retrospective questionnaire survey was conducted among fifth-year medical students at The University of Tokyo. Participants completed a questionnaire assessing their awareness, interest, and willingness to engage in ACP after watching an introduction video on ACP produced by the Japan Geriatrics Society. Descriptive analyses were performed to examine the results.

**Results:** The study included 58 participants. Before watching the video, 55.2% of respondents were aware of ACP, while 25.9% had discussed ACP with their families. Following the intervention, 96.6% expressed interest in practicing ACP, and 98.3% recognized the importance of preparing documents for future decision-making. Moreover, 67.2% desired their wishes regarding medical treatment at the end of life to be highly respected, and 91.4% emphasized the importance of respecting the wish of individual patients.

**Conclusion:** Video-based pre-academic ACP education is a valuable tool for enhancing medical students' understanding and engagement in ACP. These findings have implications for medical education and the promotion of patient-centered end-of-life care. Further research is warranted to validate these results in larger and more diverse populations.

### P-342

#### Development of communication tools to enhance the communication between professionals, residents and relatives and reduce the inappropriate use of antibiotics in nursing homes. HAPPY PATIENT study

Ana Garcia-Sangenis (1), Lars Bjerrum (2), Athina Chalkidou (2), Anna Kowalczyk (3), Maciek Godycki-Cwirko (3), Pia Touboul (4), Pascale Bruno (4), Vanessa Lesage (4), Ruta Radzeviciene (5), Lina Jaruseviciene (5), Christos Lionis (6), Maria-Nefeli Karkan

(1) IDIAPJGol, CIBERINFEC (Spain), (2) University of Copenhagen (Denmark), (3) Centre for Family and Community Medicine, Lodz University (Poland), (4) Department of Public Health, University Hospital Nice (France), (5) Ltd Mano Seimos Gydytojas (Lithuania), (6) Clinic of Social and Family Medicine, University of Crete (Greece)

**Introduction:** Communication between healthcare professionals (HCP) and residents or relatives is one of the best tools to improve inappropriate antibiotic use. The aim was to develop graphic tools that enabled communication, enhancing key facts regarding infection management and antibiotic use in nursing homes. The study is part of HAPPY PATIENT (Third EU Health Program) and aims to implement the EU antimicrobial resistance (AMR) guidelines on the prudent use of antimicrobials.

**Methods:** A literature review was first conducted to identify the common misconceptions and knowledge gaps about antimicrobials and AMR that leads to misuse of antibiotics, defining 44 statements. Using the DELPHI methodology, a panel of experts prioritized those statements. The panel met and discussed the results and then another prioritization round was performed results guided the development of the communication tools.

**Results:** Four of the communication tools developed were used in nursing homes: Poster "Virus or Bacteria?" to help HCPs discuss the common cause of infections and the need of antibiotic with residents or relatives. Leaflet "Urinary Tract Infections (UTI)" to inform about UTIs in nursing homes and how to prevent UTI. Poster "5 myths about antibiotics in UTIs in older adults" to educate HCPs about some myths regarding antibiotic treatment in UTIs and finally "Info Cards", a short and easy to read messages about antibiotic use and AMR for the public to take away home.

**Key Conclusions:** Graphic material enhances communication, but it must be accompanied by verbal information and interaction between HCPs and patients and relatives.

### P-343

#### The impact of the intensive care nursing education program on ageism and the knowledge about the older adults in a developing country; a quasi-experimental pretest-postest design study

Fatma Ozge Kayhan Kocak (1), Süleyman Özçaylak (2), İhsan Solmaz (2)

(1) Division of Geriatrics, Department of Internal Medicine,, Health Sciences University Gazi Yaşargil Training and Research Hospital, Diyarbakır, Türkiye, (2) Department of Internal Medicine, Health Sciences University Gazi Yaşargil Training and Research Hospital, Diyarbakır, Türkiye

**Introduction:** Education and health system have not kept pace with the rapid changes in the distribution of population in developing countries. The aim of this study is to investigate the impact of an intensive care nursing education program on ageism and knowledge about the older patients.

**Method:** The study population consisted of 26 nurses attending the intensive care nursing education program (ICNEP) at tertiary hospital. The ICNEP is a standardized certified training program which is a postgraduate education program organized by the Ministry of Health for nurses. The ICNEP, consisting of 120 h of theoretical training and

120 h of practical training, was implemented for 6 weeks. The Fraboni scale of ageism (FSA) and the Knowledge-about-Older-Patients—Quiz (KOP-Q) were applied before and after the ICNEP.

**Results:** The median age of the nurses was 30 years (23–43) (53.8% female). 96.2% of participants had no previous training in geriatric medicine. It was stated that nurses' mean total score on the FSA was  $66.6 \pm 7.8$  pre-test and decreased to  $65.8 \pm 6.9$  post-test. Nurses' total score average of the KOP-Q was  $17.3 \pm 2.5$  pre-test and increased to  $17.7 \pm 2.4$  post-test. The differences between them were not statistically significant ( $p > 0.05$ ).

**Key Conclusion:** To raise awareness of ageism and geriatric medicine, geriatric-specific training should be provided separately, rather than integrated with specialty-specific training, such as intensive care. Especially in countries where geriatric medicine is still emerging, it is recommended that these training sessions be prepared by specialist with geriatrics competence.

## P-344

### Factors related to benevolent and hostile ageism among paramedical students: a complex model

Sylvie D'hondt (1), Isabelle Aujoulat (1), Jean-Marie Degryse (2)

(1) Institut de Recherche Santé et Société (UCLouvain), (2) Departement of Public Health and Primary Care (KULeuven)

**Introduction:** This study aimed to analyse direct and indirect paths between ageism (Hostile and Benevolent ageism), anxiety about ageing, fear of death, knowledge about ageing, perception of working with older adults and perception of older adults.

**Methods:** A cross-sectional study was conducted among paramedical students in Belgium. The questionnaire consisted of the Ambivalent Ageism Scale for the health care sector and six other scales. The direct and indirect relations were analysed using Structural Equation Modelling (path analysis).

**Results:** Three main determinants related to a higher level of ageism were found: Knowledge of older adults and their care (0.24,  $p < 0.00$ ), Perception of older adults ( $-0.21$ ,  $p < 0.00$ ) and Anxiety about Ageing (0.13,  $p < 0.05$ ). Perception of older adults was an important mediator between Ageism and both, Knowledge, and Anxiety about ageing. Fear of death (0.07,  $p < 0.00$ ) had only an indirect effect on Ageism through Perception of older adults. Furthermore, Hostile ageism (0.27,  $p < 0.00$ ), Anxiety about ageing (0.25,  $p < 0.00$ ) and Negative perceptions of older adults ( $-0.22$ ,  $p < 0.00$ ) were directly related to negative students' perceptions of working with older adults. Finally, Benevolent ageism was only associated to Knowledge ( $-0.25$ ,  $p < 0.00$ ) and Perception of older adults ( $-0.20$ ,  $p < 0.00$ ).

**Key Conclusions:** These results suggested that improving students' knowledge and changing their perception on the ageing process and on older adults could be an effective strategy to address ageism. Addressing these ageist attitudes is of utmost importance as they are directly associated with a negative perception of working with older adults.

## P-345

### Enhancing Academic Performance through Innovative Teaching Methodologies: Advancing Learning and Knowledge at a Public University

Cristina Roqueta (1), Katia Puente de la Vega (2), Maria Isabel Martínez-Fernández (2), Julia López-Cevallos (2), Anna Bosch-

Queralt (2), Miriam Flo (2), Olga Salas (2), Rosario Padilla (3), Nuria Leiva (2)

(1) Geriatric Medicine Department. Hospital del Mar. Centro Fórum. Universitat Pompeu Fabra. Barcelona. Spain., (2) Geriatric Medicine Department. Hospital del Mar. Centro Fórum. Barcelona. Spain., (3) Social Work Department. Hospital del Mar. Centro Fórum. Barcelona. Spain

**Introduction:** The Center for Innovation in Learning and Knowledge (CLIK) at a public university plays a pivotal role in driving the transformation of teaching and learning processes. The aim is to investigate the impact of new teaching methodologies by comparing student outcomes in the accrediting evaluation.

**Methods:** The study focused on one of the five professors of Geriatrics in the fifth grade of Medicine (Teacher A), who underwent training in new teaching methodologies at CLIK. The accrediting evaluation consisted of 12 multiple-choice questions (MCQ) and four short answer questions (SAQ) (one point each question). Teacher A conducted three magisterial lectures and two seminars, while the other professors (group B), conducted three magisterial lectures and one seminar. We compared the average scores of the questions from each group of teachers. We also calculated the difficulty and discrimination index.

**Results:** Out of 57 students enrolled, 54 (94.73%) completed the accrediting evaluation. Mean values of SAQ: teacher A (two questions) :0.96 (SD 0.06) versus group B (two questions) :0.56 (SD 0.28); ( $p < 0.001$ ). Mean values of MCQ: teacher A: 0.83 (SD 0.19) versus group B: 0.88 (SD 0.18) ; $p = 0.12$ . Difficulty index of MCQ: teacher A: 19.16 (SD11.51) versus group B: 12.66 (SD 9.57) ; $p = 0.31$ . Discrimination index of MCQ: teacher A: 0.33 (SD 0.22) versus group B: 0.27 (SD 0.14);  $p = 0.57$ .

**Key Conclusions:** The implementation of new teaching methodologies may positively influence student performance on the SAQ. The difficulty and discrimination indices of the MCQ were higher for Teacher A's questions, but no significant differences, may be attributed to the small sample size.

## P-346

### Enhancing Teaching Quality of University Professors via Student Satisfaction Evaluation

Cristina Roqueta (1), Julia López-Cevallos (2), Maria Isabel Martínez-Fernández (2), Katia Puente de la Vega (2), Rosario Padilla (3), Patricia Rodríguez-Rodríguez (4), Myriam García-Blázquez (5), Nuria Leiva (2)

(1) Geriatric Medicine Department. Hospital del Mar. Centro Fórum. Universidad Pompeu Fabra. Barcelona. Spain., (2) Geriatric Medicine Department. Hospital del Mar. Centro Fórum. Barcelona. Spain., (3) Social Work Department. Hospital del Mar. Centro Fórum. Barcelona. Spain., (4) Geriatric Medicine Department. Hospital del Mar. Centro Fórum. Barcelona. Spain., (5) Mental Health Department. Hospital Sant Joan de Déu. Barcelona. Spain

**Introduction:** AVALDO is a tool provided by the University that allows students to gauge their satisfaction with the quality of teaching they receive. The objective is to explore and analyse the students' evaluations of a professor who taught courses on teaching innovation, in comparison to the average evaluations of other professors within the department.

**Methods:** A descriptive, prospective study about students' assessment of the professor teaching Geriatrics in the fifth grade of Medicine. AVALDO tool is administered, consisting of two questions that assess the professor's compliance with teaching obligations and

the students' satisfaction with the teaching. Additionally, an open-ended section allows students to provide comments on their experiences. The reliability of the evaluations is determined by considering the size of the student group and the participants in the survey.

**Results:** Out of fifty-seven students, twenty-four (42.1%) completed the AVALDO evaluation. Average evaluation for question 1: Professor of Geriatrics: 9.7 (SD 0.8), medicine degree: 8.7 (SD 1.7) and department of health and life sciences: 8.6 (SD 1.8); ( $p < 0.05$ ). For question 2: 9.7 (SD 0.8), 8.4 (SD 2.1), 8.3 (SD 2.1); ( $p < 0.01$ ), respectively. Students' comments: Great interest in students' learning. Very dynamic classes. She is very innovative in teaching. Her lectures have been great. You leave the class with clear ideas. The reliability of the evaluations was deemed sufficient ( $> 15$  participants).

**Key Conclusions:** The AVALDO tool proves useful in understanding students' satisfaction. The implementation of innovative teaching approaches may contribute to improved teaching quality. Encouraging greater student participation in AVALDO evaluations would enhance the reliability of the results.

### P-347

#### Nursing students' experiences of a home visiting programme for older adults with multimorbidity: a qualitative evaluation of the VISITAME trial

Anabel Chica-Pérez (1), Iria Dobarrio-Sanz (2), Cayetano Fernández-Sola (2), Jose Granero-Molina (2), Matías Correa-Casado (3), Jose Manuel Hernandez-Padilla (2)

(1) Emera Nursing Home, (2) University of Almería, (3) Almería Health District

**Introduction:** Nursing students should acquire competence in promoting self-care in older adults with chronic multimorbidity, but opportunities for clinical practice are limited. The implementation of a home visiting programme to community-dwelling older adults with chronic multimorbidity could contribute to nursing students' acquisition of this competence. The aim of our study was to understand the experience of nursing students participating in a home visiting programme to community-dwelling older adults with chronic multimorbidity.

**Methods:** Qualitative study based on Gadamer's hermeneutic phenomenology. Twenty-two in-depth interviews were conducted with nursing students participating in a home visiting programme. Data were recorded, transcribed and analysed following the procedure developed by Fleming.

**Results:** Three main themes were extracted in the data analysis process: (1) 'living the theory. Experience as a catalyst for learning', (2) 'the home visiting programme as a tool for promoting competence in caring for older adults', and (3) 'when learning sparks interest in working with older adults'.

**Key Conclusions:** The home visiting programme to community-dwelling older adults has an important impact on the personal and professional development of nursing students. The experience of the home visiting programme leads to deep learning that sparks interest in caring for community-dwelling older adults. The implementation of a home visiting programme could be a beneficial strategy for the acquisition of the competence in promoting self-care amongst community-dwelling older adults with chronic multimorbidity.

### P-348

#### Developing and Implementing a Stroke Early Supported Discharge Service in Ireland: Experiences of Healthcare Professionals'

Elaine O Connor (1), Eamon Dolan (2), Frances Horgan (3), Rose Galvin (1)

(1) School of Allied Health, Faculty of Education and Health Sciences, Ageing Research Centre, Health Research Institute, University of Limerick, Castletroy, Limerick, Ireland, (2) Connolly Hospital, Blanchardstown, Dublin 15, Ireland, (3) School of Physiotherapy, Royal College of Surgeons in Ireland (RCSI) University of Medicine and Health Sciences, Dublin 2, Ireland

**Introduction:** Early supported discharge (ESD) facilitates people after stroke to be discharged from hospital earlier than conventional care to continue rehabilitation at home with a multi-disciplinary team. Randomised Controlled Trials have demonstrated a reduction in cost savings, length of hospital stay, and long-term dependency. This study aimed to explore the experiences of healthcare professionals' (HCPs) developing and implementing ESD stroke services in Ireland. **Methods:** A purposive sample was used and a qualitative descriptive approach was selected. HCPs were eligible if they delivered ESD, previously worked in ESD in Ireland or provided support and input to those in receipt of ESD. One-to-one semi-structured interviews were conducted via Microsoft Teams. Recruitment ceased once no new themes were identified with adequate information power achieved. Data were analysed using reflexive thematic analysis.

**Results:** Cross 9 ESD sites in Ireland, 16 HCPs were interviewed. Five key themes emerged: (1) ESD has developed in fragmented ways, (2) Teamwork is central to ESD but gaps in staffing limits the service, (3) ESD teams' embraced telerehabilitation, (4) Families as partners in ESD need information and support and (5) ESD involves working collaboratively with people after stroke and families, taking risks and offering emotional support.

**Key Conclusions:** Findings highlight how ESD services adapted in Ireland during the COVID-19 pandemic and how gaps within the service impact on the delivery of ESD. Key practice implications suggest ensuring equitable delivery and access to services and a focus on people after stroke with subtle impairments.

### P-349

#### Reconnect@: social connections for emotional well-being in residences

José Maria Santiago Bautista (1), Isabel García Mercader (2), Lina Jódar Fernández (3), Eva María Perez Miranda (4), Sonia Miravet Jimenez (5)

(1) Geriatrician. Master's Degree in Hospital, Primary and Social Care Management (GESAPH). University of Barcelona, (2) Nurse. Master's Degree in Hospital, Primary and Social Care Management (GESAPH). University of Barcelona., (3) Nurse. Master's Degree in Hospital, Primary and Social Care Management (GESAPH). University of Barcelona, (4) Psychologist. Master's Degree in Hospital, Primary and Social Care Management (GESAPH). University of Barcelona, (5) General Practitioner. Master's Degree in Hospital,

Primary and Social Care Management (GESAPH). University of Barcelona

**Introduction:** “Reconnect@” is a multidisciplinary Project to provide information and communication technology (ICT) education to the elderly in nursing homes to reduce social loneliness (SL). OBJECTIVE To relieve social loneliness with ICT. Intergenerational experience through collaboration with students. Secondary outcomes are health outcomes and participation satisfaction.

**Materials and Methods:** Intervention case–control study in two nursing homes in Barcelona. Designed with the School Health Nurse and the Community Psychologist. Screening SL (ESTE II Scale) in NH (n = 50). Inclusion criteria: > 65 years old, without dementia, ESTE II scale moderate-severe (> 11) Sample Group: n = 10. 70% women. Age mean 84,8 y.o. Charlson Index (mean) 1,8. Intervention: 6 weekly sessions, driven by 14–15 y.o. students; using mobiles phones, laptops, VR glasses. March–June 2022. Data collection: demographic, functional and clinical data at the beginning and end of intervention. Satisfaction.

**Results:** screening: (n = 50) 80% + S.L. (68% moderate, 12% high). Significance on SL levels and Pfeiffer scale (p = 0.05). Intervention: improvement of ESTE II versus control group, no significant. (PostIntervention mean ESTE II 12,9; 14,1, respectively; (p = 0,1) ). Intervention group ESTE II total values without differences, (medium = 15,5 pre, 14,2 post-intervention, (p = 0,24; IC 95%:1,3–4,5) ); We found improvement in new technologies ítem (p = 0,015). Less use of medical visits pre-post intervention, without significance (p = 0,279 (IC 95% 0,2–0,8); p = 0,43 (IC 95% 0,5–1,12) ). Satisfaction positive-very positive. 95’55% will recommend the experience.

**Conclusions:** Intervention that could improves knowledge of TICS to alleviate emotional loneliness. Facilitates relationship with social environment, using existing public resources. Limitation covid isolation periods and number of participants.

## P-350

### Spotlighting the success of older female directors: a demonstration of the creativity and resilience of old age in the face of cultural barriers

Neasa Fitzpatrick (1), Desmond O’Neill (2)

(1) Mercy University Hospital, (2) Trinity College Dublin

Ageism is pernicious in the film industry, particularly in large-scale Hollywood productions. Its effect is also underestimated in comparison to other forms of discrimination (1). Older women are disproportionately discriminated against in the workplace compared with older men (2), and there is evidence of disproportionate ageism toward women in the film industry specifically. Women comprise a much smaller proportion of film directors overall, with only 13% of the top-grossing films in the US in 2020 directed by women (3). Despite all this, a number of high-profile older female directors continue to produce content of the highest quality and originality. In the past year, for example, women aged 65 and above have produced an Academy Award Best Picture (*The Power of the Dog*, Jane Campion) and a Grand Prix-winning feature at Cannes (*Stars at Noon*, Claire Denis). In this paper, we look at three distinct works from older female directors (*The Power of The Dog*, Jane Campion; *Faces Places*, Agnès Varda; *High Life*, Claire Denis). We examine how the directors’ age and experience informed their creative process and how they overcame the barriers set against them. In particular, we pay attention to ways in which they incorporate strategies of achievement in later life, such as the selection, optimisation and compensation model (4). The diversity of these pieces also allows us to highlight not

only the heterogeneity of ageing, but the rich artistic rewards of the longevity dividend (5).

### References:

1. Ravid SA, Han Shddos. Do Age and Gender Affect Managers’ Career Progression? Evidence From the Careers of Movie Directors 2021 22 October 2022. Available from: <https://ssrn.com/abstract=3797345>.
2. Neumark D, Burn I, Button P. Is It Harder for Older Workers to Find Jobs? New and Improved Evidence from a Field Experiment. *Journal of Political Economy*. 2019;127 (2) :922–70.
3. Lauzen MM. Living Archive: The Celluloid Ceiling. Center for the Study of Women in Television and Film: San Diego State University; 2020. Available at: <https://womenintvfilm.sdsu.edu/research/> .
4. Zhang W, Radhakrishnan K. Evidence on selection, optimization, and compensation strategies to optimize aging with multiple chronic conditions: A literature review. *Geriatr Nurs*. 2018;39 (5) :534–42.
5. O’Neill D. The art of the demographic dividend. *Lancet*. 2011;377 (9780) :1828–9.

## P-351

### Competency Frameworks For Non-Geriatric Medicine Physicians Caring For Older Adults: A Scoping Review

Emily Buckley (1), Aileen Barrett (2), Deirdre Bennett (3), Colm O’Tuathaigh (3), John Cooke (4)

(1) University Hospital Waterford/ University College Cork, (2) Irish College of General Practitioners, (3) School of Medicine, University College Cork, (4) Department of Geriatric Medicine, University Hospital Waterford

**Background:** The scale of our ageing demographic is such that specialist geriatric medicine services are unable to keep pace with the growing demand. An exclusive reliance on geriatricians to treat older adults is not always appropriate as their care may necessitate the involvement of other specialties. Consequently, many of the interactions with frail older adults will be carried out by professionals who have not received specialised training in gerontological principles. Our aim was to summarise the existing literature on competencies for non-geriatric medicine physicians caring for older adults.

**Methods:** Following Arksey and O’Malley’s guidelines and PRISMA-ScR, we conducted a scoping review. We systematically searched PubMed, Cochrane, Cinahl, PsycInfo, ERIC, and Embase from January 2012 to December 2022, including studies on physician or doctor or resident competencies, curriculum, education, entrustable professional activities, geriatric medicine, or gerontology.

**Results:** Out of 5,177 identified records, 446 full texts were screened, with 30 included in the review. Most studies were US-based and used quantitative .

**Methods:** Competency frameworks primarily targeted internal medicine trainees, with limited focus on other specialties. Seventeen frameworks aimed to address specific competencies. Commonly explored competencies included medication management, palliative care, cognitive impairment, bone health, transitions of care, and falls and syncope.

**Conclusion:** Many frameworks outlined gerontological competencies for specific specialties, however a dedicated competency framework is necessary to define required competencies for all non-geriatric medicine physicians caring for older adults. This framework would equip healthcare professionals with the skills needed to address the unique challenges of the ageing population.



**P-352****“Diagnosis Delirium”–Development of a Multi-disciplinary Simulation Day to Empower Staff to Recognise and Manage Delirium Together**

Zoe Kantor (1), Suzanne Scaffardi (1), Michaela Wiltshire (1), Lindsay Sanders (1), Katie Vangucci (1), Emma Lewis (1), Claire King (1), Eduarda Rodrigues (1), Fritzie Cencil (1), Gareth Burton (1), Danielle Wilde (1), Martin Glasser (1)

(1) Royal Free London Hospitals NHS Trust

**Background:** Staff described the challenge of delirium as “worse than COVID”. More patients with delirium required enhanced care during the pandemic. Our multi-professional collaboration developed a multi-disciplinary (MDT) simulation training day; “Diagnosis Delirium”.

**Method:** Focus groups were used for learning needs analysis. These informed simulation scenario design which focussed on the diagnosis and management of hypoactive and hyperactive delirium. These were tested through in-situ simulation within PDSA cycles to refine learning objectives. Staff feedback was overwhelmingly positive and the MDT aspect was highly valued. The resulting MDT simulation day includes; a pre-course educational component, simulation scenarios that follow the story of a single patient with delirium and a best interest meeting with her daughter. Each scenario is followed by a debriefing (particularly around real-life challenges and impact on future practice). An actress plays the patient. Pre and post-course questionnaires were used for evaluation.

**Results:** There was significant improvement in confidence in managing delirium ( $p < 0.001$  for all questions). Staff valued the training finding it beneficial to knowledge base. After 3 months the delirium simulation day had an on-going positive influence on care given and behaviour change (level 3–4 Kirkpatrick evaluation).

**Conclusion:** Simulation training delivered by an MDT faculty for MDT trainees was highly valued by staff. It improved understanding of the diagnosis and management of delirium. It improved interactions around patient care. Junior members of staff were actively encouraged to contribute. This promotes a safety culture of staff empowerment and may lead to positive behaviour change.

**P-353****Re-design of a geriatric medicine placement for medical students at the University of Manchester, UK**

Nicholas Tollemache (1), Scott Mather-Strawson (1), Rebecca Davenport (1), Marion Lewis (1)

(1) Department of Medicine for Older People, Manchester Royal Infirmary, Manchester University NHS Foundation Trust (Manchester, UK)

**Introduction:** Aging and Complex Health is the main clinical placement with respect to Geriatric and Stroke Medicine that students undertake in their fourth year of study at the University of Manchester Medical School. Students are hosted at partner NHS hospitals, of which up to 120 are placed annually at Manchester Royal Infirmary (MRI); feedback over recent academic years has been consistently below average at MRI when compared to other placement sites.

**Methods:** Key changes were implemented with the aim of improving student placement feedback; these included re-designing the placement structure and timetable, use of a dedicated teaching fellow, introduction of new sessions related to peri-operative medicine and multi-professional working, as well as complementary written student

resources and clinical session proformas. Anonymous qualitative and quantitative feedback was collected from students by both the research team and the medical school quality assurance team; feedback was directly compared to that obtained in the previous academic year.

**Results:** Response rate for the researcher-administered end-of-placement survey was 92% ( $n = 108$ ); the overall score average feedback score was 9.21/10 and 99.1% of students stated that they would recommend the placement to other students. The overall average university-administered feedback score (4.77/5) was 8.4% higher than the previous academic year (4.40/5).

**Key Conclusions:** The implemented changes have resulted in an improvement in student placement satisfaction. More work is still needed to improve the ward-based experience of students and encourage more active involvement within the clinical teams.

**P-354****Uncertainty due to lack of geriatric skills and education proposals by non-geriatrician healthcare professionals**

Efterpi Mougakou (1), Eleni Moutzi (2), Maria Tampaki (3), Georgios-Konstantinos Tsamasiotis (4), Marina Kotsani (5), Evrydiki Kravvariti (6)

(1) First Department of Internal Medicine, Korgialenio-Benakio General Hospital, Athens, Greece, (2) Physical Rehabilitation Medicine department of 414 Military Hospital of Special Diseases, Athens, Greece, (3) Internal Medicine Department, Thoracic Diseases General Hospital “Sotiria”, Athens, Greece, (4) Laboratory of Advanced Physiotherapy, University of West Attica, Greece, (5) Hellenic Society for the Study and Research of Aging, Greece, (6) Postgraduate Medical Studies in the Physiology of Aging and Geriatric Syndromes, School of Medicine, National and Kapodistrian University of Athens, 11,527 Athens, Greece

**Introduction:** The status of Geriatric medicine (GM) varies among European countries. In Greece, GM is not established, despite its crucial role in providing care adapted to older patients. A focus group discussion aiming to identify the needs of Greek acute and subacute older adult care providers was conducted in the context of a European COST Action (PROGRAMMING) developed to define the content of geriatric education for non-geriatricians [1].

**Methods:** The focus group comprised of 8 participants, (one nurse, four physicians, one speech/swallow, one occupational, and one physical therapist) and two coordinators. Focus group data was transcribed and qualitatively analyzed.

**Results:** Healthcare professionals think of geriatric care as the equivalent of pediatric care. Respect and support were considered important when managing older people. They expressed uncertainty in their practice, often wondering which is the line between helping and tormenting geriatric patients. They felt awkward due to lack of geriatric skills, and inefficient in motivating older people and advising their caregivers. Establishing (i) management guidelines and (ii) educational programs for non-geriatricians providing geriatric care were suggested for improvement. In their present professional context, this could be implemented through seminars or conferences with mandatory attendance, postgraduate programs, and guidance by geriatricians in their institutions. At the undergraduate level, geriatrics as a mandatory course was proposed, as well as training rotations in geriatric departments and implementation of a geriatric specialization. The main concern was the lack of geriatricians to undertake this training.

**Key Conclusions:** Managing older people, healthcare professionals feel uncertain about doing harm rather than good. Special education

programs in geriatrics might lead to safer, more efficient provision of health services.

**Reference:**

[1] <https://e-services.cost.eu/action/CA21122>.

### P-355

#### What about palliative care in a geriatric unit?

BABY Aurelia (1), MROUKI Maroua (2), TISSOT Patricia (3), MAILLARD Sylvie (2), BONHOURE Caroline (4)

(1) centre Hospitalier Perpignan Service de Gériatrie, (2) Centre Hospitalier Perpignan Service de Gériatrie, (3) Centre Hospitalier perpignan Service de Gériatrie, (4) Centre Hospitalier Perpignan Service de Gériatrie

**Introduction:** In order to create a palliative care (PC) committee within our hospital, an assessment was conducted in the geriatric department (GD) to understand the health-care givers (HCG) ' perception about PC and identify the training priorities in this field.

**Method:** A descriptive cross-sectional study including all HCG in the GD was performed. Every HCG (doctors, nurses and health care assistants (HCA) ) was asked personally to answer anonymously a survey in order to assess the participants' characteristics (function, graduation year, previous training in PC...), their current knowledge, perceptions and difficulties regarding PC.

**Results:** A total of 64 surveys were distributed on 12 physicians, 27 nurses, and 25 HCA. The response rate was 67,1% (43). All who answered were interested by PC (9 physicians, 20 nurses and 14 HCA). Only 6 participants had initial training in PC. In almost all the answers, the definition of palliative care was incomplete and 25% of the participants didn't discriminate palliative care from end of life care. 50% had lack of knowledge, 48.4% had lack of skills and practice and 61.3% had difficulties in the attitude to adopt facing the patient in this situation. The lack of communication was perceived in 23.4% mostly among HCA.

**Conclusions:** Although PC training exists in the training of all HCG, the topic is still blurry in all participants showing that the question wasn't taken as seriously as it should be. Numerous axes could be improved: local trainings, communication between the different HCG, developing a common PC glossary to enhance coherence between all HCG and provide accessible practical documentations on reasoning in PC cases.

### P-356

#### Enhancing Dementia Education: A Flashcard Series for Healthcare Professionals

Naomi Davey (1), Aoife McFeely (1), Lisa Sheridan (1), Sean P Kennelly (1)

(1) Tallaght University Hospital

**Introduction:** This abstract presents a unique educational initiative launched by a memory institute, involving the creation of an educational flashcard series focused on dementia. The initiative aims to provide concise and practical information in an easily accessible format for healthcare professionals.

**Methods:** The memory institute designed specialised flashcards covering different aspects on dementia. The first flashcard focuses on diagnosing dementia, providing key information about dementia subtypes, investigation findings (including lumbar puncture and cerebrospinal fluid analysis), and relevant neuroimaging results. The

second flashcard centres on language variants of dementia with an emphasis on key examination findings. The third planned flashcard will focus dementia subtypes associated with visual changes such as posterior cortical atrophy and Lewy body dementia. It will provide an overview of symptoms, functional impact, management, and support.

**Results:** The launch of these flashcards offers healthcare professionals an innovative educational resource to guide their assessment. They are currently being used locally, with plans for a future launch nationally on Twitter. By condensing essential information into a concise and visually engaging format, the flashcards offer healthcare professionals at all levels of expertise an easily accessible and user-friendly reference tool for diagnosing, assessing, and managing various dementia subtypes.

**Key Conclusions:** The condensed and visually engaging format of the flashcards enables convenient access to key information. This novel initiative by our memory institute serves as a valuable tool to aid the understanding and assessment of dementia-related conditions among healthcare professionals.

### P-357

#### HPAL—A Unique Web-based Clinical Decision Tool to Support Geriatricians and Family Carers

Dr Ros Taylor (1)

(1) Harlington Hospice UK

**Background:** Recent national guidance documents (Kings Fund and Lancet Commission on the Value of Death) have emphasised the need for less fragmented care, coordination of support, together with more accessible palliative information for clinicians of all specialties and family carers. HPAL was developed as an innovative clinical information tool and has now expanded to support the Integrated Care System (ICS) in North West London (population 2 million). It is a unique website, providing trusted curated clinical expertise (2 min read time) with a separate portal on similar topics for family carers. Most patients seen by geriatricians have palliative needs—symptoms, conversations and future care planning. Demographics confirm a huge overlap between patients seen by geriatricians and palliative teams.

**Method:** Clinical topics have been chosen based on analysis of common questions from colleague clinicians (geriatricians and GPs) and patients. Clinical guidance is aligned with national protocols, and experiential top tips have been added. The website is being marketed to primary care, palliative care and geriatric colleagues.

**Results:** HPAL [hpal.medindex.co.uk](http://hpal.medindex.co.uk) has been extremely well received by patient's families and clinicians. It is seen as accessible, easy to navigate and has become a one-stop site for many clinicians. Next steps and .

**Conclusions:** Feedback and analytics will constantly enhance the site. A Geriatric Advisory Group to be formed to identify further topics. An Out Of Hours chat function will be added. Its uniqueness lies in its clinical content aimed at a clinical generalist audience plus family carers who identify information as a critical need.

### P-358

#### Recognising The Challenges Faced During Virtual Consultations

Mahmoud Sharafeldin (1), Gemma Lancaster (1), Raymol Keelan (1)

(1) Manchester University NHS Foundation Trust, United Kingdom

**Introduction:** Virtual consultations increased in number during COVID-19 pandemic, but have now been established as an accepted

alternative to face-to-face consultations in certain scenarios. This study investigates the challenges faced by clinicians when conducting virtual consultations and explores.

**Methods:** To tackle them. Aims To recognize the unmet needs of trainees and improve their confidence when conducting virtual consultations.

**Methods:** A questionnaire was used to assess the confidence levels and perceived challenges faced by 23 trainees working at Manchester University Foundation Trust (MFT). The majority (87%) of them were conducting virtual consultations as part of their role. Information included their grade, whether they did virtual consultations in their daily practice and in which setting, whether they received training prior to their post, the challenges they faced and which aspects they would benefit from teaching on.

**Results:** The vast majority (95.7%) received no training on virtual consultations prior to commencing their post. Only 13% felt very confident conducting virtual consultations. Around 61% found breaking bad news the most difficult scenario, and over half of all respondents believed they would benefit from training sessions on explaining diagnoses, breaking bad news and discussing resuscitation decisions (56.5%, 56.5%, and 52.2%, respectively).

**Conclusion:** More training on virtual consultations is required. We suggest the development of clear guidelines for specific scenarios accompanied by summary sheets within the departments, in addition to video or in-person training sessions at induction for any clinician expected to undertake virtual consultations as part of their role.

### P-359

#### Caregiver Support Group from a Hospital Geriatrics Service: 2006–2023

Romik Méndez Baldeón (1), Natalia Rodríguez Osto (1), Nerea Gómez Galardón (1), Genoveva Labari Sanz (1), María Luisa Gaspar Ruiz (1), Carmen Cánovas Pareja (1)

(1) Hospital Nuestra Señora de Gracia

The caregiver of the elderly patient living at home is exposed to a heavy workload and emotional stress that is prolonged over time. In our geriatrics service, in recent years there have been several initiatives aimed at caregiver support and training. Nursing Caregiver Support Consultation, created in the Geriatrics Service in 2006, was created to help families in the care of elderly patients, especially those with dementia. It has its own schedule with telephone and face-to-face appointments with caregiver recruitment in geriatrics consultations. In 2014 a quality project arises creating the working group for caregiver training in nutrition. In 2016, the “Interdisciplinary Caregiver Support Group” formed by physicians, nurses, occupational therapists and social workers, with regular meetings and the support of hospital management, was established as an improvement group. One month is dedicated to the development of “Training workshops for relatives and caregivers” of patients. This training is three days a week, every three months. The workshops focus on three main topics: Dementia and behavioral disorders. Nutritional recommendations and dysphagia management. Mobility of the dependent patient. Attendees are provided with physical and digital training material. Satisfaction surveys were conducted, with very good acceptance. Since 2018, the training courses for trainers have been held. Aimed at nurses and nursing assistants to train and help train caregivers in their daily work. In 2023 we are going to focus on “Caregiver support during hospitalization”. Development of a Triptych for caregivers and posters for the rooms. Hospital television will be used to disseminate recommendations for caregivers. We will collaborate with Primary Care, in a Health Center to disseminate caregiver support workshops.

**Conclusion:** From the Geriatrics Service we believe it is necessary to continue working on Caregiver Support for the elderly patient with various initiatives that favor home care and therefore an improvement in the quality of life of the patient and their environment.

### P-360

#### An atypical presentation of seronegative rheumatoid arthritis in a resource-limited country

Vineeta Ramnauth (1), Patrick Rooney (2)

(1) St. George’s University, Grenada, (2) St. George’s University

**Introduction:** Essential to the ACR/EULAR 2010 classification for diagnosing rheumatoid arthritis (RA) are swollen/tender joints and positive biomarker serology. However, 15–25% of patients with clinical symptoms of RA have negative serology findings [1]. Clinical Case: A 60-year-old man was referred to the rheumatologist after a 20-year history of undiagnosed and progressively worsening joint pains. During the past 5 years, his hands showed swan neck deformity and ulnar deviation with no joint swellings or tenderness on examination. All previous examinations were inconclusive. Repeat serology remained normal and recent radiographs showed flexion of the terminal phalanx of the 4th and 5th fingers of the hands. Despite this progression in symptoms, the minimum diagnostic criteria for RA were not met but a presumptive diagnosis was still considered. The patient was started on methotrexate 10mg/weekly and after a 3-month trial reported fewer pain episodes with no further joint changes.

**Conclusion:** This atypical case with late-onset progression of symptoms and negative serology did not satisfy the ACR/EULAR 2010 criteria for an RA diagnosis leading to a significant delay in diagnosis and onset of treatment. Even though not required by the guideline, this case highlights the importance of considering imaging modalities such as MRI and ultrasound to detect early signs of bone changes and inflammation not otherwise seen on radiographs [2]. It also showed the importance of clinical judgment while using guidelines and algorithms only as aids to making the diagnosis.

Keywords: seronegative, acr/eular classification, rheumatoid arthritis, atypical presentation.

#### References:

- [1] E. A. Littlejohn, S. U. Monrad, *Prim Care Clin Off Pract.*, 45:237–55. (2018).
- [2] P. R. Lage-Hansen, H. Lindegaard, S. Chrysidis, L. Terslev, *Rheumatol Int.*, 37:179–87. (2017).

### P-361

#### Tackling growing need of applied geriatric pharmacotherapy expertise by an interprofessional online learning environment

Niina Mononen (1), Nicole Brandt (2), Daniel Mansour (2), Diane Martin (3), Suvi Hakoinen (1), Marja Airaksinen (1)

(1) Faculty of Pharmacy, University of Helsinki, Finland, (2) Peter Lamy Center on Drug Therapy and Aging, University of Maryland, USA, (3) The Geriatrics & Gerontology Education and Research Program, University of Maryland, USA

**Introduction:** Innovative approaches are needed to address patient safety aspects due to global aging and a shortage in the workforce trained in geriatric care. This study increased expertise in geriatrics care by promoting interprofessional online learning in applied geriatric pharmacotherapy.

**Methods:** The online curriculum was developed by advanced level pharmacy students ( $n = 21$ ) at the University of Helsinki, Finland in cooperation with faculty and geriatric care experts from University of Maryland, Baltimore USA. The students worked in six small groups, each having its area of responsibility (pedagogical outline, self-assessment, core contents, learning assignments, patient cases, and stakeholder collaboration). The goal was an easily accessible course designed to follow the principles of constructive alignment, “all teach, all learn”, and interprofessional student-oriented learning.

**Results:** The course outline is based on self-assessments to reflect individual learning needs compared to skills needed at the workplace. Each participant then develops personal learning objectives and selects the modules they want to concentrate on (9 modules in total). All students must take the modules instructing medication safety and risk management, age-related physiological changes, medication use in older adults, polypharmacy and collaborative medication reviews. The final assignments contain a case-based medication review, resuming a scientific article and a post-course self-assessment.

**Key Conclusions:** This study demonstrated that advanced level undergraduate students can be successfully involved in online course development, fostering their geriatric care expertise and skills to work together to help older people to age in place.

## Ethics and End-of-life Care

### P-362

#### Dysphasia after stroke and legal capacity

Panagiota Voskou (1)

(1) University of Athens

**Introduction:** Although after stroke dysphasia or aphasia is not equal to incapacity, the legal capacity of patients can be doubted. The patients' ability to fully comprehend the given information and make decisions may be impaired. There are currently no published guidelines in the management of legal issues for patients and professionals.

**Methods:** A literature review in the Pubmed database has been made, using the key-words: stroke, legal capacity, decision-making.

**Results:** Brain injury after stroke may impair appreciation of decisions' consequences and/or communicating decisions effectively, while the capacity to reason remains. Stroke may affect various brain areas, i.e. prefrontal cortex involved in decision-making. A right-brain stroke may cause poor executive function, lack of initiation or neglect. Left-hemisphere strokes may lead to aphasia and reduced capacity evaluation. Difficulties further compounding communication problems include: reading and writing; numeracy; inattention/concentration; fatigue; emotional control (lability); perseveration; intellectual functioning. Receptive aphasia can impair understanding medical options, while expressive aphasia may prevent communicating relative decisions. Patients may also be susceptible to undue influence regarding testamentary and financial capacity due to communication deficits and varying levels of dependence. Depression following stroke can further impair capacity.

**Conclusions:** The patient may have a communication rather than a capacity deficit. Judging of a patient's ability to weigh information is often the most difficult aspect of legal capacity assessment. There is little literature or high court jurisdiction regarding whether dysphasia after stroke impairs patients' capacity. Evaluation of the prerequisites for legal capacity requires a multi-professional cooperation.

### P-363

#### Deprescribing in older people living in residential care homes approaching end-of-life

Lok Ling Leung (1), Chun Keung Shum (1), Yiu Keung Kwan (1), Man Fai Ng (1)

(1) Tuen Mun Hospital

**Background:** Polypharmacy was common in older people living in Residential Care Homes for the Elderly (RCHEs) approaching End-of-Life (EOL) in Hong Kong, even when the goal of care should shift towards symptomatic control. Objective Our study aimed to evaluate the effects of a Geriatrician-led Deprescribing Program for RCHE residents approaching EOL.

**Methods:** In this retrospective cohort study, RCHE residents approaching EOL recruited into the Deprescribing program were reviewed and compared with a historical control. Primary outcome was the change in number of regular medications at 6 months. Secondary outcomes included adverse clinical outcomes (mortality, emergency hospitalizations, admissions for major cardiovascular events and gastrointestinal bleeding); acceptance towards deprescribing recommendations and changes in prescription rates of medications.

**Results:** Deprescribing group ( $n = 90$ ) and Control group ( $n = 88$ ) participants aged  $90.1 \pm 8.1$  (mean  $\pm$  standard deviation) years were prescribed  $5.8 \pm 2.8$  and  $5.4 \pm 2.7$  medications at baseline ( $p = 0.35$ ). At 6 months, participants of the Deprescribing group were taking significantly fewer medications ( $3.8 \pm 2.3$ ) as compared with Control group ( $5.2 \pm 2.9$ ),  $p = 0.001$ . No significant differences were found between groups for mortality and other adverse clinical outcomes. The use of anti-platelets, anti-hypertensives, lipid lowering agents, gastric acid suppressants, some other classes of medications could be significantly reduced. Over 90% over recommendations were accepted with minimal need for resumption.

**Conclusion:** Geriatrician-led deprescribing program significantly reduced medication burden with no significant adverse effects for EOL patients. Deprescribing should be practiced more widely in Geriatric EOL care.

### P-364

#### Compression of morbidity in cognitive aging? Ethical challenges of an optimistic trend among older people in Germany

Florian Trachte (1), Stefanie Sperlich (1), Siegfried Geyer (1)

(1) Hannover Medical School, Medical Sociology Unit, Hannover, Germany

**Introduction:** Studies on older people in Germany found evidence for a shortening of lifetime spent in states of cognitive impairment what in turn is a prerequisite of compression of morbidity and healthy aging. The ethical dimension of these developments will be discussed with respect to applications in geriatric practice.

**Methods:** Our considerations will be based on Beauchamp & Childress' “Principles of Biomedical Ethics”.

**Results:** Compression of morbidity requires longer periods of time without cognitive impairments, leading to the preservation of individual autonomy and a relief of relatives taking care of older people. Both can be evaluated as ethically desirable. As cognitive aging occurs earlier in individuals with lower education, their relatives are carrying a higher burden of care, thus reproducing socio-economic differences that had already been effective in early life. This is not in accordance with principles of justice.

**Key Conclusions:** Focusing on the maintenance of cognitive abilities and enabling older people participation in everyday life, geriatric interventions should be directed towards enhancing individual autonomy. As a result of shortcomings in terms of self-determination, relatives of individuals from lower socio-economic groups are disadvantaged by carrying higher caring burden. This is in conflict with ethical principles and must be reduced.

### P-365

#### Challenges in palliative care of older migrants and refugees

Paraskevi Apostolara (1), Marianna Mantzourou (1), Theodoula Adamakidou (1), Marianna Drakopoulou (1), Alexandra Mantoudi (1)  
(1) Nursing Department, University of West Attica, Athens, Greece

**Introduction:** The unprecedented flow of contemporary migration across countries over the last decade creates challenges regarding the response to the needs of older patients with a migration background and addressing ethnic disparities in palliative care.

**Aim of the study:** To explore the challenges regarding the provision of palliative care to older migrants and their families.

**Material and Methods:** A review of the recent literature was conducted in PubMed, Scopus and Google scholar databases using the key words ageing, palliative care, migrants, refugees, cultural competence.

**Results:** Difficulties in communication due to language barriers, differences in cultural norms caused by the contrast between collectivistic and individualistic cultures, disclosure issues, the limited health literacy in older patients, mistrust in the health system and the lack of cultural competence of health professionals, constitute barriers in palliative care of older adults from migrant backgrounds [1]. Moreover, clinical decisions quite often conflict with family decision-making processes dictated by cultural beliefs and attitudes [2]. Involvement of family members, supportive and culturally competent interventions and enhancement of health literacy were found to create trusting relationships between older adults and health professionals [3].

**Key Conclusions:** Healthcare professionals, researchers and policy-makers need to consider the challenges regarding palliative care of older migrants and refugees investing in the provision of culturally competent care. Multiple interventions in health systems and development of effective health policies are required in order to adapt to patient needs, respond to diversity and mitigate inequalities in care.

#### References:

- [1] Gerber K, Maharaj E, Brijnath B, Antoniadis J. End-of-life care for older first-generation migrants: a scoping review. *BMJ Support Palliat Care*. 2020; bmjspcare-2020-002617. Epub ahead of print.
- [2] Yun YH, You CH, Lee JS, Park SM, Lee KS, Lee CG, Kim S. Understanding disparities in aggressive care preferences between patients with terminal illness and their family members. *J Pain Symptom Manage*. 2006;31 (6) :513–21.
- [3] Shabnam J, Timm H, Nielsen DS, Raunkiaer M. Palliative care for older South Asian migrants: A systematic review. *Palliat Support Care*. 2020;18 (3) :346–358.

### P-366

#### Palliative and end of life care experiences of people of African and Caribbean dEscent (PEACE) during COVID-19

Efioanwan Damisa (1), Louise Tomkow (1), Felicity Dewhurst (2), Marie Poole (2), Emma McLellan (2), Patience Kunonga (2), Barbara Hanratty (2), Chris Todd (1), Melanie Stowell (2)

(1) University of Manchester, (2) Newcastle University

**Introduction:** eople of African and Caribbean descent experienced the highest mortality rates during the pandemic, but often have the poorest access to palliative care. This study aims to identify how palliative care services can better meet the needs of people of African and Caribbean descent by exploring patients' (by proxy), families' and health, social care and community workers' experiences of end of life care during the pandemic.

**Methods:** Semi-structured interviews explored experiences of end of life care using a topic guide developed with patient and public involvement partners. Participants' suggestions for care improvement were foregrounded throughout. Thematic analysis was used, and the theoretical framework combined Critical Race Theory and Saurman's model of access.

**Results:** 39 participants were recruited results show that people of African and Caribbean descent are poorly served by current services. Interviewees expressed distinct differences between the culture of care, and that of the patient. Themes describing end of life care services included: Unavailable: spiritual support, paid carers, specialist care, visitation and choice. Inadequate: advertisement of services, cultural diversity and the appreciation of the importance of extended families. Unacceptable: communication surrounding death and bereavement (upstream/proactive early discussions would improve engagement) and mental health and bereavement support.

**Key Conclusions:** Prioritisation of person-centred and culturally competent spiritual, psychological, and social interventions remains an aspiration for palliative care. A focus on cultural sensitivity and communication could help to enhance palliative and end of life care for all.

### P-367

#### Is palliative care for older patients with organ failure, dementia or frailty admitted to an emergency department a utopia in French-speaking Belgium? Based on a grounded theory method

Delphine Bourmorck (1)

(1) Institut de Recherche Santé et Société (IRSS), Université catholique de Louvain (UCLouvain)

**Introduction:** Early three out of four older patients will use the emergency department (ED) during their last year of life. However, most of them do not benefit from palliative care. Our aim is to gain understanding of the actual role of EDs in palliative care for older patients.

**Methods:** A qualitative study using 1) interviews with older patients ( $\geq 75$  years) identified with a palliative profile and informal

caregivers and 2) focus groups with ED and primary caregivers (nurses and doctors). Palliative profile was defined by a positive assessment of the Supportive and Palliative Indicators tool (SPICT). Qualitative data were collected in French-speaking Belgium between July 2021 and July 2022. We used a constant inductive and comparative analysis according to grounded theory.

**Results:** Five older patients with a palliative profile, 4 informal caregivers, 51 primary and ED caregivers participated in this study. A priori, the participants did not identify any ED role in palliative care. There is a widespread discomfort with caring for older patients and providing palliative care, explained by contextual factors (knowledge gaps, know-how gaps, constant tensions between emergency and palliative cares) and individual factors (type of pathology, caregivers' values and experiences). However, we highlighted 4 roles for ED caregivers in palliative care: (1) Investigator, (2) Objectification, (3) Palliative care Provider (4) Decision-maker on the intensity of care.

**Key Conclusions:** There are still major obstacles to implementing palliative care. ED caregivers assume certain roles in palliative care, although they do not recognise them as such.

## P-368

### Ethical dilemmas in elderly dementia care: a case report

Pedro Rocha Alves (1), Ana Videira (2)

(1) Hospital das Forças Armadas—Pólo Lisboa, (2) USF Lusitano, ACeS Estuário do Tejo

**Introduction:** In end-of-life situations, elderly individuals with dementia may refuse to eat, presenting complex ethical dilemmas and challenges in balancing autonomy and the duty of care. The aim of this work is to reflect on the ethical decisions related to feeding the elderly with dementia at the end of life.

**Methods:** Analysis of a case report of a patient with dementia at the end of life and listing of the ethical dilemmas that arise.

**Results:** An 84-year-old woman with advanced mixed dementia, cared for by her son and daughter-in-law, was admitted to the Emergency Department due to refusing to eat and being agitated. A nasogastric tube was inserted for feeding and the patient discharged. The family adamantly refused to have it removed. The family's hired caregiver, without adequate training, accused the Primary Care team of intending to harm the patient. Despite attempts to educate the family on the lack of benefits and risks involved, they insisted that the patient needed to eat.

**Conclusions:** The case described highlights a conflict between the principles of autonomy and non-maleficence. The family's active role in decision-making is challenged when they choose actions that cause suffering without benefit. Disregarding the value of truth undermines the principle of beneficence, impeding the healthcare team's ability to provide interventions for improved quality of life and comfort. Additionally, the principle of proportionality/justice clashes with beneficence due to therapeutic obstinacy and evident futility.

## P-369

### Do very old patients with advanced dementia receive adequate quality of care in acute hospital admissions?

Susana Lippo (1), Alejandro Garza (1), Cristina Morán (1), Claudia Alejandra Alvarez Pinheiro (1), Vicenle Lavilla Gracia (1), Jaime Corcuera Catalá (1), Belén Escudero González (1), Lucía Gutiérrez (1), Cristina Jimenez (1), Claudia Marroquín (1), Alfons

(1) Hospital Ramón y Cajal

**Introduction:** Our aim was to describe care, treatment, and resources used in people with advanced dementia (PWAD) (GDS 6–7) admitted to an acute geriatric unit, by monitoring their baseline characteristics, hospital complications, palliative care evaluation, advanced care planning and mortality.

**Methods:** Retrospective study of all PWAD admitted to our acute geriatric unit in one year (Jan–Dic 2021). Sociodemographic characteristics, functional status at admission (Barthel index and FAC), diagnostic tests (blood, urine, imaging, and microbiology tests), broad-spectrum antibiotics, complications, discharge destination, evaluation by a specialized palliative care unit, and in-hospital and cumulative mortality at 3, 6, and 12 months were collected.

**Results:** 203 patients, mean age  $92 \pm 5$  years, 68% female, Barthel index ( $15 \pm 20$ ), FAC 0 (58%), length of stay  $5 \pm 1$  days. Use of diagnostic tests: blood (100%), blood culture (28%), urine (88%), urine culture (78%), chest X-ray (95%), head CT scan (28%), chest or abdominal CT scan (9%). Palliative care evaluation (60%), antibiotic usage (88%), broad-spectrum antibiotics (39%). Most frequent complications: delirium (87%), dysphagia (76%), pressure ulcers (32%) and functional decline (27%). Discharge destination to nursing home facility (41%) and home care (37%). Mortality: in-hospital (22%), 3-months (51%), 6-months (62%), 1 year (73%).

**Conclusions:** PWAD admitted to an acute geriatric unit had a mortality rate of nearly 75% within 1 year. Use of diagnostic and treatment resources was intensive, and many did not receive palliative care consultation. Advance care planning might improve the quality of end-of-life care and optimize resource utilization in such patients.

## P-370

### Palliative care: a contrasted approach between physicians and nurses

Mechighel-Collot Aurore (1), Minouflet Alexis (1), Dadakpete Joseph (1), Atoko Isaac (1), Hamouchi Khelifa (1), Attier Jadwiga (1)

(1) Geriatric, Hospital Centre, Saint-Quentin, France

Palliative care improves life quality for patients with severe, incurable diseases by relieving pain and offering support. However, the timing of its implementation is often influenced by differing views among health professionals. Physicians, focusing on disease severity and treatment efficacy, may delay palliative care initiation. Conversely, nurses, frequently in direct contact with patients, might advocate for earlier introduction due to their empathic perspective. Importantly, optimal palliative care relies on a collective, multidisciplinary decision-making process. It should adhere to criteria like disease severity, limited curative benefits, declining life quality, and limited life expectancy. These guidelines, often not familiar to nursing staff, should direct the decision, irrespective of patient age. Improved understanding of palliative care criteria and enhanced communication among health professionals could facilitate better collaboration, leading to patient-specific palliative care plans. In summary, promoting collective decision-making and enhancing professional awareness about palliative care is crucial. By embracing a collaborative, multidisciplinary approach, care teams can improve patients' quality of life, respecting their dignity and desires. Doctors' and nurses' unique contributions to end-of-life care should be recognized, and effective communication mechanisms between these professionals established. Interdisciplinary training, regular clinical case discussions, and consultative bodies could aid in harmonizing decision-making. While France debates euthanasia, it might be advisable to prioritize enforcing existing palliative care laws for enhanced end-of-life comfort.

**P-371****Euthanasia requests based on an advance euthanasia directive. A qualitative focus group study on the views of legal experts**

Djura Coers (1), Sophie Scholten (2), Marike de Boer (2), Eeffje Sizoo (2), Brenda Frederiks (3), Martin Buijsen (4), Carlo Leget (5), Cees Hertogh (2)

(1) Amsterdam UMC, location Vrije Universiteit Amsterdam, Medicine for Older People, De Boelelaan 1117, Amsterdam, The Netherlands, (2) Amsterdam UMC, location Vrije Universiteit Amsterdam, Medicine for Older People, De Boelelaan 1117, Amsterdam, The Netherlands., (3) [3] Amsterdam UMC, location Vrije Universiteit Amsterdam, Ethics, Law & Medical Humanities, De Boelelaan 1117, Amsterdam, The Netherlands., (4) Erasmus University Rotterdam, Erasmus School of Health Policy and Management, Erasmus School of Law, Department of Law & Health Care, Burgemeester Oudlaan 50, 3062 PA Rotterdam, The Netherlands., (5) University of Humanistic Studies, Care Ethics, Kromme Nieuwegracht 29, Utrecht, The Netherlands

**Introduction:** In the Netherlands, euthanasia or physician-assisted suicide (EAS) is regulated in the Termination of Life on Request and Assisted Suicide Act[1]. Article 2.2 allows for EAS based on an advance euthanasia directive (AED). It states that a verbal request may be replaced by an AED given that the statutory due care criteria are applied ‘with the necessary changes’[1]. This study explores legal guidance regarding article 2.2.

**Methods:** Two focus groups were conducted with legal experts. Data was analyzed through thematic content analysis and the framework method.

**Results:** Nine legal experts participated. Four themes emerged: implications of an AED, role of other stakeholders, value of current expressions and responsibility of interpreting euthanasia requests. Participants acknowledge the AED, but emphasize the importance of careful assessment of decisional capacity and supportive decision-making. The role of patient’s representatives is thought to be limited to assistance in interpreting patient’s wishes. It is argued that patient’s current will is important, and expressions on life or death wishes should always prevail over an AED. With information from various sources the physician has to take the final decision who is therefore referred to as “the master of interpretation”.

**Key Conclusions:** Guidance from a legal perspective on article 2.2 entails several key points. It emphasizes that the physician holds the role of “master of interpretation”. Secondly, it advises consultation of multiple sources. Additionally, patient’s current will is deemed crucial and should take precedence over an AED. Lastly, it highlights that patient representatives play a limited role in the process.

**Reference:**

[1] Termination of Life on Request and Assisted Suicide Act; Article 2, paragraph 2. [In Dutch]. <http://wetten.overheid.nl/BWBR0012410/2018-08-01> (accessed 8 Aug 2022).

**P-372****Identification of patients with palliative needs in a geriatric acute care hospital**

Yanira Aranda Rubio (1), Ana Fernández (2), Mónica Merino (2), Antonia Valle (2), Milagros García (2), Javier Gómez-Pavón (1), Alberto Socorro García (3)

(1) Geriatrician (Hospital Cruz Roja), (2) Social worker (Hospital Cruz Roja), (3) Assistant medical director (Hospital Cruz Roja)

One of the consequences of aging is the increase in illnesses that cause disability and dependence, with a growing number of chronic degenerative diseases with progressive functional limitations, both physical and mental, and with the need for care provided by third parties. The volume of needs for this group is constantly growing and becoming progressively more complex. The number of so-called pluripathological chronic patients is increasing, with acute intercurrent processes that often lead to situations of terminality. The increase in life expectancy determines a delay in the age of mortality and, with it, in the time at which these people become susceptible to palliative care. It is necessary to study the prognostic scales in order to avoid therapeutic over-zealousness.

**Methods:** Descriptive study with a database of patients admitted to the acute care unit. Compared Charlson, Profund, Paliar and Necpal indices (Student’s t-test) between those who died or not at 6 months and logistic regression to see the risk of death according to the above indices.

**Results:** 100 patients.68 female. 50% nursing home. 87.9 years ( $\pm 7.3$ ). Modified Barthel Index of 34 ( $\pm 33$ ). Mild minimal cognitive impairment of 74%. Moderate functional impairment 75%. Reason for admission: cardiologic 19%, neurodegenerative 25%, oncologic 9%, pulmonary 20%. In the sample logistic regression only the Necpal index is significant, as with Student’s t-test.

**Key Conclusions:** It is important to assess the patient’s needs at each stage of their disease and to detect those with palliative needs that require a conservative approach to all our actions.

**P-373****Accuracy of the surprise question between emergency physicians and nurses to predict long-term mortality among older patients admitted in the emergency department: a multicenter longitudinal study**

Alexandra Coulon (1), Delphine Bourmorck (2), Laurent Knoops (1), Isabelle De Brauer (3)

(1) Palliative Care Unit, Cliniques universitaires Saint-Luc, UCLouvain, Brussels, Belgium, (2) Institut de Recherche Santé et Société, UCLouvain, Brussels, Belgium, (3) Geriatric Unit, Cliniques universitaires Saint-Luc, UCLouvain, Brussels, Belgium

**Introduction:** The Surprise Question (SQ) (“Would you be surprised if this patient will die in the next 6 to 12 months?”) is one of the most used screening tools in the Emergency Department (ED) to identify patients with unmet palliative care needs. We aimed to compare the accuracy of the SQ between nurses and emergency physicians (EP) to predict long-term mortality among older patients (OP) in ED.

**Methods:** Secondary analysis of a prospective cohort study of OP ( $\geq 75$  years) in two EDs in Belgium in 2020. EP and nurses answered the SQ for patients they cared for. Positive SQ is defined as a “No” answer. We assessed 1-year mortality by phone call.

**Results:** EP and nurses both answered for 291 OP (mean age  $83.2 \pm 5.4$ ; male: 42.6%). The SQ was positive in almost 2 patients in 5 (Eps’ answers) and more than 1 patient in 3 (nurses’ answers). Predictive values were similar in both groups: sensitivity, specificity and c-statistics were respectively 0.79 (0.66–0.88), 0.68 (0.62–0.76) and 0.69 (0.63–0.75) for EP; 0.71 (0.57–0.82), 0.69 (0.62–0.75) and 0.69 (0.63–0.75) for nurses. Patients with a positive SQ have a higher mortality risk, as well as answered by EP (HR 3.2 (1.6–6.7),

$p = 0.002$ ) than nurses (HR 2.5 (1.3–4.8),  $p = 0.006$ ). Survival curve was reduced in case of a SQ + and even more if EP and nurses both agreed ( $p < 0.001$ ).

**Conclusion:** EP and nurses have quite similar prognostic performance when using the SQ. Survival was lower when both agreed for SQ + .

### P-374

#### Eating and drinking with acknowledged risks in older adults admitted with pneumonia

Yuki Yoshimatsu (1), Dharinee Hansjee (2), Denise Miller (3), David G Smithard (4)

(1) Elderly Care, Queen Elizabeth Hospital, Lewisham and Greenwich NHS Trust, UK; Centre for Exercise Activity and Rehabilitation, School of Human Sciences, University of Greenwich, UK, (2) Speech and Language Therapy, School of Health Sciences, Faculty of Education Health & Human Sciences, University of Greenwich, UK, (3) School of Human Sciences, The Institute for Lifecourse Development, University of Greenwich, London, UK, (4) Elderly Care, Queen Elizabeth Hospital, Lewisham and Greenwich NHS Trust, UK; Centre for Exercise, Activity, and Rehabilitation, School of Human Sciences, University of Greenwich, UK

**Introduction:** Eating and drinking with acknowledged risks (EDAR) is a decision that enables comfort, dignity, and autonomy for patients who prefer to continue oral intake despite risk of aspiration/choking. Guidance has been developed to assist the decision-making process. Identifying appropriate patients however and engaging in making these complex decisions remains a medical and ethical struggle for clinicians.

**Methods:** We performed a retrospective cohort study of patients aged  $\geq 75$  years old, admitted with pneumonia in 2021 and referred to speech and language therapy (SLT) for dysphagia assessment. We compared the patients background and outcomes based on decisions regarding their oral intake.

**Results:** Of the 216 patients undergoing SLT assessment, 31 (14.4%) were assessed as appropriate for EDAR, 128 (59.3%) for modified diet (MD), 43 (19.9%) for normal diet (ND), and 14 (6.5%) for nil by mouth (NBM). The EDAR group was significantly older ( $p = 0.039$ ) and more frail ( $p = 0.003$ ) and had a higher short/long-term mortality ( $p = 0.004/0.003$ ) compared to the MD/ND groups, with over 90% dying within a year. Pneumonia recurrence rate within 30 days was not significant among the groups ( $p = 0.546$ ).

**Key Conclusions:** A decision for EDAR was made in comparatively few patients. Most EDAR decisions were associated with end-of-life comfort care. Considering the poor short and long-term prognosis of older patients admitted with pneumonia, it is important to have discussions regarding their preferred choice of intake rather than paternally making a ‘safe’ decision. As recommended in guidance, comfort, dignity and autonomy are expected to be prioritised regardless of disease stage.

### P-375

#### Documentation of resuscitation status in the orthogeriatric cohort—a single-centre quality improvement project

John Birrane (1), Jinani De Silva (1), Niamh O’Regan (1)

(1) University Hospital Waterford

**Background:** Frailty is associated with poor outcomes following in-hospital cardiac arrest. In-hospital and one-year mortality for hip fracture patients over 65 is high, reflecting high levels of frailty in this cohort. Documentation of decisions regarding cardiopulmonary resuscitation (CPR) and ceiling of treatment can prevent inappropriate treatment and harm.

**Methods:** We reviewed the charts of all hip fracture patients over 65 in one month in 2022 at a tertiary orthopaedic referral centre. Basic demographic and clinical data were extracted including the presence of polypharmacy, multimorbidity and the clinical frailty score (CFS). We recorded if documentation of decisions regarding ceiling of treatment and CPR were made for these patients.

**Results:** Of 31 patients, the mean age was 78.6 years (SD = 9.0). The median CFS was 5 (IQR = 3.5–6.0). Thirty (96.7%) were multimorbid, mean 5.6 (SD = 2.5) medical conditions. Six lived in long-term care or residential care (19.3%). Three (8.8%) had ceiling of care and CPR decisions documented during admission. Five (15.6%) had acute medical crises necessitating review by the on-call medical team. One patient died in hospital and three (9.7%) others were confirmed deceased at one year.

**Conclusion:** Documentation of ceiling of care and CPR decisions was low in this cohort of frail patients. Acute medical deterioration was not uncommon in this cohort. These results have prompted the development of an educational intervention at our centre to assist non-geriatrician doctors to recognise frailty and to consider discussion of ceiling of treatment and CPR in advance of acute medical deterioration.

### P-376

#### Changes in the use of continuous deep sedation in the Netherlands

Madelon Heijltjes (1), Judith Rietjens (2), Agnes van der Heide (3), Johannes van Delden (1), Annemoon Jonker (1), Ghislaine van Thiel (1)

(1) UMC Utrecht, Julius Center for Health sciences and Primary Care, Utrecht, the Netherlands, (2) Erasmus Medical Center, Department of Public Health, Rotterdam, the Netherlands, (3) Erasmus Medical Center, Department of Public Health, Rotterdam, the Netherlands

**Introduction:** When patients who are in the last phase of life suffer unbearably from symptoms that cannot be relieved, continuous deep sedation (CDS) can be used as palliative care intervention [1]. Research in the Netherlands had revealed a substantial increase in the use of CDS. In 2005, the percentage of all deaths which were preceded by CDS was 8% [2]. This had increased to 18% in 2015 and to 23% in 2021 [3]. The majority of these cases in 2015 and in 2021 involved patients of 80 years and older [3]. The use of CDS is debated as it prevents patients from communicating at the end of life and may shorten patients’ lives [4–6]. Our aim was to identify explanations for the increase in the use of CDS.

**Methods:** We performed a mixed methods study that included a systematic literature review, questionnaire studies among physicians, and interview studies with patients, relatives, and healthcare professionals.

**Results:** Several factors contributed to the increase of CDS. First, the general opinion is that a dying patient not suffer at the end of life. Second, the indications to use CDS are interpreted more broadly. Third, patients and their relatives seem to increasingly embrace the view that dying while sleeping with sedatives represents a comfortable and peaceful death. Fourth, awareness of the option to use CDS has increased among patients, relatives and healthcare professionals.



**Key Conclusions:** While CDS was originally seen as an exceptional option to relieve severe refractory suffering, it has become a more common practice in the care of terminally ill patients.

**References:**

1. Maltoni M, Scarpi E, Nanni O. Palliative sedation for intolerable suffering. *Current Opinion in Oncology*. 2014 Maltoni M, Scarpi E, Nanni O. Palliative sedation for intolerable suffering. *Current Opinion in Oncology*. 2014;26:389–394.
2. Rietjens J, Van Delden J, Onwuteaka-Philipsen B, Buiting H, Van Der Maas P, Van Der Heide A. Continuous deep sedation for patients nearing death in the Netherlands: Descriptive study. *BMJ*. 2008;336:810–813.
3. Vierde evaluatie Wet toetsing levensbeëindiging op verzoek en hulp bij zelfdoding. The Hague; 2023 May [cited 2023 Jun 10]. Available from: <https://www.euthanasiecommissie.nl/uitspraken/vierde-evaluatie/2023/5/31/vierde-evaluatie>.
4. van Delden JJM. Terminal sedation: source of a restless ethical debate. *J Med Ethics*. 2007;33:187–188.
5. Papavasiliou EE, Payne S, Brearley S. Current debates on end-of-life sedation: an international expert elicitation study. *Support Care Cancer*. 2014;228:2141–2149.
6. Miccinesi G, Caraceni A, Maltoni M. Palliative sedation: ethical aspects. *Minerva Anesthesiol*. 2017;8312:1317–1323.

### P-377

#### Healthcare professionals' perspectives on strengthening outpatient palliative care in Switzerland for the ageing population: a survey study protocol

Barbara Machado Magalhães (1)

(1) University of Lucerne

**Introduction:** Despite recent and increasing actions of the Swiss Confederation to strengthen palliative care in Switzerland, the fragmented structure of the health system is a politico-structural issue hindering a uniform strategy to standardize a line of reasoning, thinking and care. (FOPH, n.d.-b). Alongside, population ageing is remarkable in Switzerland, with almost 20% of the population aged 65 and over. Statistics are accompanied by a high prevalence of non-communicable diseases (NCDs). A quarter of the population already suffers from a NCD (FOPH, n.d.-a), with chronic and progressive nature, raising the importance of investigating the state of art of palliative care from the perspective of professionals providing healthcare for the ageing population.

**Methods:** A mixed research method will be applied, combining quantitative and qualitative data collection and analysis, through self-constructed online questionnaire into Qualtrics. Purposive and snowball sampling strategies will be used to reach different practitioners working with ageing population in Switzerland within primary health care, community and home-based assistance. Descriptive statistics and thematic analysis will be used to analyse responses.

**Expected Results:** Through this survey study, the gap between efforts undertaken to enforce palliative care and the results in practice for the ageing population, can be analysed with inputs from professionals working in this scope, contributing to the clarification of current needs.

**Conclusion:** On the impact of the study: The knowledge of existing strategies and benefits associated with palliative care is particularly valuable if a person or family member receives it early stages of diseases, enabling optimal palliative care and comprehensive assistance.

### P-378

#### Exploring the competency and confidence levels of physiotherapists in the management of patients diagnosed with life-limiting illness

Deborah Gibbons (1), Emma O Shea (1), Suzanne Timmons (1)

(1) University College Cork

**Introduction:** Currently, in Ireland, palliative care (PC) services do not meet population demand. The National Advisory Committee on PC recommends that all physiotherapists should be able to deliver basic PC to patients diagnosed with life-limiting illnesses. The aim of this study is to explore the competency and confidence levels of physiotherapists in the management of patients diagnosed with life-limiting illness.

**Methods:** An anonymous, cross-sectional survey was administered to physiotherapists working in the Republic of Ireland.

**Results:** There were 90 respondents to the survey. A significant majority (93%) agreed that most patients with life-limiting conditions can participate in physiotherapy. However, respondents with more than ten years' experience were significantly less inclined to agree with this compared to respondents with less experience ( $p = 0.033$ ). Just over half (56%) felt confident in their ability to prescribe exercise for this cohort. Fewer than one-third (29%) felt that the role of physiotherapy in PC is understood by the multidisciplinary team. The majority (76%) didn't agree that their undergraduate level training prepared them for work in this area. The ability to access mentorship from specialist PC physiotherapists was considered a facilitator in providing care for this cohort.

**Key Conclusions:** This study highlights the demand for greater PC education at undergraduate level, the need for a better understanding among the wider multidisciplinary team so that patients receive timely access to physiotherapy, and the importance of establishing strong links between specialist physiotherapists and their generalist counterparts.

### P-379

#### A collaborative audit by 5 palliative inpatient services in North West London integrated care system to explore demographic trends and the overlap with geriatrics

Dr Ros Taylor (1)

(1) Harlington Hospice, London UK

**Background:** Aim was to develop a collaborative approach to data sharing and to identify demographic trends to inform service planning. The new Integrated Care System is interested in palliative care services in terms of who and why people are using palliative beds.

**Method:** Patient data was captured from 20 consecutive admissions from each of the 5 bedded-units in North West London (2 million population) Demographics—age, gender, postcode, lived aloneDiagnosis and comorbiditiesWho and why referred for a palliative bedIf referred from community—when last seen by GP? If referred from hospital—how long was admission?Results Data from 100 admissions 57% older than 70 yrs 38% older than 80 yrs. Admissions to unit from hospital, 51% are 80 + . Commonest age band coming from hospital was 80–89 years. Hospital admissions to hospice are often very old, 49% lived alone, and mostly male. 67% in hospital for more than 2 weeks, and some significantly longer prior to hospice transfer. Relates to delays in decisions regarding the terminal nature of the patients' condition, with key conversations not taking place?.

**Conclusions:** Hospital referrals to hospice have a high percentage of very old men who live alone—could this be a trigger for earlier future care conversations and perhaps their admission to hospital might have been prevented. Increased collaboration with elderly care teams is vital. Nearly two thirds of palliative care is focussed on the older population. The overlap with the work of older peoples' medicine is strategically important.

## P-380

### Predictors of mortality in geriatric patients

Dana Hrnčiariková (1), Božena Jurásková (2), Zdeněk Zadák (3)

(1) University Hospital Hradec Kralove, Department of Gerontology and Metabolic Care, Sokolska 581, 50005 Hradec Kralove, Czech Republic; dana.hrnčiarikova@fnhk.cz, (2) University Hospital Hradec Kralove, Department of Gerontology and Metabolic Care, Sokolska 581, 50005 Hradec Kralove, Czech Republic; bozena.juraskova@fnhk.cz, (3) University Hospital Hradec Kralove, Center for Development and Research, Sokolska 581, 50005 Hradec Kralove, Czech Republic; zdenek.zadak@fnhk.cz

**Introduction:** Hospital admission is an increased burden for the geriatric patient. Geriatric wards are associated with higher mortality. The aim of this work was to identify predictors of mortality in geriatric patients admitted to the hospital.

**Methods:** The prospective clinical study included 101 patients aged 80 years and older admitted to a standard geriatric ward of The Department of Gerontology and Metabolic Care. We assessed laboratory examinations (red and white blood cells count, serum proteins, urea, creatinine, vitamins, markers of inflammation—C-reactive protein, neopterin in urine), anthropometric (body-mass index, arm and calf circumference, triceps skin fold, dynamometry), gender, history of serious diseases, Barthel scale, Instrumental activities of daily living, Mini-Nutritional Assessment, Mini-Mental State Examination besides older age on admission to the hospital.

**Results:** The mortality in the group during hospitalization was 10.1%. The study found that older age, lower ADL and IADL, decreased triceps skin fold and dynamometry as well as low values of absolute lymphocyte count, albumin, cholinesterase and higher values of urea and creatinine significantly correlated with mortality.

**Key Conclusions:** These results can be used to differentiate hospitalized geriatric patients at higher risk of mortality. This study can be used as a pilot project, which can be the basis for large, randomized, controlled trials aimed at a more detailed evaluation of individual factors and their relationship to the prediction of higher mortality in geriatric patients admitted to the hospital.

## P-381

### Therapeutic intensity level scale: an adjustment tool to facilitate shared decision-making in chronic patients

Marie Christine Pereira (1), Marc Donaldson Quintana (1)

(1) Geriatrics Department, Consorci Sanitari Integral, Barcelona, Spain

**Introduction:** The care of patients with advanced chronic diseases is frequently fragmented between different healthcare levels, creating a challenge to establish a consistent therapeutic plan including the patient's preferences and their prognosis.

**Methods:** Through a consensus of different health professionals, a therapeutic intensity level scale (TILS) has been developed. Its goal is

to adjust therapeutic effort. It prioritizes a dynamic approach, contemplating different therapeutic measures to adapt to a majority of clinical situations.

**Results:** TILS defines five patient profiles. Each profile is a candidate for the therapeutic measures of its level and includes the care of the following levels. Profile I: Candidates for the highest therapeutic intensity, including organ transplantation. Profile II: Patients who can benefit from higher therapeutic intensity, excluding transplantation. Profile III: Patients who are candidates for Intensive Care Units, excluding highly invasive measures such as orotracheal intubation or hemofiltration. Profile IV: Patients who are candidates for conservative management to avoid loss of autonomy and maximize their well-being. Intensive care and transfers to acute from intermediate care are excluded. Profile V: Candidates for palliative management only. Focused mainly on symptom control, prioritizing the use of oral and subcutaneous treatments. TILS are a guiding tool, allowing exceptions. Its dissemination in different healthcare areas has received a high degree of acceptance.

**Key Conclusions:** The TILS aim to adjust the therapeutic effort, assisting decision-making in the clinical course of the patient and facilitating health transitions. Further studies are required to analyze the results of its use.

## P-382

### The role of depressive symptoms in the association between physiotherapy access and outcomes after hip fracture surgery: secondary analysis of the physiotherapy hip fracture sprint audit

Rhian Milton-Cole (1), Salma Ayis (1), Matthew DL O'Connell (1), Katie Sheehan (1)

(1) Department of Population Health Sciences, School of Life Course and Population Sciences, King's College London, London, UK

**Purpose:** It is not known whether the association between access to physiotherapy and patient outcomes varies for those with and without depression. This study aims to evaluate whether the associations between the frequency and duration of physiotherapy after hip fracture surgery and discharge home, surviving at 30-days post-admission, and avoiding being readmitted 30-days post discharge vary by depression diagnosis.

**Methods:** Data were from 5005 adults aged 60 and over included in the UK Physiotherapy Hip Fracture Sprint Audit who had undergone surgery for nonpathological first hip fracture. Logistic regression models were used to estimate the unadjusted and adjusted odds ratios and their 95% Confidence Intervals for the associations between physiotherapy access and outcomes.

**Results:** Access to physiotherapy was comparable between patients with and without depression (42.1% and 44.6%). The average adjusted odds for a 30-min increase in physiotherapy duration for those with and without depression for discharge home were 1.05 (95% CI 0.85–1.29) vs 1.16 (95% CI 1.05–1.28, interaction  $p = 0.36$ ), for 30-day survival were 1.26 (95% CI 1.06–1.50) vs 1.11 (95% CI 1.05–1.17, interaction  $p = 0.45$ ) and for avoiding readmission were 0.89 (95% CI 0.81–0.98) vs 0.97 (95% CI 0.93–1.00, interaction  $p = 0.09$ ). None of the interaction tests reached formal significance, but the readmission models were close ( $p = 0.09$ ).

**Conclusion:** Results suggest physiotherapy duration may be negatively associated with avoiding readmission in those with depression but not those without depression, while no clear difference in the other outcomes was noted.

## Falls and Fractures

### P-383

#### The role of depressive symptoms in the association between physiotherapy access and outcomes after hip fracture surgery: secondary analysis of the physiotherapy hip fracture sprint audit

Rhian Milton-Cole (1), Matthew DL O'Connell (1), Katie Jane Sheehan (1), Salma Ayis (1)

(1) King's College London

**Purpose:** It is not known whether the association between access to physiotherapy and patient outcomes varies for those with and without depression. This study aims to evaluate whether the associations between the frequency and duration of physiotherapy after hip fracture surgery and discharge home, surviving at 30-days post-admission, and avoiding being readmitted 30-days post discharge vary by depression diagnosis.

**Methods:** Data were from 5,005 adults aged 60 and over included in the UK Physiotherapy Hip Fracture Sprint Audit who had undergone surgery for nonpathological first hip fracture. Logistic regression models were used to estimate the unadjusted and adjusted odds ratios and their 95% Confidence Intervals for the associations between physiotherapy access and outcomes.

**Results:** Access to physiotherapy was comparable between patients with and without depression (42.1% and 44.6%). The average adjusted odds for a 30-min increase in physiotherapy duration for those with and without depression for discharge home were 1.05 (95% CI 0.85–1.29) vs 1.16 (95% CI 1.05–1.28, interaction  $p = 0.36$ ), for 30-day survival were 1.26 (95% CI 1.06–1.50) vs 1.11 (95% CI 1.05–1.17, interaction  $p = 0.45$ ) and for avoiding readmission were 0.89 (95% CI 0.81–0.98) vs 0.97 (95% CI 0.93–1.00, interaction  $p = 0.09$ ). None of the interaction tests reached formal significance, but the readmission models were close ( $p = 0.09$ ).

**Conclusion:** Results suggest physiotherapy duration may be negatively associated with avoiding readmission in those with depression but not those without depression, while no clear difference in the other outcomes was noted.

### P-384

#### Effects of a case management intervention on use of footwear in faller older people with cognitive impairment: a randomized clinical trial

Maria Juana Beatriz Lima Candanedo (1), Karina Gramani-Say (1), Renata Carolina Gerassi (1), Mariana Ignácio Sossai (1), Mariana Luiz de Melo (1), Leticia Teodoro Maciel (2), Camila Bianca Falasco Pantoni (1), Juliana Hotta Ansai (1)

(1) Programa de Pós-graduação em Gerontologia da Universidade Federal de São Carlos—UFSCar, São Carlos/SP, Brasil., (2) Universidade Federal de São Carlos—UFSCar, São Carlos/SP, Brasil

**Introduction:** Falls are considered public health problems and one way to intervene is the case management on identified risk factors for falls [1]. The purpose of this work was to verify the effectiveness of an intervention based on case management on use of footwear in older people with cognitive impairment.

**Methods:** This is a randomized controlled, single-center clinical trial. The participants with at least two falls in the last 12 months were randomized to an Intervention Group (IG) and a Control Group (CG). The IG underwent a remote case management for 16 weeks. Use of

footwear during the day at home and when getting up at night and the most used model daily were assessed using a closed questionnaire at baseline and after 16 weeks.

**Results:** After 16 weeks, 48 participants were reassessed. At baseline, slippers were the most commonly used footwear during the day at home (64–69%) and when getting up at night (56–77%). Tennis (28–47%) and slippers/sandals (26–36%) were the most used model daily. There was a significant difference between assessments in both groups regarding the most used footwear during the morning (CG:  $p = 0.026$ ; IG:  $p = 0.000$ ). Also, a significant difference between assessments was found in the IG regarding the most used footwear daily, with increased use of tennis (28% to 36%) ( $p = 0.033$ ).

**Conclusion:** There was small efficacy of a case management-based intervention on use of footwear, with adherence to the recommendations given. Further studies using case management-based interventions are suggested to prove the findings.

**Key words:** Accidental Falls, Aged, Risk Management, Cognitive Impairment.

#### References:

[1] TAKO, KARINE VACCARO ET AL. Perfil e prevalência de quedas em idosos. Revista de Enfermagem UFPE on line, [S.l.], v. 11, n. 11, p. 4687–4691, out. 2017. ISSN 1981–8963.

### P-385

#### Cross-sectional descriptive study on patients admitted to an orthogeriatric unit in one year

Santiago Cotobal Rodeles Cotobal Rodeles (1), Sasha Raquel Botbol Moreno (1), Carlos Mauricio Vega Aponte (1), Luis Sevillano (1)

(1) Hospital Universitario Severo Ochoa

**Introduction:** Hip fracture is a common injury among older adults, particularly those over the age of 65. Our aim is to describe our results in 1 year.

**Methods:** Observational, descriptive, cross-sectional study of patients admitted to a hospital in Madrid (January 2022–December 2022) with a diagnosis of hip fracture and over 60 years of age. Sociodemographic variables (sex and age, origin and destination at discharge), functional (Barthel Index-BI, pre-fracture mobility), clinical (charlson index type of fracture, surgical treatment, antiresorptive treatment, osteoforming treatment, vitamin D and calcium before and at discharge) were included., previous fractures), mental (Pfeiffer Index) hospital stay and in-hospital death and one year.

**Results:** 198 patients with a mean age of 83.9 years (SD 7.55) were included, of whom 77.5% were women, 86% came from home. The BI was 73.88 (SD 27.33), pre-fracture autonomous mobility 84.34%, Pfeiffer 3.84 (SD 3.64), Charlson Index 1.41 (SD 1.23), 8% previous fracture. Previous treatment 6% antiresorptive treatment, 41% vitamin D, 17.5% calcium. 13, 5% of patients had previous fractures of them 8% hip, 7% column and 7% other fragility fractures. In hospitalization the type of fracture pertrochanteric 41.5%, subcapital 50%, subtrochanteric 8.5%, 99% of the fractures were operated of them 45.5% hemiarthroplasty was performed, 51% Gamma Nail 3% cannulated screw. The average stay was 11.53 days (ED 5.24), intrahospital mortality was 1%. At discharge BI 36.62 (19,79) 64.5% antiresorptive, 0% osteoforming, 97.5% vitamin D, 36% Calcium.

**Conclusions:** Prompt diagnosis and appropriate management are crucial in ensuring the best possible outcomes for patients with hip fractures.

**P-386****Falls in older ambulatory care patients with cancer in Iran**

Ali Darvishpoor Kakhki (1), Najmeh Saberi (2), Mahnaz Ilkhani (3), Hafiz T.A. Khan (4)

(1) Department of Medical and Surgical Nursing, School of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran., (2) Student Research Committee, School of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran., (3) Department of Medical-Surgical Nursing, School of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran., (4) College of Nursing, Midwifery and Healthcare, University of West London, London, UK

**Background:** Falls can have severe consequences particularly for older patients with cancer undergoing ambulatory care. The aim of the study is to identify the predictors of falls in older patients receiving cancer ambulatory care and evaluate accuracy of the final multivariable model in detecting older patients with falls.

**Methods:** A retrospective study was conducted on 300 older patients aged 60 years and above that were referred for ambulatory care in three oncology clinics based at hospitals in Tehran. Participants completed a questionnaire comprising demographic, history of falls, and cancer-related factors. Logistic regression was used to determine risk factors associated with falls.

**Results:** 35.3% of the older patients with cancer had experienced a fall in the six months following the start of their ambulatory care. The most important predictors of falls include the fourth stage of cancer (odds ratio (OR) : 6.47, 95% confidence interval (CI) : 3.20–13.08,  $P < 0.001$ ), fear of falling (OR: 5.64, 95% CI 2.58–12.33,  $P < 0.001$ ), use of hearing (OR: 2.38, 95% CI 1.07–5.29,  $P = 0.033$ ) and visual aids (OR: 2.36, 95% CI 1.12–5.01,  $P = 0.025$ ), and the number of visits to the doctor (OR: 1.10, 95% CI 1.01–1.21,  $P = 0.035$ ).

**Conclusions:** The results indicate that a reduction in falls is possible by introducing strategies to improving care for older patients in advanced stage of cancer, eliminating the causes of fear of falling, examining and improving vision and hearing, and identifying and addressing the underlying causes of visits to the doctor.

Keywords: accidental fall, risk factor, aged, cancer, ambulatory care.

7001, 3000 Leuven, Belgium; KU Leuven—University Hospital Leuven, Department of Geriatric Medicine, Herestraat 49, 3000 Leuven, Belgium, (5) KU Leuven, Department of Public Health and Primary Care, Academic Centre for Nursing and Midwifery; Centre of Expertise for Falls and Fracture Prevention Flanders, Kapucijnenvoer 35 blok d bus 7001, 3000 Leuven, Belgium, (6) KU Leuven, Department of Public Health and Primary Care, Academic Centre for Nursing and Midwifery; Centre of Expertise for Falls and Fracture Prevention Flanders, Kapucijnenvoer 35 blok d bus 7001, 3000 Leuven, Belgium; KU Leuven—University Hospitals Leuven, Department of Geriatric Medicine, Herestraat 49, 3000 Leuven, Belgium

**Introduction:** Falls among older adults are a global issue. Multifactorial falls prevention interventions are recommended as intervention. Context is important for the implementation of multifactorial falls prevention interventions. This qualitative study aims to analyze and describe contextual determinants that influence the implementation of multifactorial falls prevention interventions in the community setting in Flanders (Belgium).

**Methods:** A qualitative study based on a Grounded Theory approach. It consists of six semi-structured interviews with key persons, three focus group interviews with healthcare professionals ( $n = 16$ ), one focus group with local policy makers ( $n = 6$ ) and four semi-structured interviews and one focus group ( $n = 3$ ) with older persons. The Integrated Checklist of Determinants of Practice (TICD checklist) was used to develop the interview guide. Interviews were verbatim transcribed and analyzed using the Qualitative Analysis Guide of Leuven (QUAGOL). Data were coded in NVivo 12<sup>TM</sup>.

**Results:** our key themes were uncovered: (1) stakeholder involvement and participation, (2) internal conditions to work on falls prevention, (3) working proactively and (4) communication, collaboration and coordination. Multiple layers and interactions were found within and across different themes; showing the complexity of implementing multifactorial falls prevention interventions in the community. This study identified 33 determinants of the TICD checklist and all domains were represented.

**Key Conclusions:** It is recommended to actively involve all stakeholders, to increase beliefs, awareness, knowledge, skills, motivation, to promote proactively working on falls prevention among healthcare professionals and to support coordination of care in the community setting and collaboration and communication between all involved parties.

**P-387****A qualitative study exploring contextual determinants influencing the implementation of multifactorial falls prevention interventions in the community setting in Flanders (Belgium)**

Sara Vandervelde (1), Bernadette Dierckx de Casterlé (2), Ellen Vlaeyen (3), Johan Flamaing (4), Sien Valy (5), Goedele Belaen (5), Koen Milisen (6)

(1) KU Leuven, Department of Public Health and Primary Care, Academic Centre for Nursing and Midwifery; Centre of Expertise for Falls and Fracture Prevention Flanders, Kapucijnenvoer 35 blok d bus 7001, 3000 Leuven, Belgium, (2) KU Leuven, Department of Public Health and Primary Care, Academic Centre for Nursing and Midwifery, Kapucijnenvoer 35 blok d bus 7001, 3000 Leuven, Belgium, (3) KU Leuven, Department of Public Health and Primary Care, Academic Centre for Nursing and Midwifery; Centre of Expertise for Falls and Fracture Prevention Flanders, Kapucijnenvoer 35 blok d bus 7001, 3000 Leuven, Belgium; Faculty of Medicine and Life Sciences, Hasselt University, Agoralaan, 3590 Diepenbeek, Belgium, (4) KU Leuven, Department of Public Health and Primary Care, Gerontology and Geriatrics, Kapucijnenvoer 35 blok d bus

**P-388****Impact of safer cycling in older age on physiological stress—SiFAr-stress**

Sabine Britting (1), Robert Kob (1), Cornel Sieber (2), Nicolas Rohleder (3), Ellen Freiburger (1), Linda Becker (3)

(1) Institute for Biomedicine of Aging, Friedrich-Alexander-Universität Erlangen-Nürnberg, Nürnberg, Bavaria, Germany, (2) Institute for Biomedicine of Aging, Friedrich-Alexander-Universität Erlangen-Nürnberg, Nürnberg, Bavaria, Germany and Department of Medicine, Kantonsspital Winterthur, Winterthur, Switzerland, (3) Department of Psychology, Chair of Health Psychology, Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Bavaria, Germany

**Introduction:** For older cyclists switching to motorized bicycle or experiencing concerns about falling can be perceived as stressors. This study investigated the impact of cycling on stress level and inflammatory processes.

**Methods:** We recruited 83 older adults ( $74.2 \pm 4.96$  years), of which 47.9% were assigned to the intervention group (IG), 52.1% were female, with a BMI of  $26.02 (\pm 3.55)$  and suffered from  $2.16 (\pm 1.63)$  diseases. Before and after the intervention (T0, T1), 71 participants collected saliva samples, and capillary blood samples of 69 participants were taken. Furthermore, changes in cortisol reactivity in response to the cycling intervention was analyzed with repeated measurement ANOVA for 41 participants with 3 measurements during second and seventh training session, respectively.

**Results:** Compared to the control group (CG), IG showed significantly higher saliva cortisol concentration at T1, whereas CRP concentrations and self-reported fear of falling showed no significant differences between both groups. No significant differences in saliva cortisol and alpha-amylase levels were found between the second and 7th training. Within both training sessions cortisol levels decreased (partial  $\eta^2 = 0.189$ ,  $p < 0.001$ ), whereas the change was significantly higher in the last session than at the second (partial  $\eta^2 = 0.125$ ,  $p < 0.01$ ). In case-by-case analyses, participants with the highest cortisol levels showed the greatest decrease.

**Key Conclusions:** There was no significant effect on general subjective and objective stress levels. However, a positive effect of cycling training was detected by a greater decrease in cortisol concentration at the end of the intervention over the course of a training session.

### P-389

#### Risk factors for mortality after hip fracture in men over 75 years

Sonia Jiménez-Mola (1), Francisco Javier Idoate-Gil (2), Encarna Martín-Pérez (3), Victoria Sauleda-Ferrer (3), John Portero-Morales (3), Paula Fernández-García (3), María Plaza-Carmona (4)

(1) Geriatria. Complejo Asistencial Universitario de León. Spain., (2) Geriatria. Complejo Asistencial Universitario de León. Spain., (3) Geriatria. Complejo Asistencial Universitario de León. Spain, (4) Urgencias. Complejo Asistencial Universitario de León. Spain

**Introduction:** The objective of this study is to assess the influence of male gender on the increase in in-hospital mortality during admission due to hip fracture.

**Material and method:** Observational, longitudinal, prospective study of patients over 75 years with hip fracture admitted during one year. Variables: age, sex, baseline situation and discharge, ASA, comorbidities, complications and in-hospital mortality. The differences between the sexes are analyzed. SPSS®, v.22.0.

**Results:** 534 patients (25.3% male). In-hospital mortality 5.8% (17 were men and 14 women). 87% of men and 96% of women are operated on. Half of the men who die do so prior to surgery. There were no statistical differences ( $p > 0.05$ ) in the type of fracture and Barthel. 66% women and 59% men ( $p > 0.05$ ) walk independently/1 cane. No differences in average and presurgical stay. ASA IV is more frequent in males (24.4% vs 9%). In men, a significantly higher incidence has been found in: atrial fibrillation with  $P < 0.05$ , in chronic kidney disease with  $P < 0.01$ , in COPD with  $p < 0.001$  and in ischemic heart disease with  $P < 0.01$ . As complications are more frequent in men ( $p < 0.01$ ): respiratory infection, heart failure and in-hospital mortality (12.6% vs 3.5%). In-hospital mortality is significantly related ( $p < 0.001$ ) with the comorbidities atrial fibrillation, anemia, chronic kidney disease, COPD and cancer, and ( $p < 0.05$ ) heart disease and ischemic heart disease. No differences ( $p > 0.05$ ) were found in ambulation or destination at discharge.

**Conclusions:** There were no differences in the baseline situation, but the most prevalent pathologies in men and their exacerbation during

admission due to hip fracture, condition the higher mortality of these patients.

### P-390

#### Corticosteroid Injections for musculoskeletal pain are not associated with increased risk of fracture

Terin Sytsma (1), Shannon Thomas (2), Karen Fischer (3), Laura Greenlund (4)

(1) Division of Community Internal Medicine, Geriatrics, and Palliative Care, Mayo Clinic, Rochester, MN., (2) University of Minnesota, Minneapolis, MN, (3) Division of Clinical Statistics, Mayo Clinic, Rochester, MN, (4) Division of Community Internal Medicine, Geriatrics, and Palliative Care, Mayo Clinic, Rochester, MN

**Introduction:** Key strategy in management of musculoskeletal pain in the elderly involves joint and bursae corticosteroid injections (CSI). Typically, a water insoluble corticosteroid is used to prolong presence at the injected site and to limit systemic absorption. The extent and clinical significance of systemic effects of CSI are largely unknown, and there are no established dose or frequency safety thresholds. To better understand fracture risk associated with CSI we have followed a cohort of 8816 patients receiving CSI over a 4-year span beginning in 2018.

**Methods:** We used an institutional EHR database to identify adults (age  $\geq 18$  years) residing in Olmsted County, USA receiving CSI beginning 5/1/2018 and ending 7/1/2022. The CSI number, type, and medication used were determined. Data was analyzed by Cox regression model adjusting for factors affecting fracture risk (age, sex, race, Charlson score, number of CSI prior to the study period, and previous fracture (2012–2018)) with death as a competing event.

**Results:** To best isolate the effects of CSI, patients with other high-fracture-risk conditions including osteoporosis, rheumatoid/inflammatory arthritis, and oral corticosteroid use were excluded from the original cohort of 8816 resulting in 4742 “non-high risk” patients. The mean age at injection was 61 and 46.2% were female. During the study 138 fractures occurred. Both the unadjusted and adjusted (detailed in Methods) Cox models showed no association (hazard ratio = 1.01 for both) between cumulative CSI dose and fracture.

**Key Conclusions:** Joint/bursa CSI commonly used for pain management in the elderly is not associated with increased fractures in non-high-risk patients.

### P-391

#### Impact of cognition measured at admission on 30-day mobility in elderly patients after hip fracture at the University Hospital of Getafe

Rubí Esmeralda Sandoval Santoyo (1), María López González (1), José Antonio Carnicero Carreño (1), Lucía Cedena Alarcón (1), Pilar Cruzado Navarro (1), José Manuel Montero Mejías (1), Myriam Valdés Aragonés (1)

(1) Hospital Universitario de Getafe. Sandoval-Santoyo R1, González-López M1, Carnicero JA1,2, Cedena-Alarcón L1, Cruzado-Navarro P1, Montero-Mejías JM1, Valdés-Aragonés M11 Geriatric Department, Hospital Universitario de Getafe, Madrid, Spain.2 Biomedical Research Foundation, Hospital Universitario de Getafe, Madrid, Spain

**Introduction:** Cognitive status is one of the most influential factors in rehabilitation after hip fracture [1,2]. There are few studies that establish a cut-off point on cognitive scales to estimate functional prognosis after hip fracture.

**Objective:** The aim of our study is to determine the impact of cognition measured with the Pfeiffer scale on mobility thirty days after hip fracture and a cut-off point on the Pfeiffer scale at which mobility worsens.

**Material and methods:** We included 361 patients who underwent hip surgery at the Getafe University Hospital between 2017–2022. Cognitive status was measured using the Pfeiffer scale at admission. Subsequently, patients were reassessed 30 days after hip fracture to assess changes in mobility as measured by the mobility scale used in the National Hip Fracture Registry. To assess the association between cognitive status and change in mobility score, we used multivariate linear regression adjusted for baseline mobility as a confounding factor.

**Results:** The mean age was 84.95 and 25.2% were male. The mean mobility loss was 3.67 points and the mean Pfeiffer score was 3.28. When we analysed the effect of cognition on loss of mobility as a continuous variable, we observed a decrease of 0.18 ( $p < 0.05$ ) points for each mistake on the Pfeiffer scale. The cut-off point  $> = 2$  mistakes on Pfeiffer scale maximized the loss of mobility Beta = 0.96 ( $p < 0.05$ ).

**Conclusion:** Our results showed that the errors in the Pfeiffer are a significant factor in mobility transitions. Cognitive assessment at admission is crucial in patients with hip fracture because of its functional repercussions.

#### References:

1. K J Sheehan and others, Prognostic factors of functional outcome after hip fracture surgery: a systematic review, *Age and Ageing*, Volume 47, Issue 5, September 2018, Pages 661–670, <https://doi.org/10.1093/ageing/afy057>.
2. Uriz-Otano, Francisco et al. “Factors associated with short-term functional recovery in elderly people with a hip fracture. Influence of cognitive impairment.” *Journal of the American Medical Directors Association* vol. 16,3 (2015) : 215–20. <https://doi.org/10.1016/j.jamda.2014.09.009>.

## P-392

### Independent living, and active and healthy ageing in rural areas: a technological platform at the service of primary care for the elderly. Ruralcare-CLM study protocol

Cristina Gómez Ballesteros (1), Xavier del Toro García (2), Virginia Mazoteras Muñoz (3), Carmen Iniesta López (1), Juan Carlos López López (2), María Ángeles Caballero Mora (3), Ariana Priscila Oviedo Chavarría (1), María José Santofimia Romero (2), Mati

(1) MD. Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain., (2) PhD. Universidad de Castilla-La Mancha, Ciudad Real, Spain., (3) MD. Geriatrics Department, Hospital General Universitario de Ciudad Real, Ciudad Real, Spain., (4) MD, PhD. Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. Facultad de Medicina de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain. CIBERFES, Instituto de Salud Carlos III, Madrid, Spain., (5) Universidad de Castilla-La Mancha, Ciudad Real, Spain., (6) RN, PhD. Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. Facultad de Enfermería de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain. CIBERFES, Instituto de Salud Carlos III, Madrid, Spain., (7) MD, PhD. Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. CIBERFES, Instituto de Salud Carlos III, Madrid,

Spain. Fundación Hospital Nacional de Paraplégicos, Toledo, Spain, (8) MD, PhD. Head of Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. Facultad de Medicina de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain. CIBERFES, Instituto de Salud Carlos III, Madrid, Spain

**Introduction:** The population is ageing and the demand for specialised medical care in geriatrics is increasing, especially in rural areas with difficult access to this type of services. The objective of RuralCARE-CLM is to develop an accessible, usable, useful, accepted and integral technological solution to act on modifiable factors, such as frailty and falls, in rural elderly people, thus preserving functional capacity and reducing the risk of disability or dependence in elderly people.

**Methods:** The methodology is divided into four phases over a period of 36 months: 1. End-user needs will be identified through workshops and co-design activities involving stakeholders. This phase will provide a detailed design plan to the pilots that will guide the development of the technology solutions and subsequent testing. 2. The different digital solutions supporting the interventions will be prototyped. 3. The solutions will be deployed in the different pilots and small-scale tests will be performed to ensure that the technology works as expected. 4. Deploy improved solutions and evaluate the effectiveness and perception of the experience with the technology.

**Results:** 60% of participants are expected to complete the piloting activities, 70% are expected to report improvement after the intervention on physical function questionnaires, and a 70% reduction in frailty.

**Key Conclusions:** RuralCARE-CLM is based on the hypothesis that technology can optimise and ensure access to resources that are currently unavailable due to geographical factors. This technology can improve the quality of resources and enable better access to them, which can contribute to improved healthcare and health outcomes for people living in rural areas.

## P-393

### Improving bone health management in Parkinson’s disease: a local quality improvement project

Maria Bonnici (1), Christiane Eaves (1)

(1) Leeds Teaching Hospitals NHS Trust, United Kingdom

**Introduction:** Parkinson’s disease (PD) affects approximately 145,000 adults in UK, and these patients have a significantly increased risk of osteoporosis. They are also prone to falls, which increases the risk of fragility fractures, especially at the hip. However, management of osteoporosis in PD patients is lacking as highlighted by the 2022 UK PD audit. In 2019, we initiated a local quality improvement project at our PD outpatients at Leeds Teaching Hospital NHS Trust to improve bone health management in PD patients. We adopted the principles of the “BONE-PARK algorithm” to structure our Bone Health Assessment (BHA).

**Methods:** Data was collected on BHA of PD patients attending outpatient movement disorders clinics. This was extracted from clinic letters in three separate cycles between December 2019 to March 2023. 120 patients were assessed in the first data collection, 40 patients in the second cycle and 47 patients in the third cycle. The interventions carried out included several departmental teaching sessions, the development of a local guideline and a dedicated nurse in some clinics to complete FRAX scores.

**Results:** 1st cycle showed that 1.7% of PD patients ( $n = 2$ ) had a documented BHA with a FRAX score. In 2nd cycle this increased to 18% ( $n = 7$ ) and in the 3rd cycle BHA was documented in 21.28% ( $n = 10$ ).

**Conclusion:** There is still significant room for improvement in the management of bone health in PD patients. Consequently, we have introduced a monthly virtual MDT meeting which has already shown promise in enhancing BHA.

### P-394

#### Time to surgery, complications and post-operative mortality in an orthogeriatric unit 5 years after its creation

Moro Davide (1), Jaques Arnaud (1), Rossier Loïc (1), Bonvin Lynn (2), Coutaz Martial (1)

(1) Valais Hospital, (2) Valais hospital

**Introduction:** Creation in 2018 of an Orthogeriatric Unit (OGU) in the geriatric department of the Valais Hospital for subjects  $\geq 70$  years of age with hip fracture, with geriatric management within 24 h post-operatively. Method: Observational retrospective study from 1.1.2018 to 31.12.2023. Interdisciplinary management was based on the Comprehensive Geriatric Assessment and the HELP program.

**Objectives:** Impact of applied measures (geriatric follow-up and standardized geriatric care protocols) on time to surgery (TtS), post-surgical complications and 6-weeks mortality.

**Results:** 607 patients (78% female) were managed in the OGU, 84% living at home, 16% in nursing home. Average age  $84 \pm 7$  years, 44% suffered from a neurocognitive disorder ( $MMSE \leq 24$ ). 0.24% of subjects are robust, 57% vulnerable, 19% frail. Only 11.3% of patients were newly admitted to a nursing home at the end of their hospital stay. Mortality at 6 weeks was 6.75%, unaffected by the average TtS of 35 h. Age, male sex, health condition, cognitive impairment, degree of malnutrition and the presence of a complication significantly increased mortality. The presence of delirium, infection, acute renal failure, cardiac complication or severe malnutrition multiplied the mortality risk by 2.57 ( $p = 0.007$ , CI 1.27–5.01), 2.79 ( $p = 0.003$ , CI 1.40–5.40), 3.34 ( $p < 0.001$ , CI 1.64–6.57), 3.92 ( $p < 0.001$ , CI 1.87–7.84), and 4.95 ( $p = 0.034$ , CI 1.39–31.6).

**Conclusions:** Mortality risk is associated with the degree of functional dependence. Reducing TtS ( $\leq 24$ h), preventing malnutrition, renal and cardiac complications should further reduce mortality in this largely vulnerable population.

### P-395

#### Prevalence of geriatric syndromes in older people with hip fracture

Estefania Elizabeth Abundis-Márquez (1), Angélica Lizeth Sireno-Ledezma (1), Cécilia Raquel González-Galván (1), Christian García-Castro (1), Emily Victoria Alvarado-Cantú (1), Estefanía Gabriela Aguilar-Díaz (1), Rocío Morales-Delgado (1), Juan Francisco

(1) 1.Geriatric Service, Universidad Autónoma de Nuevo León, Facultad de Medicina y Hospital Universitario “Dr. José Eleuterio González”. (2) 2.Department of Endocrinology, Hospital de Especialidades UMAE 25 del Instituto Mexicano del Seguro Social IMSS, Monterrey, Nuevo León, México

**Introduction:** In the old adult, hip fracture is a very frequent pathology and one of the main causes of hospitalization, generating a great economic impact on the quality of life of this population [1]. Hip fracture is associated with a higher mortality rate, and up to 98.7% of adults older than 65 years with this diagnosis present at least one geriatric syndrome [2,3].

**Methods:** A cross sectional study that included patients older than 65 years old hospitalized by hip fracture from January to December 2021. It assessed sociodemographic and biological features, likewise a comprehensive geriatric assessment (CGA). This study aims to identify the prevalence of geriatric syndromes in patients older than 65 with hip fractures: intracapsular (femoral neck) or extracapsular (trochanteric) .

**Results:** A total of 84 patients were recruited, 54 women (64.3%) and 30 men (35.7%); the average age was 79.8 (+ 7.7). Sixty-one patients (72.6%) came up with trochanteric fracture (group 1), and 23 patients (27.4%) had femoral neck fracture (group 2). In addition, CGA showed: cognitive impairment in 60 (71.5%), sensory impairment in 47 (56%), and falling syndrome in 47 (56%), without any significant statistical difference among them.

**Conclusions:** The current lack of evidence on the prevalence of geriatric syndromes in older people with hip fractures remarks the outstanding need to seek and detect them; this way, it will allow the application of prevention in addition to treatment measures to avoid complications and improve morbimortality rates.

### P-396

#### Anticoagulation and antiplatelet therapy in the elderly with acute neurosurgical pathology

Zoilo Yusta Escudero (1), Jimmy Flores Valderas (1), Irune Torres Ortiz de Urbina (2), Lisa Avert Deweinder (2)

(1) Geriatrician, (2) General Practitioner

**Objective:** Development of the joint activity between the Geriatrics and Neurosurgery Service at Marqués de Valdecilla Hospital where the prevalence of anticoagulant and antiplatelet drugs in the elderly people which associate falls takes big concern.

**Material and Methods:** Data was collected from 61 patients corresponding to adults over 70 years old, admitted to Neurosurgery with a diagnosis of traumatic acute subdural hematoma, subarachnoid hemorrhage, cerebral contusions and chronic subdural haematomas. The presence and the correct indication of anticoagulant or antiplatelet therapy has been evaluated at discharge.

**Results:** The mean age is 83.41 with a previous Barthel Index of 78 (68.2% had a Barthel greater than 80). At the time of the study, 42.4% had had multiple falls, 15.3% were diagnosed with severe dementia GDS FAST  $> = 6$ . 18.8% had had a previous major bleeding episode. Understanding that due to the fragility in relation to these items, the indication of anticoagulation or antiplatelet therapy would be doubtful in at least 42.4%. At discharge, anticoagulation in patients goes down from 29.4% to 12.8%. The main causes being doubtful indication in 50% of the cases and the persistence of the hematoma in 40%. In the case of antiplatelet therapy, we found a prevalence at admission of 35%, being 9% at discharge. In both cases, the withdrawal of both therapy was related to the doubtful previous indication (65%), and persistence of hematoma in 20%.

**Conclusions:** Currently there is controversy regarding to the appropriate prior and subsequent indication of an antiplatelet or anticoagulant therapy after a major cerebral hemorrhagic episode, in the spectrum of patients who are frail, and above all, what criteria should be followed in addition to those already established.

### P-397

#### Falls prevention—a continuous quality improvement work

Diana Fernandes Gomes (1), Bruno Miguel Morgado Morrão (1)

(1) USF Mimar Mêda, ULS Guarda, Portugal

**Introduction:** Problem was identified in elderly population of a primary health care center—the rate of falls and hip fracture was high above normal, mostly due to low socioeconomic status and multimorbidity.

**Methods:** This was a quality study, based on a cycle of assessment (identification of the problem) and improvement, applied to population with 65 years or more, consisting of initial assessment, educational intervention and a second assessment. A team of a primary health care center started to study why the rate of falls and fractures was so high, made a procedure and presented it to the rest of the team. Afterwards, microteams (doctor-nurse) started to make a systematic approach and implement steps and a checklist to minimize falls. Included the application of falls risk scale—STEADY (Stopping Elderly Accidents Deaths and Injuries), with crucial questions that categorize the person as high risk or none. In the high-risk group, a vision examination was performed, home visits to check safety conditions, as well as identification of medication increasing risk of falls according Beers Criteria.

**Results:** After 6 months, data was analyzed. Comparing with results before intervention, there was an improvement not only in the frequency that the team approach the patient to evaluate risk of falls and give the respective advice, but also lead to a decrease in frequency of falls and hip fracture.

**Key Conclusions:** With this internal work of continuous improvement quality, was performed a systematic approach to obtain health gains for elderly population.

### P-398

#### Predictive machine learning models incorporating health checkup data and hair mineral analysis for low bone mass identification

Youngsang Kim (1), Su Jeong Kang (1)

(1) CHA University, CHA Bundang Medical Center

**Background:** Machine learning (ML) models have been increasingly employed in predicting osteoporosis and fractures. However, the incorporation of hair minerals in these models has remained unexplored. This study aimed to develop ML models for predicting low bone mass (LBM) using both health checkup data and hair mineral analysis.

**Methods:** The study consisted of 1,206 postmenopausal women and 820 men aged  $\geq 50$  years who underwent health checkups and hair mineral analysis at a health examination center. LBM was defined as a T score  $< -1$  at the lumbar, femur neck, or total hip area. The features used in the models comprised 50 health checkup factors and 22 hair minerals. The ML algorithms employed in this investigation included Extreme Gradient Boosting (XGB), Random Forest (RF), Gradient Boosting (GB), and Adaptive Boosting (Ada).

**Results:** Proportion of LBM was 55.9% ( $n = 1,205$ ). To train and evaluate the models, the subjects were divided into training and test sets in a 70:30 ratio. The area under the receiver operating characteristic curve (AUROC) for LBM, estimated through 50 repetitions, was  $0.740 \pm 0.017$  for XGB,  $0.736 \pm 0.016$  for RF,  $0.735 \pm 0.016$  for GB, and  $0.736 \pm 0.017$  for Ada. Notably, the XGB model identified sulfur, potassium, iron, zinc, copper, and calcium as crucial hair mineral features.

**Key Conclusions:** Our findings demonstrate the value of employing ML algorithms, particularly the XGB model, in predicting LBM. The integration of health checkup data and hair mineral analysis within these models may offer valuable insights into identifying individuals at risk of LBM.

### P-399

#### Conditions influencing the severity of falls in elderly falling once or several times

Daniella Isacu (1), Etienne Moisy (1), Bernard Mercier (2), Bertrand Fougère (3)

(1) Department of Geriatrics, Amboise-Château Renault Hospital Center, France, (2) Rehabilitation Care Service, Blois Hospital Center, France, (3) Department of Geriatrics, Tours University Hospital Center, Tours, France

**Aim:** Analyzing conditions of fall's severity in elderly patients falling first time (FFT) or several times (FST).

**Methods:** In a retrospective study on 220 patients hospitalized for falls [57 (25,09%) patients FFT and 163 (74,91%) FST] we identified some fall's conditions (medical history; mechanism: non known, mechanical, syncope; societal conditions: alone or in couple; recovery) reported at the severity of falls, considered as no trauma (FNT), mild trauma (FMT) and falls with fractures (FF) in elderly FFT and FST.

**Results:** FNTs: the proportion of those FFT and FST is similar and so the average of medical history. The mechanism in both cases is unknown. There are more patients alone FFT (56%) than those in couple (44%). 50% of patients FFT pass by a Rehabilitation Care Service (RCS) before returning home. FMTs: There is a similar proportion between FFT and FST. The medical history's average is greater ( $p = 0,0001$ ) on those FST. 55,55% of those who are alone fall more often even FFT or FST. 55,55% of those FFT pass by a RCS. FFs: the FFT's proportion (26,31%) is greater than that of FST (19,01%) and have the same mean of medical history. 60% of those FFT are alone. The main cause of FST is mechanical. There aren't falls caused by syncope. 60% of those FFT pass through a RCS while most of those FST return at home.

**Conclusions:** The societal factor is a preventive one. Severs falls are mostly mechanical and syncope is not a cause of severs falls.

### P-400

#### "A missed opportunity for intervention: vertebral fracture reporting"

Clara McGurk (1), Ali Alnajjar (1), Juliana Carvalho (1), Janine Ong (1), Benai Paponette (1), Paula Hickey (1), Fiona O Sullivan (1)

(1) Sligo University Hospital

Vertebral fractures (VFs) are the most common fragility fracture (almost 1 in 5 women  $> 70$ ). A vertebral fragility fracture (VFF) is a powerful predictor of another VF and of future hip fractures. Yet nearly 70% of VFs do not come to medical attention. Opportunities to identify a VFF and institute secondary prevention arises when a patient is referred for imaging for any clinical reason. However, VFFs are commonly unrecognised radiologically or reported ambiguously. Aims: The aim of this audit was to retrospectively evaluate VFF reporting terminology and recommendations as per published guidelines.

**Methods:** All radiographic reports from 2021 to 2023 in an Irish hospital were screened for osteoporotic and VFF key-terms in patients  $> 65$  years via the PACs platform. Data was analysed for (1) comments on vertebral integrity; (2) usage of the term 'vertebral fracture'; (3) inclusion of actionable recommendations.

**Results:** A resultant total of 250 reports were reviewed. 223/250 from plain films. Fracture was reported 50.8% ( $n = 127$ ) of the time. Ambiguous terminology like 'compression'; 'sagging'; 'height loss'



‘collapse’; ‘wedging’ was used in 49.2% (n = 123). Even where vertebral height loss was reported as 20% or greater, the term ‘fracture’ was not used in 59% (29/49). No report made recommendations for further investigation.

**Discussion:** This audit highlights that even when osteoporotic challenges to vertebral integrity are recognised, they are not reported in a standardised way that reflects the ‘red flag’ significance of a VFF. The heterogeneous and ambiguous reporting fails to alert other clinicians to their significance—resulting in a missed opportunity to intervene. A reporting template and addition of actionable recommendations is for review at the internal monthly radiology quality forum.

## P-401

### Sociodemographic, clinical and functional characteristics of patients with Parkinson’s Disease hospitalized in an Orthogeriatric Unit due to a proximal femoral fracture

Maria Francisca Rotger Ruiz (1), Paula Pérez Gracia (1), Anna Ibáñez Porcar (1), Julia Antonella López Ceballos (1), Enric Prats Bacardit (1), Cristina Díaz Creus (1), Aranzazu Palaci Amat (1), Carla Capellades Buqueras (1), Alicia Calle Egusquiza (2), Ma

(1) Departament of Geriatrics, Parc de Salut Mar (Barcelona), (2) (Departament of Geriatrics, Parc de Salut Mar (Barcelona)

**Introduction:** Osteoporosis is a Parkinson’s Disease (PD) nonmotor symptom. The main objective was to evaluate the incidence of PD among patients hospitalized in an Orthogeriatric Unit due to a proximal femoral fracture and their particularities.

**Methods:** Retrospective study of PD patients hospitalized in an Orthogeriatric unit from 2021 to 2022. Sociodemographic data, history of osteoporosis, and geriatric syndromes were collected. Dependence for the activities of the daily living (ADLs) was measured by Barthel index (BI) and frailty by Clinical Frailty Score (CFS) and Frail-VIG index. Postoperative complications, in-hospital and 30-day-mortality, discharge destination, ambulation ability and use of antiresorptive treatment were also collected.

**Results:** 5.3% of the 533 patients had PD. In the PD group, 46.4% were male, median age was 83.5 (78–90). 35.7% had history of osteoporosis and 21.4% a previous fragility fracture, however, only 20% of them had antiresorptive therapy. Polypharmacy (82.1%), dementia (57.1%) and insomnia (53.6%) were the more common geriatric syndromes. Moderate-to-severe dependence for the ADLs (BI < 60) was present in 53.6% and moderate-to-severe frailty in 75% according to CFS  $\geq 6$  and 60.7% according to IF-VIG  $\geq 0.36$ . During hospitalization, 60.7% presented delirium and 7.1% died. Vitamin D was prescribed in 92.9% but antiresorptive treatment only in 28.6%. 30 days after the fracture, 39.3% required walking assistance, 25% were unable to walk and 14.3% had died.

**Key Conclusions:** PD is associated with osteoporosis. In our sample, there was a high percentage of patients who were previously diagnosed with osteoporosis but very few of them previously received antiresorptive treatment.

## P-402

### Differential characteristics in patients with Parkinson’ Disease that were hospitalized in an orthogeriatrics unit due to a Proximal Femoral Fracture

Maria Francisca Rotger Ruiz (1), Paula Pérez Gracia (1), Anna Ibáñez Porcar (1), Júlia Antonella López Ceballos (1), Cristina Díaz Creus

(1), Aranzazu Palaci Amat (1), Enric Prats Bacardit (1), Carla Capellades Buqueras (1), Alicia Calle Egusquiza (1), Ma

(1) Department of Geriatrics, Parc de Salut Mar

**Introduction:** Osteoporosis is as a Parkinson’s Disease (PD) hidden nonmotor symptom. The aim of our study was to evaluate PD patients hospitalized due to a fragility femoral fracture in an Orthogeriatrics unit’s particularities.

**Methods:** Retrospective analytical descriptive study based on patients with PD who were diagnosed with a hip fracture that required admission in an Orthogeriatric unit in 2021 and 2022. The following information was collected: sociodemographic data, PD, history of osteoporosis and previous frailty fractures, risk factors for falls and osteoporosis, geriatric syndromes, Barthel index (BI), frailty according to Clinical Frailty Score (CFS) and Frail-VIG index, type of fracture, post-intervention complications, in-hospital mortality and 30-day-mortality, possibility of returning home, walking capacity and if they received antiresorptive treatment. A bivariate analysis was performed.

**Results:** 533 patients were included. 5.3% had PD. PD patients were mostly males (46.4 vs 27%; p = 0.0026), had received hormonal therapy (14.4 vs 4.4%; p < 0.018), had dementia (57.1 vs 33.8%; p < 0.012), insomnia (53.6 vs 34.3%; p < 0.037), moderate-to-severe dependence for activities of the daily living (ADLs) (BI < 60, 55.6% vs 24.2%; p < 0.001), moderate-to-severe frailty according to CFS  $\geq 6$  (75 vs 45.6%; p = 0.002) and IF-VIG  $\geq 0.36$  (60.7 vs 34%; p = 0.004) and developed delirium (60.7% vs 42%; p = 0.041). 30-day-mortality was higher but not statistically significant.

**Key Conclusions:** PD is a risk factor to consider in osteoporosis. In our sample, more proportion of male gender, hormonal therapy and insomnia were found. These patients also presented higher rates of dependence for ADLs, frailty and dementia and their risk of developing hospital-acquired delirium was higher.

## P-403

### Introduction of a post fall medical review pro forma for hospital inpatients

Simon Daly (1), Joshua Ramjohn (1), Fiona O’Sullivan (1)

(1) Sligo University Hospital, Ireland

**Introduction:** falls are the most common adverse incident in Irish hospital inpatients. The post fall medical review is critical to assess why a patient fell and if they sustained any injuries. We aimed to audit the quality of the post fall medical review in a university hospital and if the introduction of a post fall pro forma improved the quality of this review.

**Methods:** We audited the post fall medical review entries of 20 charts of inpatients who had fallen. We assessed details such as patient/doctor identifiers, history, examination, management and falls prevention. We introduced a post fall medical review pro forma on two wards in the hospital to aid doctors in their review. We prospectively re-audited the quality of the medical review of 9 patients who fell over two months and compared the results.

**Results:** the pro forma improved the quality of the medical review in multiple domains: 30% asked if there had been a head strike pre pro forma versus 100% who asked with the pro forma. Joint examination improved from 45 to 100% post pro forma. Hip strike history taking improved from 15 to 89%. 70% of doctors recorded the date and 15% recorded the time of assessment pre pro forma. 100% recorded both post pro forma.

**Key Conclusions:** Our post fall pro forma resulted in quality improvement of the post fall medical review. It is a memory aid and

encourages accurate documentation. This pro forma will be introduced hospital wide to improve patient care.

## P-404

### Profile of faller older people who look for falls prevention remote programs

Mariana Ignácio Sossai (1), Camila Bianca Falasco Pantoni (1), Mariana Luiz de Melo (1), Grazielle Norberto Pereira (1), Letícia Teodoro Maciel (1), Karina Gramani-Say (1), Juliana Hotta Ansai (1)

(1) UFSCar

**Introduction:** The purpose of this study was to verify the profile of faller older people who looked for a falls prevention remote program and remained in the falls follow-up for 4 months.

**Methods:** This is an initial data from a parallel randomized controlled clinical trial, conducted remotely by the Multidisciplinary and Assistance Program of Falls Management for Faller Older People (MAGIC). The sample was composed by Brazilian faller older people. The recruitment took place through contact with social, educational and health teams, referrals by professionals, pamphleting and communication channels (social network, radio and television interviews) in Brazil.

**Results:** Fifty-six volunteers participated and remained in the falls follow-up for 4 months. There was a greater adherence to participation in the southeast region of Brazil (87.1%), followed by the northeast region (6.5%), south (4.8%) and the center-west (1.6%). The profile of faller older people in the sample consisted of 89.3% female sex, mean age of 73.1 years old, 48.2% widowers, 33.9% married and mean years of schooling of 9.9. The predominant monthly income was up to 2 Brazilian minimum wage (minimum wage = R\$ 1.320) and the mean number of comorbidities was 2.1. The sample presented a mean of 3.0 falls in the past year. The general health data varied between fair and good condition.

**Conclusion:** The profile of faller older people who look for and remain in a remote program is an important information to help health professionals and managers with planning and implementation of falls prevention programs.

## P-405

### Frailty in geriatric hip fracture patients and the association with mortality and readmission

Ralph Vreeswijk (1), Anne Hoenderdos (1), Kees Kalisvaart (1)

(1) Spaarne Gasthuis

**Background:** The ageing population is increasing worldwide. With this there is also a rise of fall incidents and hip fractures. Previous studies in this older population showed that frailty is a predictor for falls and fractures, but also for mortality and hospital readmission. Aim To investigate the association between the patient's Clinical Frailty Score (CFS) and mortality (within 30 days, 30 days–90 days and 90 days–one year) and readmission (within three months) in geriatric trauma patients.

**Methods:** A single centre retrospective cohort study in geriatric trauma unit patients (aged > 70 years). Frailty was assessed using the Clinical Frailty Scale. The association between frailty and the primary outcomes was assessed using logistic regression analyses with adjustment for potential confounders. A survival analysis was also performed.

**Results:** Included 275 patients, 27 non-frail patients (CFS 0–3), 156 frail patients (CFS 4–6) and 76 severe frail patients (CFS 7–9). Thirty days mortality was significantly higher in frailer patients than patients who were alive at 30 days (OR fully adjusted = 1.60 (1.01–2.53) ) and patients who passed away between 90 days and one year were significantly frailer than patients who were alive at one year (OR fully adjusted = 1.39 (1.11–1.72) ). There was no relation between a higher CFS and readmission.

**Conclusion:** A higher CFS is independently and significantly associated with mortality in geriatric trauma patients. There was no relation between a higher CFS and readmission to the hospital. Early recognition of frail and severe frail patients could reduce mortality.

## P-406

### The use of routine preoperative chest X-rays in elderly patients undergoing acute hip surgery, sense or nonsense?

Ralph Vreeswijk (1), Erik van Duivevoorden (1), Martin Heetveld (1), Kees Kalisvaart (1)

(1) Spaarne Gasthuis

**Objective:** Preoperative chest X-rays (POCR) as part of preoperative screening in older hip fracture patients is thought to be essential for minimizing of perioperative complications. This influences the perioperative management. A study in 2017 showed that the selective use of POCR in patients with clinical abnormalities is safe and unnecessary saves costs.

**Aim:** The present study investigated the need for POCR specifically in elderly patients with a hip fracture.

**Methods:** Retrospective analysis of hip fracture patients (aged > 70 years). All performed preoperative diagnostics were analysed. Extent and/or reason for delay of surgery was evaluated.

**Results:** 407 patients were included, 70.6% (n = 295) were female, consistent with the current epidemiological key figures. The POCR showed abnormalities in 41.3%. At 3.9% of the patients, the POCR yielded consequences for the operation: varying from consultation of specialists, starting antibiotic treatment preoperatively. In no case did POCR lead to cancel the proposed operation. In 1.5% of the cases, the POCR led to a postponement of the operation, all but one case involved pneumonia. Findings from POCR added 5/7 of the patients with pneumonia matched the clinical findings. In one patient POCR showed a pneumothorax, which was consistent with clinical findings. Detecting it of new abnormal clinical findings increased with increasing age, P = 0.02.

**Conclusion:** Performing POCR routinely does not lead to safer perioperative care. In older hip-fracture patients a thorough admission interview, physical examination and blood analysis could detect signs of abnormalities. Skipping a POCR is safe and reduces unnecessary costs.

## P-407

### The effect of fear of falling of older adults with stroke on their self-efficacy and quality of life: cross-sectional study

Hasret Erden (1), Burcu Akpınar Söylemez (2)

(1) PhD student, Dokuz Eylul University Enstitute of Health Science, (2) Assoc. Prof. Dokuz Eylul University, Faculty of Nursing

**Introduction:** It was conducted to examine the effect of fear of falling (FoF) on self-efficacy and quality of life (QoL) in older adults with stroke.

**Methods:** A descriptive cross-sectional study design was used. One hundred twenty-one older adults who had a stroke and applied to hospital between March–December 2021 were included. Data were collected using the Sociodemographic Characteristics Form, Stroke Specific QoL Scale (SS-QOL), Tinetti Falls Efficacy Scale (TFES), Stroke Self-Efficacy Questionnaire (T-SSEQ), Barthel Activities of Daily Living Index (BI), Standardized Mini Mental Test (SMMT). Descriptive statistics, numbers, percentages, mean, Pearson correlation analysis, and simple linear regression analysis were used.

**Results:** The mean age of older adults with stroke was  $74.19 \pm 6.66$  years. The mean TFES score was  $47.67 \pm 17.38$ , the mean T-SSEQ score was  $22.49 \pm 7.64$ , and the mean SS-QOL score was  $3.13 \pm 0.68$ . A statistically significant negative correlation was found between FoF and self-efficacy ( $r: -0.849$ ;  $p < 0.001$ ) and FoF and QoL ( $r: -0.846$ ;  $p < 0.001$ ). As a result of simple linear regression analysis, it is seen that T-FES has a statistically significant effect on T-SSEQ ( $F = 308.107$ ;  $p < 0.001$ ;  $t = -17.553$ ), and FoF score explains 72.1% of the change in T-SSEQ ( $R^2 = 0.721$ ). T-FES had a significant effect on SS-QOL ( $F = 299.608$ ;  $p < 0.001$ ;  $t = -17.309$ ), and 71.6% of the change in SS-QOL was explained by T-FES ( $R^2 = 0.716$ ).

**Conclusion:** As a result of the study, it was determined that the FoF in older adults with stroke significantly affects their self-efficacy and QoL. It is recommended to evaluate the FoF in detail and comprehensive in older adults who have had a stroke.

## P-409

### Gender and age specific aspects of GAIT characteristics in community-DWelling older persons with different physical functional levels

Freiberger Ellen (1), Vinyard Dominique (2), Golgert Stefan (2), Krumpoch Sebastian (3), Dapp Ulrike (4)

(1) Institute for Biomedicine of Aging, FAU Erlangen-Nürnberg, (2) Albertinen Haus Hamburg, (3) FAU-ERlangen-Nürnberg, (4) Albertinen-Haus Hamburg

**Introduction:** Quantitative gait analysis can support clinical diagnostics, monitor progression of diseases and provide information about the efficacy of interventions. We wanted to investigate values for gait parameters covering the broad spectrum of ageing, gender and health. Therefore, we differentiated between the groups robust, transient and frail by functional ability as measured with Short Physical Performance Battery (SPPB).

**Methods:** A framework-based approach that comprises eight gait parameters: gait speed, and other gait parameters was used [1]. Gait parameters of older community-dwelling persons were measured with an objective gait analysis system (GAITrite) stratified by the SPPB (robust = SPPB 11 + 12; transient = SPPB 8–10; frail = SPPB 0–7 points).

**Results:** We assessed 642 community-dwelling participants: age  $78.5 \pm 4.8$ ;  $n = 233$  male,  $n = 409$  female. Further distinguishing subgroups of sex and age by functional ability level revealed higher ranges for values of gait parameters. For example, at preferred gait speed in the age group of 70–79 years differed significantly ( $p < 0.001$ ) between  $92.3$  cm/s (SPPB frail) and  $131.3$  cm/s (SPPB robust). Similar significant differences were obtained in the age group 80 years and older. With regard to gender also significant differences were found e.g., in men, ranging from  $133.6 \pm 19.0$  cm/s in the robust  $115.9 \pm 19.2$  cm/s in the transient, and  $90.8 \pm 21.6$  cm/s in the frail group. Similar significant differences were found for women as well.

**Key Conclusions:** Interestingly, we found that common practice of grouping by gender and age actually masks the wide continuum of values, and functional ability seems to be having an even larger influence on gait speed.

**Reference:**

[1] Dapp et al. BMC Geriatrics (2022) 22:713.

## P-410

### Audit of assessment, prevalence, and treatment of Osteoporosis for patients attending the Inflammatory Bowel Disease service in Mullingar Regional Hospital

Marianne Foley (1), David Moloney (2)

(1) Mater Misericordiae University Hospital, Dublin, (2) Midlands Regional Hospital Mullingar

**Background:** Courses of steroids are common in patients with inflammatory bowel disease (IBD) and are a risk factor for developing osteoporosis. Osteoporosis is a clinically silent entity and osteoporosis-related fractures are associated with chronic pain and disability. In this audit, we aimed to assess adherence to international guidelines for osteoporosis risk assessment.

**Methods:** A retrospective audit was performed with a random sampling of 10% of the patients attending between October 2021 to October 2022 to the IBD clinic in Mullingar Hospital. Data included demographics, IBD diagnosis, FRAX score, DEXA results, and use of bone protection. Clinical practice was compared against European Crohn's and Colitis Organisation (ECCO) recommendations.

**Results:** Of 150 charts reviewed, 39 charts were missing essential data and 8 had a diagnosis other than IBD. All 103 patients included in the analysis had received > 3 months of systemic steroid use, of which 50 had a diagnosis of Crohn's disease and 63 with ulcerative colitis. Two (2%) patients had a FRAX risk assessment for osteoporosis, and 22 (21%) had a DEXA ordered, of which 7 (7%) were by the IBD clinic. Two (2%) patients had a previous fragility fracture and 3 (3%) had been diagnosed with osteoporosis. Bone protection was used in 21 (20%) patients receiving steroids.

**Conclusion:** There are low rates of osteoporosis screening for IBD patients attending this service. There was inadequate data in the charts to calculate FRAX scores to assess osteoporosis prevalence. An intervention tool is being designed and further audit will be undertaken following implementation.

## P-411

### Effect of a multicomponent exercise program and cognitive training (vivifrail-cogn) on cognitive function and depressive symptoms in frail community older people with high risk of falls

Carla Gamez Asuncion (1), Gebauer Campos Maria (2), Mercedes Hornillos Calvo (1), Cristina Udina Argilaga (3), Juan Luis Sanchez Sanchez (4), Álvaro Casas Herrero (5), Mari Carmen Herrero Moreno (1)

(1) University Hospital Of Guadalajara (Spain), (2) University Hospital of Guadalajara (Spain), (3) Parc Sanitari Pere Virgili, Barcelona, Spain; RE-FiT Bcn Research Group, Vall Hebron Research Institute, Barcelona, Spain., (4) MOVE-IT Research Group, Department of Physical Education, Faculty of Education Sciences, University of Cadiz, Cadiz, Spain; Health Sciences Department, Universidad Pública de Navarra (UPNA), Pamplona, Spain., (5) Health Sciences Department, Universidad Pública de Navarra

(UPNA), Pamplona, Spain. alvaro.casas.herrero@navarra.es. Geriatrics Department, Hospital Universitario de Navarra (HUN), C/Irunlarrea s/n 31008, Pamplona, Spain. alvaro.casas.herrero@navarra.es. Navarra Institute for Health Research (IdiSNA), Pamplona, Spain. alvaro.casas.herrero@navarra.es. CIBER of Frailty and Healthy Aging (CIBERFES), Instituto de Salud Carlos III, Madrid, Spain. alvaro.casas.herrero@navarra.es

**Introduction:** Multicomponent physical exercise (MCE) and cognitive training (CT) seem capable to reduce falls and associated events by improving physical and mental capacities of the individual, although evidence is limited in this regard. The objective of this work is to explore the effects of Vivifrail-cogn, a combined MCE-CT program, on the mental capacities of frail older adults at risk of falling.

**Methods:** Two-brand randomized clinical trial with 78 outpatients (age = 84.23 ± 4.76) with pre-frailty/frailty (Fried Criteria) and high risk of falling. The participants in the intervention will partake in a home-based intervention combining the individualized Vivifrail MCE and a personalized executive function-based CT. Controls will receive the Otago Program. The primary outcome will be the incidence of falls over 1-year. We evaluated the effects of the program on the Montreal Cognitive Assessment (MoCa), Trail Making Test-A (TMT-A), dual-task language and arithmetic gait speed test and psychological status (15-item GDS). The study completion is expected for December 2024.

**Results:** After 3-month intervention, linear mixed models showed non-significant results between-group differences in the evolution of MoCa ( $\beta = -0.11$ ; 95% CI -1.06, 3.61), GDS ( $\beta = -0.65$ ; 95% CI -2.34, 1.05), TMT-A ( $\beta = 28.43$ ; 95% CI -22.08, 78.93), Dual Task-language ( $\beta = 0.08$ ; 95% CI -0.04, 0.20), Dual Task-arithmetic ( $\beta = -0.01$ ; 95% CI -0.15, 0.12).

**Key Conclusions:** These preliminary results failed to show effects of Vivifrail-cogn on the mental capacities evaluated. Importantly, these observations might result from the low number of individuals included in present analyses. Therefore, our results should be interpreted with caution, due to statistical power concerns.

## P-412

### Implementing an Integrated Orthogeriatric Service in Helsinki University Hospital: “The Hip fracture”-pilot

Ulla Aalto (1), Ulla Anttila (2), Eliisa Nyyssölä (3), Anni Varonen (4), Hanna Öhman (5)

(1) Department of Geriatrics, Helsinki University Hospital, Helsinki, Finland, (2) Social Services and Health Care, City of Helsinki, (3) Department of Physiotherapy, Helsinki University Hospital, (4) Department of Orthopedics and Plastic Surgery, Helsinki University Hospital, (5) Department of Geriatrics, Helsinki University Hospital

**Introduction:** The aim of the pilot was to implement an integrated orthogeriatric service in Helsinki University Hospital orthopedic wards in 2022. Moreover, the goal was to standardize the care of hip fracture patients in the orthopedic wards.

**Methods:** During the pilot-year a multidisciplinary team with competencies in geriatrics (geriatrician, clinical nurses and a physiotherapist) worked with the orthopedic team to deliver combined care and geriatric assessment for older hip fracture patients ( $\geq 65$  yrs) during their stay in the orthopedic hospital. In addition, educational sessions on various topics were held to hospital health

care staff to support the good practices in care of older adults. Key performance indicators were prompt surgery, length of stay, and number of patients receiving CGA.

**Results:** In total, 360 hip fracture patients received a geriatric assessment. Actions following the assessment were commonly medication changes, advice on delirium risk or treatment, and attempts to support early mobilization and ameliorate patients’ nutritional status. Of all hip fracture patients 78% had surgery in  $\leq 36$  h, and 70% were mobilized during the hospital stay. Time spent in the orthopedic ward was shorter compared with the previous year (mean 3.8 vs 5.4 days). This possibly indicates success in optimizing patients’ postoperative status and in coordinating the discharge planning and transmissions to the rehabilitation units.

**Conclusion:** The pilot succeeded in highlighting the benefits of a geriatric-orthopedic model. As a result, the orthogeriatric service model is now permanently established in two orthopedic hospitals in Helsinki University Hospital.

Key words: orthogeriatrics, geriatric-orthopedics, hip fracture, CGA.

## P-413

### Vitamin D single dose loading regimen in Neck of Femur Fracture Patients

Sophie Blackburn (1), Ruth McIntyre (1), Maya Williams (1), John Asumang (1), Alice Gandee (1), Shiree Khinder (1), Avinash Sharma (1)

(1) Chelsea and Westminster Hospital NHS Foundation Trust

**Introduction:** Best practice tariff for Neck of Femur Fractures (NOFF) includes establishing a bone protection plan (BPP). Optimal management is often delayed due to insufficient vitamin D levels. Here we reviewed the administration of anti-resorptive (AR) therapies when giving vitamin D loading doses over 7 weeks compared to stat high dosing followed by maintenance therapy.

**Method:** Pre-intervention, we reviewed vitamin D levels, treatment given and bone protection therapy administered in all new NOFF admissions over 3 months. We introduced once-only high dose vitamin D therapy in deplete individuals over subsequent 3 months; deplete (Vit D < 50) patients received 140,000 units stat colecalciferol, patients with insufficient levels (Vit D 50–70) received 60,000 units stat colecalciferol and replete individuals received adcal maintenance. Patients were given in-patient AR therapy or referred to fracture liaison service (FLS).

**Results:** Pre-intervention included 64 patients, of which 61% (N = 39) had low vitamin D levels. These patients were loaded with once weekly 40,000 units of colecalciferol for 7 weeks and referred to FLS; 51% (N = 24) received an appointment within 4 months. Only 14% (N = 9) received in-patient AR treatment. Post intervention, 84 patients were reviewed. Vitamin D replacement was required in 69% (N = 59) of patients, of which 83% (N = 49) received the new loading regimen. This allowed 53% (N = 20) of eligible patients to receive in-patient AR therapy.

**Conclusion:** Administering high dose vitamin D to NOFF patients allowed us to increase in-patient AR therapy treatment 3.7 times. This simple intervention results in less out-patient appointments and treatment is given before opportunity to re-fracture.

**P-414****Risk factors for repetitive falls among patients with mild cognitive impairments in a geriatric memory clinic**

Sophie Roumilhac (1), Emeline Cailliau (2), François Puisieux (1), Yaohua Chen (1)

(1) Département de Gériatrie, CHU de LILLE, LILLE, (2) Unité statistique, CHU de Lille, Lille

**Introduction:** Falls are a major cause of morbidity and mortality affecting about one third of people over 65 years old. Although patients with Mild Cognitive Impairments (MCI) have a preserved autonomy, they have an increased risk of repeated falls with a risk of functional and cognitive decline altering their quality of life. However, the specific risk factors for falls in this population are not well described. Identifying these factors would improve falls prevention at an early stage. Thus, the main objective of this study is to describe the factors associated with repeated falls in a group of patients with MCI, who were assessed in a Geriatric Memory Clinic. The secondary objective is to evaluate the impact of a multidisciplinary assessment and of the compliance with the recommendations, on the number of subsequent falls.

**Method:** This is a single-center retrospective study conducted in a Geriatric Day Hospital, at Lille University Hospital Center, in the North of France. We included the patients with MCI, who have been evaluated both in the day hospital for cognitive assessment and the day hospital for falls assessment, within a maximum of 6 months between both day hospitals, from June 2015 to June 2021. We collected sociodemographic, clinical and paraclinical data from these assessments. For the first objective, we performed a comparison between the group of patients who reported less than two falls in the 6 months prior to the day hospital, and those who reported two or more falls. For the secondary objective, we compared the number of falls during the 6 months prior to the day hospital for falls, with the number of falls during the 6 months after the day hospital. The compliance with the recommendations was defined by the compliance with at least the half of the recommendations made after fall day hospital.

**Results:** Of 235 patients over the study period, 97 patients with MCI were included. An older age, a higher body mass index (BMI), a chronic alcohol intake, a low IADL score, and a lower plasmatic 25-OH vitamin D level were significantly associated with repeated falls in a univariate analysis. In contrast, having hypnotic medications, a weight loss, and a high FAZEKAS score on brain MRI were significantly associated with experiencing fewer than two falls over 6 months. Eventually, multivariate analysis showed that only BMI and age were independent factors for repetitive falls (OR = 1.92 [1.09; 3.38] and 1.60 [1.05; 2.44], respectively), while having hypnotic medications and a high FAZEKAS score were inversely associated with repeated falls (OR = 0.20 [0.046; 0.89] and 0.46 [0.27; 0.80], respectively). Regarding the secondary objective, for the 39 patients who were evaluated at 6 months follow-up, there was a significant decrease in the number of falls ( $p = 0.0002$ ). However, following the recommendations was not significantly related to this decrease ( $p = 0.090$ ).

**Conclusion:** Repetitive falls in patients with MCI appeared to be associated with an older age and a higher BMI. The multiplinary assessment in the day hospital was efficient to prevent future falls, which underlined the importance of prevention in this group. Additional prospective studies are needed to confirm our findings, and to elaborate the recommendations for clinical practice.

**P-415****Topic evolution of falls over time through natural language processing of general practitioners' clinical notes**

Noman Dormosh (1), Martijn Heymans (2), Martijn Schut (3), Ameen Abu-Hanna (1), Nathalie van der Velde (4)

(1) Amsterdam UMC location University of Amsterdam, Department of Medical Informatics, Amsterdam, The Netherlands, (2) Amsterdam UMC location Vrije Universiteit Amsterdam, Department of Epidemiology and Data Science, Amsterdam, The Netherlands, (3) Amsterdam UMC location Vrije Universiteit Amsterdam, Department of Clinical Chemistry, Amsterdam, The Netherlands, (4) Amsterdam UMC location University of Amsterdam, Department of Internal Medicine, Section of Geriatric Medicine, Amsterdam, The Netherlands

**Background:** Most studies on fall risk factors are cross-sectional, collecting data at a single point in time without considering the influence of time on fall risk. However, falls are complex and involve multiple dynamic risk factors that change over time. The longitudinal clinical notes within electronic health records (EHR) provide an opportunity to analyze fall risk factor trajectories through Natural Language Processing (NLP) techniques, specifically dynamic topic modeling. This study aims to uncover fall-related topics and track their evolving patterns or trends leading up to falls.

**Methods:** This is a case-cohort study of a large cohort drawn from primary care EHR data, covering information on patients between 2016 and 2019. Cases were patients who fell in the year 2019 but had not experienced any falls in the preceding three years (2016–2018). The control group was randomly sampled patients, with similar size to the cases group, who did not endure falls during the whole study follow-up period. We applied dynamic topic modelling on the longitudinal clinical notes collected between 2016 and 2018, to uncover the trend of risk factors associated with falls. The outcome (fall) was then determined in 2019. We compared the trend lines of the case and control groups using the slopes, which indicate direction and steepness of the change over time.

**Results:** A total of 2384 fallers (cases) and an equal number of randomly sampled controls were included. Our NLP approach discovered 264 topics from the entire clinical notes, of which 25 topics showed significant differences in trends between the case and control groups. Topics such as medications, renal care, family caregivers, hospital admission/discharge, and referral/streamlining diagnostic pathways exhibited a consistent increase in steepness over time within the cases group before the occurrence of falls.

**Conclusions:** Numerous topics exhibited a progressive emergence, signaling a warning sign of imminent fall risk. Early recognition of health conditions demanding care is crucial for applying proactive and comprehensive multifactorial assessments that address underlying causes, ultimately reducing falls and fall-related injuries.

**P-416****FastTraX fracture service-reducing wait time for nursing home residents in the emergency**

Claire Noonan (1), Tara Coughlan (2), Sarah Coveney (1), SP Kennelly (3)

(1) Tallaght University Hospital, (2) Tallaght University Hospital, Trinity College Dublin, (3) Tallaght University Hospital, Trinity College Dublin

**Introduction:** Nursing Home Residents (NHR) are among the frailest of older people and require a gerontologically attuned approach to care. The introduction of a rapid response service, utilising mobile x-ray, for those patients with possible fracture was the result of a QI project to improve care for such patients. The impact of this service is compared to prior usual care. FastTraX ensures NHR receive optimal orthogeriatric care without emergency department (ED) presentation.

**Methods:** These initial case studies outline the rapid response pathway of a NHR post upper limb fracture compared to the patient journey prior to this innovation.

**Results:** An 86 year old man was referred to FastTraX following a fall. A mobile x-ray was done at the nursing home, confirming a clavicle fracture. The images and report were presented by the RANP, with relevant medical and functional history, to the orthogeriatric and orthopaedic team. Consensus decision was for conservative management. A falls and medications review was completed in liaison with the primary care physician. A virtual follow up was made at 3 days post fall to ensure effective pain management, facilitate physiotherapy review, to elicit any adverse events and to organise fracture clinic follow up. A 78 year old female was transferred from nursing home to the emergency department following a fall. She was triaged and waited to be seen by an ED physician who organised x-ray which confirmed a clavicle fracture. She was then seen by the orthopaedic team, conservative management was decided upon and she was discharged back to the nursing home with analgesia and a follow up fracture clinic appointment in a number of weeks. 12 h spent in the emergency department.

**Discussion:** This RANP led integrated response to the conservative management of fractures in NHR has been recently introduced and data collection is ongoing. It has supported nursing home staff to allow residents avoid transfer to the ED, where appropriate, thereby avoiding the potential risks and adverse events associated with same.

## P-417

### Inpatient falls: improving quality of medical reviews in Clontarf Hospital

Al-Husein Hammoudi (1), Husam Alhuwaish (1), Sanja Malosevac (1), Elizabeth Callaly (2), Eva Gaynor (3)

(1) Clontarf Hospital, Ireland, (2) The Mater Misericordiae University Hospital, Ireland, (3) ClontarfHospital, Ireland

**Introduction:** Falls are the most common adverse incident reported in Irish Hospitals, and failure to adequately assess patients following inpatient falls can lead to a missed opportunity to prevent morbidity and mortality. In order to improve the quality of the post-fall assessment, we redesigned the medical review proforma at our institution.

**Methods:** We reviewed the medical charts of 28 patients who had suffered an inpatient fall (June to September 2022) regarding the post-fall medical review key quality elements, including history, examination, medical management, and future fall prevention measures. This revealed areas for improvement in medical review and documentation. We then introduced a post-fall proforma at Clontarf Hospital, which was included in hospital policy. Following this implementation, we reviewed the quality of medical assessment from charts on 34 patients who had documented falls from 09/03/2023 to 26/05/23. We examined the same key quality elements, including history, examination, medical management, and future fall prevention measures.

**Results:** There was a considerable improvement in almost all the components of fall assessment, except for pupillary reflex examination after the proforma was implemented. The rate of joint

examination improved from 39.29 to 93.33%. Skull examination improved from 10.71 to 90%. Glasgow Coma Scale documentation improved from 53 to 93%, and medication review improved from 17.86 to 86.67%.

**Conclusion:** Implementing a focused post-fall proforma resulted in a significant quality improvement in the inpatient post-fall assessment process.

## P-418

### Predictive factors of Delirium in neck of femur fracture and post-operative outcomes

James Cochrane (1), Ka La Ng (1), Jane Russ (1), Michaela Roberts (1)

(1) Morriston Hospital

**Introduction:** Neck of femur fractures (NOF) remain a significant cause of mortality in the elderly, especially in those who develop delirium post operatively. The aim of our study is to identify risk factors that may contribute to developing a delirium.

**Method:** A prospective cohort study of 717 patients presenting to Morriston Hospital who underwent operative management for a NOF fracture.

**Results:** A total of 103 patients developed a post-operative delirium, an incidence of 14.4%. Clinical Frailty Score (CFS) and Abbreviated Mental Test Score (AMTS) proved to be significantly associated with developing delirium ( $p < 0.0001$ ). Delirium was highly prevalent in patients with moderate frailty ( $CFS6 \geq$ ) and an abnormal AMT score ( $< 8$ ), present in 70% and 73% respectively with individual odds ratios of 4.1 and 5.2. Delirious patients suffered higher inpatient mortality (16% v 5%,  $p 0.0004$ ), an increased length of stay (32 vs 23 days,  $p < 0.0001$ ) and were more likely to be directly institutionalised (10% vs 3%  $p 0.002$ ) without rehabilitation. Admission inflammatory markers and prolonged waiting times for theatre were highly prevalent in both groups and not pursued.

**Conclusions:** Patients presenting with moderate frailty and abnormal AMTS were at greatest risk of developing a delirium which was associated with poorer outcomes. We propose identifying high-risk patients from the point of admission to ensure early targeting of potential reversible factors. A delirium toolkit could aid in identifying these patients and there may also be an argument for the prioritisation of high-risk individuals in theatre list given their increased mortality.

## P-419

### Can user-centered design and behavior change techniques address socio-technical challenges associated with the use of multifactorial falls risk assessment tools in primary care?

Sara S. Groos (1), Stefanie M. Tan (1), Annemiek J. Linn (2), Judith I. Kuiper (3), Natasja M. Van Schoor (4), Julia C. M. Van Weert (2), Nathalie Van der Velde (1)

(1) Department of Internal Medicine, Section of Geriatric Medicine, Amsterdam UMC, Amsterdam Public Health Research Institute, University of Amsterdam, Amsterdam, The Netherlands, (2) Amsterdam School of Communication Research/ASCoR, University of Amsterdam, Amsterdam, The Netherlands, (3) VeiligheidNL, Amsterdam, The Netherlands, (4) Department of Epidemiology and Data Science, Amsterdam UMC, Amsterdam Public Health Research Institute, Amsterdam, The Netherlands

**Introduction:** Poor workflow compatibility, a shift to multi-focused care, and negative behavioral beliefs are examples of user-specific, socio-technical challenges that are hindering the usefulness of multifactorial falls risk assessment tools (FRATs) for falls prevention in older adults. This research examined how such challenges can be solved in a multifactorial FRAT (i.e., the ‘Valanalyse’ by VeiligheidNL) with user-centered design (UCD) and behavior change techniques.

**Methods:** UCD involves users throughout the development process to identify user-specific, socio-technical challenges early on. Behavior change techniques (e.g., providing contingent rewards) guide behavior change by targeting identified challenges (e.g., lack of incentives). Insights from primary care professionals were gathered at different development stages via survey research (N = 31), focus groups (N = 44), and usability testing (N = 12).

**Results:** Survey data was clustered to construct personas (i.e., fictitious user descriptions) representing the distinct challenges of six different users (e.g., “The assessment takes too much time for one client visit”). Together, the personas and focus group data informed 13 design principles (e.g., personalization, tunneling) for tool optimization in different geriatric, primary-care contexts, and 14 behavior change techniques (e.g., goal setting, guided practice). These insights were translated into a prototype for usability testing. The prototype and results will be presented at the time of the conference.

**Conclusion:** UCD is helpful at addressing user-specific, socio-technical challenges that are inhibiting the optimal use of multifactorial FRATs by primary care professionals. In turn, using behavior change techniques can help increase tool use in different geriatric, primary care contexts.

## P-420

### Prevalence and factors associated with malnutrition in hospitalized patients with hip fracture at Hospital Rey Juan Carlos

Verónica Liz García Cárdenas (1), Clara Valverde Fontcuberta (1), Andrea Sáenz de Tejada Granados (1), Laura Cotano Abad (1), Sonia Torras Cortada (1), Raquel Barrera Crispin (1), Cristina Carrasco Paniagua (1), Sofia González Chávez (1), María José Veneg

(1) Hospital Universitario Rey Juan Carlos, Madrid

**Introduction:** Malnutrition in patients with hip fracture (HF) is a frequent problem, associated with multiple adverse events. Our objective is to determine the prevalence of malnutrition and risk of malnutrition in our population with HF measured by Mini Nutritional Assessment–Short Form score (MNA-SF), analyze its most frequent characteristics as well as the main outcomes for this group of patients.

**Methods:** Prospective observational study in patients  $\geq 75$  years old, admitted for HF at the Hospital Rey Juan Carlos (Madrid) during 2022. Demographic, functional, and cognitive characteristics, dysphagia and nutritional screening, hospital stay, readmission after one month, and mortality were analyzed. The differences between the well-nourished patients and who were at risk of malnutrition or malnutrition were studied. For the comparison of the qualitative variables, the  $\chi^2$  test was used and for the quantitative ones, the comparison of means with the Student’s T test.

**Results:** of the 236 patients, 56 (23.7%) had MNA-SF  $< 8$  (malnutrition), 138 (58.5%) between 8 and 11 (risk of malnutrition) and 42 (17.8%) between 12 and 14 (good nutritional status). The group of malnourished or at risk of malnutrition differed significantly from the well-nourished in that they were older, lived more in a residence, lower Index Barthel, more cognitive impairment, develop more delirium and presented a dysphagia screening test more frequently.

**Conclusions:** The prevalence of malnutrition or risk of malnutrition measured by MNA is very high in our population with HF. In our study, malnutrition was associated with a higher percent of institutionalization at discharge.

## P-421

### Sensory function impairment as a falls risk factor of patients on a frailty intervention team pathway

Siobhan Magner (1), Jack Holman (2), Roulla Katiri (3), Cian O’Caheny (4), Colm Byrne (5)

(1) Physiotherapy Department, Mater Misericordiae University Hospital (MMUH), Dublin, Ireland, (2) University of Nottingham Hearing Sciences, Faculty of Medicine & Health Sciences, Glasgow Royal Infirmary, Glasgow, Scotland, (3) Audiology Department, MMUH, Dublin, Ireland, (4) Pharmacy Department, MMUH, Dublin, Ireland, (5) Department of Medicine for the Older Person, MMUH, Dublin, Ireland

**Introduction:** The 2022 World Guidelines for Falls provide a patient-centered framework to support the identification, prevention, and management of falls in older adults, and suggest measuring sensory function with regards to falls risk including dizziness, vision, and hearing[1]. This audit applied the falls risk stratification recommendations and reviewed the individual risk factor variables predictive of falls in those assessed by the MMUH Frailty Intervention Team (FIT).

**Methods:** Patients aged 65 years or older, attended the emergency department and who had a Comprehensive Geriatric Assessment (CGA) performed by FIT between January and April 2023 were included. Sensory function status data was retrieved from each CGA’s. Analysis controlled for age, gender, clinical frailty score, delirium, cardiac risk factors, orthostatic hypotension, motor function, and medicines reconciliation.

**Results:** During the four-month period, 116 (33.4%) attendances were due to falls. Following removal of those missing key data, almost all attendees were in the ‘high’ (n = 140, 48.6%), or ‘low’ fall risk category (n = 134, 46.5%). Very few (n = 14, 4.9%) were in the ‘intermediate’ category. The most prominent impairments in the high and low groups were balance (80.8 & 57.8%) and vision (73.7 & 67.3%). Hearing status was significantly predicted by risk grouping, whereas balance and vision were not. Most older adults in the high-risk category had an intervention in place for mobility, hearing, and/or vision.

**Key Conclusions:** Through the study period, most older adults fell into the low or high-risk categories, with a very small minority in the intermediate category. While impaired balance and vision were the most common impairments, hearing status alone was related to risk group. These results give valuable insight through a practical application of guidelines, pose questions for the application of three falls risk groups and the capacity for additional sensory intervention.

#### Reference:

1. Montero-Odasso, M., van der Velde, N., Martin, F.C., Petrovic, M., Tan, M.P., Ryg, J., Aguilar-Navarro, S., Alexander, N.B., Becker, C., Blain, H., Bourke, R., Cameron, I.D., Camicioli, R., Clemson, L., Close, J., Delbaere, K., Duan, L., Duque, G., Dyer, S.M. and Freiberger, E. (2022). World guidelines for falls prevention and management for older adults: a global initiative. *Age and Ageing*, [online] 51 (9).

## P-422

### Profile of older adults post hip fracture: a pre and post covid comparison

Roisin Costello (1), Marie O'Connor (2), Joanne Larkin (3)

(1) National Orthopaedic Hospital Cappagh, Ireland, (2) National Orthopaedic Hospital Cappagh (Ireland), Connolly Hospital Blanchardstown (Ireland), (3) National Orthopaedic Hospital Cappagh (Ireland)

The Irish Government implemented public health measures during the COVID-19 pandemic, including self-isolation. Within our rehabilitation centre, the multidisciplinary team remarked on perceived negative health repercussions from “cocooning”, particularly those admitted following hip fracture. We sought to compare patient cohorts in 2019 and 2022. Data was examined from the Irish Hip Fracture Database online portal specific to our Model 3 hospital for 2019 and 2022. Subset analysis was performed on hip fracture patients admitted to an off-site rehabilitation centre using that hospital’s electronic database. There were 345 hip fractures in 2019 and 380 in 2022. The average age was 77 in 2019 and 79 in 2022. ASA grade pre-operatively; in 2019, 33% normal or mild systemic disease, 61% severe systemic disease. These categories in 2022 were 41% and 55% respectively. Discharge destinations in 2019 and 2022 respectively: discharged directly home 27% vs 25%, discharged to offsite rehabilitation 32% vs. 38%, new long-term care (LTC) admission 2% vs 3%. Our rehabilitation unit received 26 patients in 2019 and 39 in 2022. Average timed up and go (TUG) on admission in 2019 vs 2022 was 38.7 and 53.7 s respectively. There was a 55% increase in the number of hip fractures post Covid. Despite similar age and comorbidity profiles, patients average TUG was 39% slower post Covid. Less patients were discharged directly home in 2022, more patients required a period of rehabilitation and new LTC admissions increased. This small study supports our hypothesis surrounding the detrimental effects of cocooning on older patients.

## P-423

### Perception of falls and their consequences by elderly individuals living at home

HALM AYMERIC (1), SACCO Guillaume (2), MICHEL Emeline (2), GUERIN Olivier (2)

(1) Université Côte d’Azur, Centre Hospitalier Universitaire Nice, (2) Université Côte d’Azur, Centre Hospitalier Universitaire de Nice, Clinique Gériatrique de Soins Ambulatoires, Nice, France

**Introduction:** Falls represent a major public health problem. Adherence and compliance to fall prevention programs are poor, with adherence rates barely reaching 10% in some studies. The aim of our study was to explore the perception of falls and their consequences among elderly people living at home in the French population.

**Methods:** We conducted a descriptive, prospective, qualitative, and single-center study at the University Hospital of Nice. The included patients had to be over 75 years old, living at home, and without cognitive impairments. Data collection was done through individual interviews using an interview guide. A thematic qualitative analysis was performed.

**Results:** Seventeen patients were included in the study. The qualitative analysis of the data revealed six themes: The body in the face of a fall, Fall as a marker of aging and changes in habits, Beliefs and assessment of the risk of falls, Fall prevention, Role of the treating physician, and Feelings and judgments.

**Conclusion:** Our study showed that there is a real awareness of this problem among elderly individuals. However, there is a paradox: this awareness is present at a collective level but is more difficult to accept at an individual level. The different representations of falls and the preventive behaviors adopted vary from person to person. It is therefore essential to adapt the prevention message according to the specificities of each patient. This would allow us to propose more targeted and tailored prevention programs for each profile.

## P-424

### Functional Status After Hip Fractures Determine the Risk of Institutionalisation in Nonagenarians. Data from Hospital Universitario de Getafe (Spain)

José Manuel Montero Mejías (1), José Antonio Carnicero Carreño (2), Lucía Cedena Alarcón (1), Pilar Cruzado Navarro (1), María González López (1), Rubí Esmeralda Sandoval Santoyo (1), Alba María Costa Grille (1), Myriam Valdés Aragonés (1)

(1) Hospital Universitario de Getafe, (2) Fundación para la Investigación Biomédica del Hospital Universitario de Getafe

**Introduction:** Hip fractures are a public health problem associated with ageing and frailty because of their impact on quality of life, morbidity and mortality in older people.

**Objective:** The objective is to assess the effect of low functional status (LFS) after the fracture and be nonagenarians on institutionalisation.

**Methods:** A prospective observational study was carried out in the Hospital Universitario de Getafe. 700 patients over 75 years old with hip fracture admitted between 2017 and 2022. The functional status was assessed according to RNFC mobility scale (RNFC-MS) [1]. Low functional status was defined as non-autonomous mobility (RNFC-MS  $\geq 7$ ). To evaluate the association between age and functional status with institutionalisation in non-institutionalized patients prior hip fracture 30 days after discharge we performed a logistic regression using gender as potential confounder.

**Results:** We considered community dwelling elderly prior hip fracture (n = 489, mean age = 84.49, female = 350). A total of 79 participants were institutionalised 30 days after discharge. The risk factors associated with institutionalisation were functional status 30 days after hip fracture (OR [CI 95%]: 5.45 [3.19–9.33] p = < 0.01) and being nonagenarian (OR [CI 95%]: 1.92 [1.13–3.26] p = < 0.01) but no sex differences were found. When both variables were combined the risk of institutionalisation were for non-nonagenarians with LFS (OR [CI 95%]: 7.3 [3.71–14.48] p = < 0.01), nonagenarians with upper functional status (OR [CI 95%]: 3.45 [1.39–8.55] p = < 0.01) and nonagenarians with LFS (OR [CI 95%]: 10.88 [5.17–22.89] p = < 0.01).

**Conclusion:** The lower functional status 30 days after hip fracture and being nonagenarians were the main risk factors associated with institutionalisation.



**P-425****Exercise snacking to improve physical function in older adult memory clinic patients: a 28-day pilot study**

Max J Western (1), Tomas J Welsh (2), Kristen Keen (3), Vanessa Bishop (3), Oliver J Perkin (4)

(1) Centre for Motivation and Health Behaviour Change, Department for Health, University of Bath, Bath, BA2 7AY, UK, (2) RICE–The Research Institute for Care of Older People, Bath, UK; University of Bristol, Bristol, UK; Royal United Hospitals Bath NHS Foundation Trust, Bath, UK, (3) RICE–The Research Institute for Care of Older People, Bath, UK, (4) Centre for Nutrition, Exercise and Metabolism, Department for Health, University of Bath, Bath, UK

**Introduction:** Preventing physical decline in older age is a critical global challenge, which can be partly tackled by exercise. Exercise snacking, i.e. frequent short bouts muscle-strengthening exercises, is an exercise strategy designed to overcome typical participation barriers for older adults. We set out to examine the acceptability of exercise snacking amongst older memory clinic attendees and to explore the efficacy of this approach in improving physical function. **Methods:** Attendees aged  $\geq 65$ -years who scored 3–8 (inclusive) on the short physical performance battery (SPPB) were recruited from a UK memory clinic. Participants completed 28 days of twice daily exercise snacks consisting of five exercises. Acceptability was measured quantitatively and qualitatively using a survey and topic guide informed by the Theoretical Framework of Acceptability. Pre- and post-intervention physical function was measured using the SPPB, timed up-and-go (TUG), and 60s standing balance and sit-to-stand tests.

**Results:** Participants were predominantly male (17/21), mean age 78, mean MMSE 26, 12 had dementia diagnoses. They rated the intervention as acceptable, enjoyable, and low burden. Qualitative findings suggested ease-of-use, flexibility of the programme, and perceived effectiveness were important particularly for non-exercisers. Improvements in SPPB score (8 (1) vs 9 (3),  $p < 0.01$ ), TUG (11.32 (4.02) vs 9.18 (5.25) seconds,  $p < 0.01$ ) and in the 60-s sit-to-stand test (17  $\pm$  5 vs 23  $\pm$  7 repetitions,  $p < 0.01$ ) were observed between baseline and follow-up.

**Key Conclusions:** Exercise snacking is an acceptable and potentially efficacious format of exercise for memory clinic attendees who are at heightened risk of falling and functional decline. Large scale randomised controlled trials are required to determine the effectiveness of this intervention.

**P-426****Five years of the National Audit of Inpatient Falls—a national audit of fall prevention activity and post-fall management in older people who sustain a femoral fracture as an inpatient**

Julie Whitney (1), Sheshi Ninma (2), Preston Aasiyah (2)

(1) King's College London, (2) Royal College of Physicians

**Introduction:** There are around 250,000 inpatient falls in English hospitals each year. Inpatient falls are associated with poor outcomes. Evidence suggests multifactorial assessment and intervention is the most effective way to prevent inpatient falls. There are National Institute of Health and Care Excellence (NICE) quality standards for

safe post fall management. National audit supports improvement in the quality and safety of clinical care.

**Methods:** The National Audit of Inpatient Falls (NAIF) began collecting continuous data from all femoral fractures (as identified on the National Hip Fracture Database) in England and Wales from 2019. Prospective documentation review collects data on multifactorial falls risk assessment (MFRA) prior to the femoral fracture as well as immediate post fall management and presents performance indicators related to NICE guidelines/quality standards.

**Results:** There are around 2000 inpatient femoral fractures each year. Those with an inpatient fracture have double the 30-day mortality of those who fracture elsewhere, highlighting the vulnerability of this group of patients. There has been improvement in most aspects of MFRA and the proportion of patients checked for injury before moving from the floor has increased from 69 to 77%, use of flat lifting equipment from 22 to 29% and medical assessment within 30min of the fall from 52 to 60%. Discussion There have been steady improvements in guideline compliant inpatient fall-prevention and post-fall management, but there is more to do. The programme also produces improvement resources and activities and will be expanding the range injuries covered in the next 2 years.

**P-427****Quality Improvement Project on Assessment and Management of Rib Fractures at Weston General Hospital**

Anna Stoate (1), Linn Oo (1)

(1) University Hospital Bristol and Weston

**Introduction:** Rib fractures are very common worldwide, particularly in the elderly due to the increased risk of fragility fractures. They are associated with significant morbidity and mortality, largely due to respiratory complications secondary to pain. For each additional fracture in the elderly, mortality increases by 19% and the risk of pneumonia by 27% [1]. It is therefore crucial that recognition and effective analgesia is done promptly. This quality improvement project aimed to assess demographics and management of patients presenting to the Emergency Department (ED) at Weston General Hospital (WGH) with rib fractures.

**Methods:** Data was collected over a one-year period from 1/09/2021. A total of 199 patients were diagnosed with rib fractures and a random selection of 57 patients' data was analysed using basic statistics.

**Results:** The average age was 68. 93% had unilateral fractures and 59% had either one or two rib fractures. However, only 9% had severity scores recorded. Despite 29% having a pain score of 8 or more, there was no recorded analgesic prescription for 22% of patients. Of those that did receive analgesia, 33% received strong opioids.

**Conclusion:** Our data showed that there is scope for improvements in calculation of severity scores and analgesia, and therefore hopefully a reduction in complications. Following this data collection, new guidelines on rib fracture initial management have been produced and implemented at WGH. Going forward, we hope the new guidelines will provide a clear pathway for appropriate assessment and management for different severities of rib fractures, thus improving patient care.

**Reference:**

[1] Bulger, E.M. (2000) 'Rib Fractures in the Elderly', *The Journal of Trauma: Injury, Infection, and Critical Care*, 48 (6), pp. 1040–1047.

**P-428****Association between fall-risk increasing drugs and complications three months after a hip fracture**

L. Gutiérrez-Aguilera (1), L.A. Hernández-Sánchez (1), A. López-Iglesias (1), C. Marroquín-Castillo (1), C. Morán-Álvarez (1), E.S. Lippo (1), C. Corral-Tuesta (1), A. Rodríguez-Díaz-Pavon (1), C.G. Alvarez-Pinheiro (1), V. Lavilla-Gracia (1), C. Jiménez

(1) Ramón y Cajal University Hospital

**Objectives:** To determine the association between a higher number of Fall Risk Increasing Drugs (FRIDS) after a hip fracture and the presence of complications during a three-month period after discharge.

**Methods:** Retrospective study of all patients over 70 years who attended an Orthogeriatric consultation three months after hospital discharge following a hip fracture, over a two-year period. Sociodemographic variables, functional status, total number of drugs and FRIDS were collected. Also falls, incident fractures or other emergency department visits. Patients with three or more FRIDS were compared to those who had two or less FRIDS.

**Results:** 433 patients were included (75.1% women, mean age  $86.1 \pm 6.4$  years). Most of them partially dependent (Barthel  $62.5 \pm 31.5$ , FAC  $3.1 \pm 1.7$ ). Three months after discharge they had an average of  $10.8 \pm 3.7$  drugs and  $2.7 \pm 1.7$  FRIDS. 218 (50.3%) had at least three FRIDS, the main being ACE inhibitors/ARBs (45.7%). Patients who had 3 or more FRIDS had worse functional status (Barthel  $54.4 \pm 29.9$  vs  $70.3 \pm 31.2$ ,  $p < 0.001$  and FAC  $2.8 \pm 1.8$  vs  $3.6 \pm 1.6$ ,  $p < 0.001$ ). No differences were found between patients with three or more FRIDS and two or less FRIDS at three month emergency department visits because of falls (61.5% vs 38.5%,  $p = 0.42$ ), fractures (58.3% vs 41.7%,  $p = 0.58$ ) or other reasons (62% vs 39.8%,  $p = 0.05$ ).

**Conclusions:** The use of a higher number of FRIDS is associated with a worse functional status three months after a hip fracture and it seems to increase the risk of an emergency department visit for other reason than falls of fractures.

**P-429****Prevalence of polypharmacy and fall risk increasing drugs (FRIDS) after a hip fracture**

C.C. Marroquín-Castillo (1), A. López-Iglesias (1), L. Gutiérrez-Aguilera (1), L.A. Hernández-Sánchez (1), M.L. Álvarez-Nebreda (1), C. Morán-Álvarez (1), J. Corcuera-Catalá (1), B. Escudero-González (1), V. Lavilla-Gracia (1), S. Lippo (1), C. Corral-Tue

(1) Ramon y Cajal University Hospital

**Objective:** To determine the prevalence of polypharmacy and Fall Risk Increasing drugs (FRIDs) and describe the characteristics of patients who attended an Orthogeriatric outpatient visit 3 months after discharge.

**Methods:** Retrospective, observational study of all patients over 70 years admitted to an Orthogeriatric unit with a hip fracture, who attended a follow-up visit 3 months after discharge, over 2 years. Sociodemographic, functional, cognitive and clinical variables and the total number of drugs and FRIDs at admission and 3 months were collected.

**Results:** 870 patients were included (76.8% female,  $87 \pm 6$  years). 433 patients (49.8%) attended the follow-up visit. They had better functional status at admission (Barthel  $75 \pm 25$  vs  $65 \pm 27$ , FAC  $3.9 \pm 1.3$  vs  $3.4 \pm 1.3$ ), less malnutrition (MNA-SF  $10.7 \pm 2.8$  vs

$9.5 \pm 3$ ), less severe cognitive impairment (GDS  $2.7 \pm 1.9$  vs  $3.4 \pm 1.9$ ), and shorter hospital stay ( $11 \pm 5$  vs  $12 \pm 8$  days), compared to patients who did not attend (all comparisons  $p < 0.001$ ). Three months after discharge, 96.8% had polypharmacy, 60.3% hyperpolypharmacy and the total number of drugs was higher than at admission ( $11 \pm 4$  vs  $8 \pm 4$ ,  $p < 0.001$ ). There was a high prevalence of at least one FRID (92.8%) and 3 or more FRIDs (50.3%), being the most frequent ACE inhibitors/ARBs (45.7%), diuretics (37.6%) and antidepressants (37.2%). The number of FRIDs did not increase from admission ( $2.7 \pm 1.7$ ).

**Conclusions:** Patients who attended an Orthogeriatric consultation three months after a hip fracture had better functional and cognitive status and shorter hospital stay compared to those who did not attend. The prevalence of polypharmacy and FRIDs is high three months after discharge.

**P-430****Is Severe Mental Illness associated with an increased risk of Osteoporosis and Fragility Fractures in Older People? Analysis of UK Primary Care Data**

Christina Avgerinou (1), Kate Walters (1), Juan Carlos Bazo Alvarez (1), David Osborn (2), Robert M West (3), Andrew Clegg (4), Irene Petersen (1)

(1) Department of Primary Care and Population Health, University College London, UK, (2) Division of Psychiatry, University College London, UK; Camden and Islington NHS Foundation Trust, London, UK, (3) Leeds Institute of Health Sciences, University of Leeds, UK, (4) Academic Unit for Ageing and Stroke Research, University of Leeds, UK

**Introduction:** Severe Mental Illness (SMI), particularly schizophrenia, has been associated with reduced bone mineral density and increased risk of fractures, although some studies have shown inconsistent results and there is little research on other types of SMI. We aimed to examine the effect of SMI on recorded diagnosis of osteoporosis and fragility fracture in older people, accounting for age, sex, social deprivation and lifestyle factors (smoking, alcohol and Body Mass Index (BMI)).

**Methods:** We used de-identified data provided as part of routine primary care (IQVIA Medical Research Database). Patients with a diagnosis of SMI (schizophrenia, bipolar disorder, other psychosis) aged 50–99y between 1/1/2000–31/12/2018 were matched 1:8 to age- and sex-adjusted controls without SMI, using Exposure Density Sampling (EDS). We estimated Hazard Ratios (HR) and 95% Confidence Intervals (95% CI) based on Cox Proportional Hazards model. We stratified the analysis by sex, accounting for age, social deprivation, year, smoking, alcohol, and BMI. We imputed missing lifestyle data using Multiple Imputation.

**Results:** In total 444,480 people aged  $\geq 50$  years were included in the analysis (SMI N = 50,006; controls N = 394,474). A prior diagnosis of SMI increased the risk of osteoporosis diagnosis by 49% in men (HR = 1.49; 95% CI 1.30–1.71), whereas in women it had no significant effect (HR = 0.99; 95% CI 0.93–1.05). Prior diagnosis of SMI increased risk of fragility fracture by 82% in men (HR = 1.82; 95% CI 1.65–2.01), and by 50% in women (HR = 1.50; 95% CI 1.43–1.58).

**Key Conclusions:** SMI is associated with increased risk of osteoporosis in men, and fragility fractures in both men and women, with a greater effect in men.

**P-431****General characteristics of patients with frequent falls and their response to rehabilitation treatment after hip fracture**

Natalia Rodríguez Osto (1), Beatriz Borao Laguna (1), Romik Méndez Baldeón (1), Guillermo Menéndez Fermín (1), Juan Millán Moreno Martínez (1), Ana Cristina Sanjoaquin Romero (1), María Pilar Mesa Lampré (1)

(1) Hospital Nuestra Señora de Gracia

**Introduction:** Recurrent falls in the elderly lead to functional decline in activities of daily living and increased complications.

**Methodology:** Prospective descriptive study. Variables: sociodemographic, nutritional (BMI, miniMNA), previous functional assessment (Barthel index, Lawton y Brody index), cognitive assessment, geriatric syndromes, comorbidity (Charlson index), hospital stay, functional gain, walking aids, discharge destination, day hospital and mortality.

**Results:** 2126 total patients, 734 with recurrent falls. About them; Mean age  $86.36 \pm 5.9$ . Women 78.7%; Institutionalized patients 35.4%; miniMNA (X2 0) risk malnutrition 48.6% and malnutrition 11.6%; BMI < 22 (X2 0.001); Barthel index previous (X2 0) : independent 6.5%, mild 55.4%, moderate 20.2%, severe 12.5%, total 5.3%; Lawton and Brody index (X2 0); Pfeiffer (X2 0); Previous geriatric syndromes (X2 < 0.05) : delirium, incontinence, dysphagia, insomnia, pressure ulcers, poly medication, depression/anxiety, visual impairment; Charlson index (X2 0.016); Overall mean hospital stay  $20.63 \pm 9.201$  (X2 0); Functional gain > 20 67.1% (X2 0.001); Discharge aids: walker 59.5%, human + technical aid 20.2%, wheelchair 12.9%; Discharge destination: definitive institutionalization 8.4% (X2 0.024), Temporary institutionalization 5.4% (X2 0.003); Referral to Geriatric hospital day 15.5% (X2 0.003); Mortality (X2 > 0.05).

**Conclusion:** Patients with greater dependence, cognitive impairment, and those institutionalized, are prone to recurrent falls. Geriatric syndromes favors recurrent falls. Definitive institutionalization at hospital discharge is more frequent in patients with recurrent falls. Continuity of functional recovery at discharge from the day hospital and temporary stays are more frequent in patients without recurrent falls.

**P-432****Multimorbidity Patterns and the Risk of Injurious Falls in Older People with Atrial Fibrillation: a Swedish Country-Wide Population-Based Study**

Caterina Trevisan (1), Cecilia Damiano (2), Lu Dai (3), Amaia Calderón-Larrañaga (4), Jonas W. Wastesson (5), Kristina Johnell (6), Graziano Onder (7), Alessandra Marengoni (8), Gregory Y. H. Lip (9), Søren P. Johnsen (10), Mirko Petrovic (11), Davide Lib

(1) Department of Medical Sciences, University of Ferrara, Ferrara, Italy; Department of Medicine, University of Padua, Padua, Italy; Aging Research Center, Department of Neurobiology, Care Sciences and Society (NVS), Karolinska Institutet-Stockholm University, Stockholm, Sweden, (2) Department of Cardiovascular, Endocrine-Metabolic Diseases and Aging, Istituto Superiore di Sanità, Rome, Italy, (3) Aging Research Center, Department of Neurobiology, Care Sciences and Society (NVS), Karolinska Institutet-Stockholm University, Stockholm, Sweden, (4) Aging Research Center, Department of Neurobiology, Care Sciences and Society (NVS), Karolinska Institutet-Stockholm University, Stockholm, Sweden; Stockholm Gerontology Research Center, Stockholm, Sweden, (5)

Aging Research Center, Department of Neurobiology, Care Sciences and Society (NVS), Karolinska Institutet-Stockholm University, Stockholm, Sweden; Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Stockholm, Sweden, (6) Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Stockholm, Sweden, (7) Department of Geriatrics, Fondazione Policlinico Universitario A. Gemelli IRCCS, Catholic University of the Sacred Heart, Rome, Italy, (8) Aging Research Center, Department of Neurobiology, Care Sciences and Society (NVS), Karolinska Institutet-Stockholm University, Stockholm, Sweden; Department of Clinical and Experimental Science, University of Brescia, Brescia, Italy, (9) Liverpool Centre of Cardiovascular Science, University of Liverpool, Liverpool, UK, (10) Danish Center for Clinical Health Services Research, Aalborg University, Aalborg, Denmark, (11) Section of Geriatrics, Department of Internal Medicine and Paediatrics, Ghent University, Ghent, Belgium

**Introduction:** Atrial fibrillation (AF) is associated with an increased risk of falls, partly due to AF-related haemodynamic changes and comorbidities. The aim of this study was to investigate the impact of different multimorbidity patterns on falls risk in older adults with AF.

**Methods:** Using the Swedish National Patient Register, we identified 203,042 individuals (45% females) with AF and at least one additional chronic disease who were aged 65 years or older on January 1, 2017. Injurious falls were defined as falls requiring medical attention. Multimorbidity patterns were identified through latent class analysis, and their association with 3-year falls risk was assessed by Cox regressions.

**Results:** The mean age of the sample was 79.6 (SD: 7.9) years, and the mean number of chronic diseases was 6.6 (SD 3.2). We identified one unspecific multimorbidity pattern (34.2%) and six specific ones, characterized by neuropsychiatric (6.6%), eye (17.4%), musculoskeletal (7.2%), metabolic (15.8%), cardiovascular (7.4%), and complex (11.3%) chronic conditions coexisting with AF. After adjusting for potential confounders, individuals with AF and complex (HR = 1.77, 95% CI 1.70–1.85), neuropsychiatric (HR = 1.56, 95% CI 1.48–1.64), cardiovascular (HR = 1.25, 95% CI 1.19–1.32), eye (HR = 1.20, 95% CI 1.16–1.24), and musculoskeletal (HR = 1.12, 95% CI 1.06–1.18) multimorbidity showed an increased fall risk compared to those with the unspecific pattern.

**Key Conclusions:** Systematic evaluation of multimorbidity patterns in people with AF could help stratify the risk of falls in this population and address targeted preventive interventions. Acknowledgements: The AFFIRMO project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 899871.

**P-433****Implementation of a hip fracture pathway in an emergency department**

heidi gruner (1)

(1) Centro Hospitalar Universitário Lisboa Central (CHULC)

**Introduction:** With the money restraints imposed by the government and the growing elderly population in our country, addressing proximal femoral fractures is mandatory. The implementation of a geriatric hip fracture pathway (VIP-CF) in the emergency department involving a multi-disciplinary team that is essential in a patient-centred care was done in our hospital in 2019. Objective and .

**Methods:** The authors aimed to evaluate the implementation of the hip fracture pathway for geriatric patients (+ 65 years) admitted to an ED of a tertiary university hospital for a 4-year period (april 2019-

march2023). Collected data concerned average age and gender, month, and time of admission to hospital. Average length of time to triage, time to orthopaedist observation, and admission to ward after examination by the internal medicine specialist.

**Results:** Of the patients admitted to the ED there were 1182 included in the study, with an average age of 81,04 years and 1078 (91,2%) female gender. The admission motive was a fall in 868 (73,4%) patients. The admission was generally in autumn 360 and winter 288 patient's vs summer 283 and spring 273 patients. Also, mainly during daytime between 8-12h: 231 (19,5%); 12-16h: 314 (26,5%); and 16–20h: 270 (22,8%). The Manchester Triage System, scored mainly orange 1089 (92,1%), the frame falls 353 or limb problems: 767 (64,8%), with the discriminator moderate pain 775 (65,5%) and gross deformation in 155 patients. In the hip fracture pathway, the Xray is ordered immediately upon suspicion of fracture by the triage nurse (according to previously established criteria by the orthopaedist), where the patient stayed an average length of 3:04 min. The patients are then observed in average 26:03 min later by the orthopaedist. Afterwards observed by an internal medicine specialist for global evaluation including complementary exams ordered by the orthopaedist (chest X-ray, ECG, and blood analysis ordered the orthopaedist) and medication reconciliation. Only then is the patient admitted in an average of 4h and 9:43 min later. Effective discharge to the orthopedic ward or operating room is done in an average 4h and 23:12 min later. As such the patients stayed in the emergency department an average of 9 h 1:82 min which is substantially better than in the previous care model. Discussion: For establishing an efficient patient flow in the ER as in this case, “Lean Thinking” and staff engagement and inter-teamwork are essential. Our hip fracture pathway was the fourth priority pathway created in the ER (after coronary, stroke, and sepsis pathways), underlining its importance.

#### P-434

##### Implementation of a hip fracture pathway in an emergency department

heidi gruner (1), nuno diogo (1), catarina pereira (1), francisco matos (1), iris domingos (1)

(1) Centro Hospitalar Universitário Lisboa Central (CHULC)

**Introduction:** With the money restraints imposed by the government and the growing elderly population, addressing proximal femoral fractures is mandatory. The implementation of a geriatric (+ 65 years) hip fracture pathway (VIP-CF) in the emergency department (ED) involving a multi-disciplinary team, essential in a patient-centred care was done in our hospital in 2019.

**Objective and Methods:** Evaluate the implementation of the VIP-CF in the ED of a tertiary university hospital for 4-years (april2019-march2023). Collected data: average age, gender, month, and time of admission. Average length of time to triage, to orthopaedist observation, and admission to ward after examination by the internist.

**Results:** There were 1182 patients included, average age 81,04 years and 1078 (91,2%) female gender, admission was due to a fall in 868 (73,4%). Mostly in autumn360 and winter288. Mainly during daytime between 8–12h:231 (19,5%) and 12-16h:314 (26,5%). Manchester Triage scored orange in 1089 (92,1%) patients. The frame falls:353 or limb problems:767 (64,8%), discriminator moderate pain:775 (65,5%) or gross deformation:155 patients. Triage average duration was 3:04min, observation by the orthopaedist in average 26:03min later, and admission after an average 4h9:43min. Effective discharge to the orthopaedic ward or operating room was done in average 4h23:12min later. As such the patients stayed in the ED an average 9h1:82min, substantially better than in the previous care model. Discussion: For

establishing an efficient patient flow in the ER, “Lean Thinking” and staff engagement and inter-teamwork are essential. Our hip fracture pathway was the fourth priority pathway created in the ER (after coronary, stroke, and sepsis pathways), underlining its importance.

#### P-435

##### Prevalence of Osteosarcopenia—Tertiary Central Outpatient Clinic Results

Gulcin OZALP (1), Meris Esra BOZKURT (1), Zeynep FETULLAHOGLU (1), Tugba ERDOGAN (1), Cihan KILIC (1), Serdar OZKOK (1), Gulistan BAHAT-OZTURK (1), Mehmet Akif KARAN (1)

(1) Istanbul University, Istanbul Medical School, Department of Internal Medicine, Division of Geriatrics, Capa;34,093 Istanbul, Turkiye

**Introduction:** Osteosarcopenia is a syndrome that defines the coexistence of osteoporosis and sarcopenia, two chronic musculoskeletal diseases associated with aging. We aimed to determine the frequency of osteosarcopenia in patients who applied to our outpatient clinic.

**Material and Method:** The records of patients who applied to the outpatient clinic between November 2012 and August 2022 were analyzed in a cross-sectional prevalence study. Demographic data of the patients, body composition and bone mineral density measured by DXA, and hand grip strength were recorded.

**Results:** The data of 923 of the 2013 patients evaluated within the scope of the study calendar could be accessed. The mean age of the cases was 76 (60–99), and 68.7% of them were women. There were 175 people diagnosed with osteoporosis. (19%). The number of people with probable sarcopenia was 379 (41.1%) and 93 (10%) with osteosarcopenia were identified. The cut-off thresholds for hand grip strength were respectively 32 kg and 22 kg for males and females. A significant relationship was found between probable sarcopenia and osteoporosis in the univariate analysis ( $p < 0.001$ ).

**Conclusion:** It is important to increase awareness of osteosarcopenia in the evaluation of osteoporotic patients. It should be noted that the treatment of sarcopenia (such as exercise and nutrition) is an important co-factor in the treatment of osteoporosis.

Keywords: Osteosarcopenia, osteoporosis, hand grip strength, sarcopenia.

#### P-436

##### Implementation of National Advice on Falls Prevention in Municipalities in Norway—The FALLPREVENT Research Project

Kristin Taraldsen (1), Maria Bjerck (2), Siv Linnerud (1), Rune Solli (1), Therese Brovold (1), Nina R. Olsen (3), Are H. Pripp (1), Henning Øien (4), Tonya M. Hansen (5), Jorunn L. Helbostad (6), Gunhild Hagen (5), Signe Flottorp (7)

(1) Department of Rehabilitation Science and Health Technology, Faculty of Health Sciences, Oslo Metropolitan University (OsloMet), Oslo, Norway, (2) Department of Rehabilitation Science and Health Technology, Faculty of Health Sciences, Oslo Metropolitan University (OsloMet), Oslo, Norway AND Division for Health Services, Norwegian Institute of Public Health Oslo, Norway, (3) Department of Health and Functioning, Faculty of Health and Social Sciences, Bergen, Norway, (4) Division for Health Services, Norwegian Institute of Public Health Oslo, Norway AND Department

of Health Economics and Health Management, University of Oslo, Norway, (5) Division for Health Services, Norwegian Institute of Public Health Oslo, Norway, (6) Department of Neuromedicine and Movement Science, Faculty of Medicine and Health, NTNU, Trondheim, Norway, (7) Division for Health Services, Norwegian Institute of Public Health Oslo, Norway AND Department of General Practice, Institute of Health and Society, University of Oslo, Oslo, Norway

**Introduction:** Falls and fall-related injuries are major contributors to the burden of disease in older people and thus a challenge to the health care systems. In 2022 global guidelines on falls prevention and management was published, and in 2023 the Norwegian Directorate of Health will publish national advice on falls prevention. The overall aim of FALLPREVENT is to enhance the implementation of the national advice in municipalities in Norway.

**Methods:** We have designed a cluster randomised trial with clustering at a city district/municipality level. The clusters will be randomised to either a tailored implementation program (local implementation plans) or usual practice. Main outcome is the extent to which health professionals adhere to the national advice. Secondary endpoints include knowledge on falls prevention, acceptability, implementation leadership, resource use and injurious falls. Experiences from health professionals and managers will be obtained as exploratory endpoints by use of qualitative interviews.

**Results:** We are in the recruitment stage of the study. Where 24 city districts/municipalities are now included, including both small and medium/large size municipalities. The next step is to conduct the baseline assessments in August followed by randomisation in early September.

**Key Conclusions:** There is a global emphasis on the need for implementation of evidence in clinical practice. The FALLPREVENT project will provide more knowledge on how to systematically develop and conduct tailored implementation strategies in health care services for home-dwelling older adults. At the EUGMS congress, we will present preliminary results including recruitment and how to develop local implementation plans.

## P-437

### Knowledge of falls risks and perspectives on falls prevention education among community dwelling older adults attending an Integrated Care Programme for Older Persons in Ireland

Sandra Rice (1), Emma O Shea (1), Suzanne Timmons (1)

(1) University College Cork

**Introduction:** Research has shown that there can be poor uptake and adherence with falls prevention interventions. Evidence suggests this is partially due to poor knowledge and awareness about falls causes, consequences and management amongst community-dwelling older adults. The aim of this study is to explore falls risks knowledge and perspectives on falls prevention education among community-dwelling older adults attending an Integrated Care Programme for Older Persons (ICPOP) in the Republic of Ireland.

**Methods:** A cross-sectional survey design was employed. A novel questionnaire tool, which also included the Falls Risk Assessment Questionnaire (FRAQ), was administered to participants (N = 40) aged 65 + years, attending ICPOP.

**Results:** Participants demonstrated poor knowledge of falls risks factors; on average just 11/22 risk factors were correctly identified. Participants underestimated their own susceptibility to falling. Almost

all participants (97%) indicated being motivated to maintain their independence and lower their risk of falling. Only one-third reported being aware of any measures they could take to reduce falls. The falls prevention strategies that were identified were centred around activity avoidance, with poor awareness of the benefits of physical activity in reducing falls. Participants indicated a preference for face-to-face format for future falls education sessions.

**Key Conclusions:** Addressing knowledge gaps and misconceptions about falls is a key first step in engaging older adults in falls prevention strategies. However, to maintain adherence and achieve long-term health behaviour change strategies to enhance motivation and engagement are vital.

## P-438

### Effect of a multicomponent exercise program and cognitive stimulation (VIVIFRAIL-COGN) on functional ability in frail community older people at risk of falling: a randomized multicentre control trial

Francesca Soler-Parets (1), Juan Luis Sánchez-Sánchez (2), Marina Sánchez-Latorre (3), Ángela Zulema Hernández-Amador (3), Marina Sánchez-Latorre (1), Itxaso Marín-Epelde (1), Débora Moral-Cuesta (1), Natalia Sarmiento (4), Álvaro Casas-Herrero (1)

(1) Geriatrics Department, Hospital Universitario de Navarra (HUN), Pamplona, Spain, (2) MOVE-IT Research Group, Department of Physical Education, Faculty of Education Sciences, University of Cadiz, Spain, (3) Geriatrics Department, Hospital Universitario de Navarra (HUN), Pamplona, Spain, (4) Health Sciences Department, Universidad Pública de Navarra (UPNA), Pamplona, Spain

**Introduction:** Prevalence of falls increases with age, leading to the occurrence of burdensome consequences. Reducing the risk of falls is essential, but, despite exercise and cognitive training-based interventions have shown effectiveness in reducing falls, the evidence on combined interventions remains poor.

**Objective:** To assess the effectiveness of a combined multicomponent exercise program with an executive function based cognitive training program (VIVIFRAIL-COGN), compared to the Otago program.

**Methodology:** Four-centre randomized clinical trial with a 12-week intervention period. 78 pre-frail older adults with high risk of falling were recruited. They were randomized in a 1:1 ratio to the intervention group (IG) or the control group (CG). The IG participated in the combined training program VIVIFRAIL-COGN. The CG group received the Otago Exercise Program. A mixed-effects linear model analysis was performed to investigate the effects of the intervention in markers of functional ability and quality of life (Barthel Index [BI], SPPB, EuroQoL), at 3-month evolution from baseline.

**Results:** The mean age was  $84.23 \pm 4.76$  years, with a mean BI of  $89.62 \pm 10.08$ . 37 participants were randomized to the IG and 41 to the CG. No statistical differences between groups were observed in BI ( $\beta$ ; 95% CI 0.40; 5.00, 5.80, p-value = 0.88), SPPB ( $\beta$ ; 95% CI -0.76; -2.37, 0.86, p = 0.36), 5-STS ( $\beta$ ; 95% CI -4.09; -8.45, 0.28, p = 0.06) or EuroQoL ( $\beta$ ; 95% CI -0.22; -1.28, 0.84, p = 0.69).

**Conclusions:** Although non-statistical results were found, evidence points that the addition of cognitive training and physical exercise might be an effective multidomain intervention for patients with high risk of falling.

**P-439****Factors related to one-year-mortality after a Proximal Femoral Fracture**

Paula Pérez Gracia (1), María Francisca Rotger Ruiz (1), Carla Capellades Buqueras (1), Anna Ibáñez Porcar (1), Julia Antonella López Ceballos (1), Enric Prats Bacardit (1), Cristina Díaz Creus (1), Aránzazu Palacé Amat (1), Alicia Calle Egusquiza (1), Ma

(1) Parc de Salut Mar (Barcelona)

**Introduction:** Proximal femoral fracture in the elderly is associated with morbidity and mortality. The aim of this study was to evaluate factors related to one-year-mortality after a frailty femoral proximal fracture.

**Methods:** Retrospective analytic study of patients hospitalized in an Orthogeriatrics Unit after a femoral fracture. Barthel Index, frailty according to Clinical Frailty Scale (CFS) and IF-VIG, geriatric syndromes, postoperative complications and functional ambulation ability were collected. For survival analysis, Kaplan–Meier curves and log-rank analysis were performed.

**Results:** 24.9% of 533 patients included died in the first year after the fracture. Factors related to mortality were: dependence according to Barthel Index ( $\chi^2 = 23.74$ , log rank  $p = 0.000$ ), frailty according to CFS ( $\chi^2 = 47.14$  log rank  $p = 0.000$ ) and IF-VIG ( $\chi^2 = 32.71$  log rank  $p = 0.000$ ), dementia ( $\chi^2 = 11.096$ , log rank  $p = 0.001$ ), polypharmacy ( $\chi^2 = 4.35$ , log rank  $p = 0.037$ ), Reanimation Unit stay  $> 24$ h ( $\chi^2 = 6.66$ , log rank  $p = 0.010$ ), intraprocedural vasoactive medication administration ( $\chi^2 = 6.034$ , log rank  $p = 0.014$ ), delirium ( $\chi^2 = 113.804$ , log rank  $p = 0.000$ ), aspiration pneumonia ( $\chi^2 = 8.171$ , log rank  $p = 0.004$ ), ambulation ability at discharge ( $\chi^2 = 42.941$ , log rank  $p = 0.000$ ), and 30 days after fracture ( $\chi^2 = 50.667$ , log rank  $p = 0.000$ ). There were no mortality differences according to localization of fracture.

**Key Conclusions:** One-year mortality after hip fracture in the elderly is associated with functional situation, frailty, postoperative complications and ambulation ability.

**P-440****Estimation of life expectancy in geriatric patients who suffered a hip fracture**

Valentina Santacoloma Cardona (1), Reina Antonieta Siñani Camacho (2), Armando González Sánchez (3), Carlos Pindado Camacho (2), Izaro Garaizabal Sagastigordia (4), Elena Ubis Diez (5), Nuvia Jannette Fuertes Yandún (6)

(1) Resident Doctor 3<sup>o</sup> year at Hospital Sagrado Corazón de Jesús, Huesca, Spain, (2) Resident Doctor 2<sup>o</sup> year at Hospital Sagrado Corazón de Jesús, Huesca, Spain, (3) Department of Statistics, University of Salamanca, Spain, (4) Resident Doctor 1<sup>o</sup> year at Hospital Sagrado Corazón de Jesús, Huesca, Spain, (5) Geriatrician at Hospital Sagrado Corazón de Jesús, Huesca, Spain, (6) Resident Doctor 1<sup>o</sup> at Hospital Sagrado Corazón de Jesús, Huesca, Spain

**Introduction:** Fragility fracture occurs spontaneously or is associated with low-intensity trauma. One-third of individuals over the age of 65 experience falls annually, and this figure can reach 50% in those over 80 years old. Hip fractures are the most serious event, leading to increased morbidity and mortality.

**Objective:** To identify variables that indicate life expectancy in these patients. A secondary objective is to establish a life expectancy model based on the identified indicators.

**Methodology:** Observational, prospective study. Patients admitted between June 2018 and January 2021 due to osteoporotic hip fracture. Variables: Sociodemographic data, Functional status: Barthel Index (BI), Cognitive status: Pfeiffer Test (PT), Frailty: Frail VIG Index (FVI), Comorbidity: Charlson Index (CI), Nutritional status: Mini Nutritional Assessment (MNA), Risk of pressure injuries: Norton Scale (NS), medical-surgical complications, among others.

**Results:** Mean age 86.46 years (SD  $\pm 6.9$ ),  $n = 319$ , 73% female. Pertrochanteric fractures accounted for 46.4%, subcapital fractures 39.8%, and subtrochanteric fractures 13.2%. 24% required weight-bearing restriction. Upon admission, 44.8% had a BI  $\leq 60$ , 44.2% had FVI  $> 0.37$ , 33.2% presented severe cognitive impairment, and 12% had high comorbidity. 30.4% died within the first year. 1-year mortality =  $1.831 + 0.820CI - 0.264MNA$ .

**Conclusions:** High comorbidity conditions a worse prognosis, with renal insufficiency being the antecedent most strongly associated with mortality. Functional and/or cognitive impairment, high comorbidity, risk of pressure injuries, greater frailty and delay in surgical intervention are associated with higher mortality. The Charlson Index combined with the MNA can predict, with 63.9% of cases correctly classified, the probability of geriatric patients dying after a hip fracture.

**P-441****The influence of proton pump inhibitors on the risk of hip fracture**

Lucía Ceden Alarcón (1), Pilar Cruzado Navarro (1), Raquel Páramo Fernández (1), Jose Antonio Carnicero Carreño (1), Myriam Valdés Aragonés (1)

(1) Getafe University Hospital

**Introduction:** Chronic intake of proton pump inhibitors (PPIs) is highly prevalent in the elderly. Several meta-analyses have associated the chronic intake of PPIs with an increased risk of hip fracture. The main hypothesis behind this is related to a suspected decrease in calcium absorption. The objective of this study is to determine the relationship of chronic PPI treatment with the risk of hip fracture in the elderly.

**Methods:** A descriptive study of patients with hip fractures included on the National Hip Fracture Registry and admitted to Getafe University Hospital during the year 2022, was conducted. A logistic regression was performed, considering prior PPI treatment, calcium intake, vitamin D, or antiresorptives as the main variables with the adjustment of confounding factors such as sex and age.

**Results:** 97 patients were included. The mean age was 83.4 years with 75% of patients being women. 61.8% of patients took PPIs chronically. 31.5% took previous osteoprotective treatment, considering such treatment to be calcium, vitamin D, antiresorptives or osteoformers. As a result, we found that patients using PPIs and without previous osteoprotective treatment had a higher risk of intertrochanteric fracture (OR 10.53 [95% CI 1.04–105.92],  $p = 0.04$ ).

**Conclusions:** The chronic use of PPIs may increase the risk of fragility hip fracture in the elderly, especially in those without prior osteoprotective treatment. Therefore, it is recommended that physicians exercise caution when considering long-term PPI treatment in order to avoid unnecessary side-effects.

**P-442****Oropharyngeal Dysphagia Outcomes In Fracture Neck Of Femur Patients**

Mahmoud Sharafeldin (1), Aditya Maney (1), Jane Edmondson (1)

(1) Manchester University NHS Foundation Trust, United Kingdom

**Introduction:** Each year more than 70,000 older adults are admitted to a UK hospital after a hip fracture (August 2022) [1]. Oropharyngeal Dysphagia (OD) is a common finding in geriatric population following fractured neck of femur (NOF). Aim: To recognize and evaluate the outcomes of OD following NOF fracture and guide the effective management of this cohort of patients.

**Methods:** Retrospective study of 25 patients with a mean age of 87.7 years who were assessed for OD following NOF fracture over the period between September 2022–January 2023. Data included demographics, comorbidities, clinical frailty score, time to surgery, type of anesthetic used, aspiration pneumonia and feeding outcomes.

**Results:** OD was associated with increased need for diet and fluid modification, aspiration pneumonia and persistent dysphagia on discharge in (40%) of patients. Speech and Language Therapy (SLT) intervention significantly reduced aspiration pneumonia by (33%) and Nil By Mouth (NBM) status by (100%). Patients with three or more comorbidities (66%) were at higher risk of developing OD and aspiration pneumonia. Cardiovascular and Dementia were the most common comorbidities. Lack of swallowing assessment documentation was found in majority of cases (68%).

**Conclusion:** SLT is an integral part of the multidisciplinary team in treatment of NOF fracture. Early recognition of OD is important in preventing further complications and is associated with better prognosis and reduced hospital stay. Education of the medical staff on OD screening tools and early SLT referral are important factors in improving the prognosis of patients with NOF fracture.

**Reference:**

[1] Multiple hospital organisational factors are associated with adverse patient outcomes post hip fracture in England and Wales: the REDUCE record-linkage cohort study' by Celia L Gregson, Rita Patel et al. in Age and Ageing. Accessed 30-01-2023.

**P-443****Patient- and care-related predictors of 30-day hospital readmissions after hip fracture surgery**

Riina Husu (1), Hanna Pajulammi (2), Antti Eskelinen (3), Esa Jämsen (4)

(1) Tampere University, (2) Central Finland Health Care District, (3) Coxa Hospital for Joint Replacement, (4) University of Helsinki

**Introduction:** Every tenth hip fracture patient experiences readmission, complicating recovery and compromising functional outcomes. Information on patient- and care-related risk factors is needed to reduce the readmission risk.

**Materials and Methods:** This population-based case–control study is based on electronic medical records of Tampere University Hospital, Finland. All hip fracture patients operated in 2016–2019 were included. For each case with readmission, two controls of the same age, gender, fracture type, and time of admission were selected. Factors associated with 30-day readmissions were analyzed using logistic regression.

**Results:** Altogether, there were 127 readmissions, of which one-third (n = 48) were due to medical reasons, 53% (n = 67) due to surgical reasons, and 9% (n = 12) included both medical and surgical reasons.

Altogether 65% (n = 82) of the readmissions were related to the fracture or another acute condition during index hospital stay. The readmission risk was higher among patients with excessive polypharmacy (OR 2.61, 95% CI 1.30–5.25), earlier emergency department (1.75, 1.09–2.79) or hospital admissions (2.19, 1.24–3.88), coronary artery disease (1.74, 1.07–2.84), peripheral vascular disease (3.55, 1.66–7.57), peptic ulcer disease (2.55, 1.07–6.07), diabetes with complications (3.18, 1.31–7.71), anaesthe-siological risk score > = 3. Needing treatment also in other than orthopedic ward (4.88, 1.24–19.2) and intraoperative bleeding > = 400 mL (2.19, 1.23–3.90) were also associated with readmission, whereas time to surgery, geriatric assessment, or day of surgery or discharge had no effect.

**Conclusions:** Major share of early readmissions are linked to events related to the index hospitalization and cardiovascular morbidity.

**P-444****Loneliness Is Common In Older Hip Fracture Patients With Burden Of Comorbidity And Disability**

Matias Pehkonen (1), Venla Vuoti (2), Maria Nuotio (3)

(1) Department of Orthopedics and Traumatology, Turku University Hospital, Finland, (2) Faculty of Medicine, University of Turku, Finland, (3) Department of Geriatric Medicine, Turku University Hospital and University of Turku, Finland

**Introduction:** Loneliness is known to have negative health effects in older adults. We examined the degree and distribution of loneliness according to indicators of comorbidity and functional ability in older hip fracture patients.

**Methods:** Data were collected on 257 consecutive hip fracture patients aged 70 years or older. Patients were asked whether they suffered from loneliness at all, to some degree, or a lot. Comorbidity was defined by American Society of Anesthesiologists (ASA) scores and Charlson Comorbidity Index (CCI). Nutritional status was assessed by Mini Nutritional Assessment Short Form (MNA-SF), mobility by New Mobility Score (NMS) and activities of daily living (ADL) by Barthel index. Frailty and sarcopenia were screened by Frail Scale and SARC-F. Differences in distribution of each indicator of comorbidity and disability according to loneliness were tested by Pearson chi-square test. P-value < 0.05 was considered statistically significant.

**Results:** Of the patients, 9% (n = 23) reported suffering from loneliness a lot and 43% (n = 110) to some degree. Patients with loneliness, compared to those without, were likely to have more comorbidities according to ASA score (p = 0.047) and CCI (p < 0.001), malnutrition (p < 0.001), impaired mobility (p < 0.001) and ADL disability (p < 0.001). They were also more likely to screen positive for frailty and sarcopenia (both p < 0.001). A trend was observed towards greater proportion of comorbidities and disabilities with increasing degree of suffering from loneliness.

**Key Conclusions:** Loneliness is common in older hip fracture patients with burden of comorbidities and disabilities. The finding deserves to be noted in the care of these patients.

**P-445****An Analysis of the Impact of Psychotropic Medications on Gait in The Irish Longitudinal Study on Ageing (TILDA)**

Desmond O' Donnell (1), Frank Moriarty (2), Amanda Lavan (1), Rose Anne Kenny (1), Robert Briggs (1)

(1) The Irish Longitudinal Study on Ageing, Trinity College Dublin, Dublin, Ireland, (2) School of Pharmacy and Biomolecular Sciences, RCSI University of Medicine and Health Sciences, Dublin, Ireland

**Background:** Prescriptions of psychotropic medications for older adults have become increasingly prevalent, but their effect on gait parameters is poorly understood.

**Methods:** Participants were included if they: were aged  $\geq 60$  years at Wave 1, had a medication list examined for medications of interest and underwent TILDA assessment of gait and mobility (timed up and go (TUG), gait speed, double support time, stride length, stride width). Antidepressants had an ATC code of N06A, Benzodiazepines N05BA, N05CD and N03AE, 'Z' drugs N05CF and antipsychotics N05A. Linear regression models assessed the relationship between psychotropics and individual gait parameters. Logistic regression assessed the relationship between psychotropic use at Wave 1 and gait parameters at Wave 3. Models were adjusted for age, sex, education, alcohol intake, chronic disease, heart disease, depressive symptoms, poor sleep and cognition.

**Results:** Of 2620 participants, 12% were prescribed a psychotropic medication (0.12 (95% CI 0.11–0.13)), with 4% prescribed 2 or more psychotropics (0.04 (95% CI 0.03–0.05)). Participants prescribed one (mean TUG 9.9 s (95% CI 9.5–10.3);  $n = 201$ ) or more psychotropics (10.2 s (95% CI 9.7–10.6);  $n = 105$ ) had a significantly longer TUG than those not prescribed psychotropics (9.0 s (95% CI 8.9–9.1);  $n = 2,314$ ) Step length was shorter in participants prescribed one (64.6 cm (95% CI 63.4–65.9)) or more (63.4 cm (95% CI 61.6–65.1)) psychotropics, compared to participants not prescribed psychotropics (69.1 cm (95% CI 68.7–69.5)).

**Conclusion:** Psychotropic medications adversely effect mobility by slowing gait speed, reducing stride length and increasing double support time.

## P-446

### Hip Fracture Patients' Characteristics, Care Practices and One-Year Survival—A comparison between two Nordic hospitals

Maria S. Nuotio (1), Mette Martinsen (2), Tiina Luukkaala (3), Anette Hylen Ranhoff (4)

(1) Department of Geriatric Medicine, Turku University Hospital and University of Turku, Turku, Finland, (2) Diakonhjemmet Hospital, Oslo, Norway, (3) Research, Development and Innovation Center, Tampere University Hospital, Tampere, Finland and Health Sciences, Faculty of Social Sciences, Tampere University, Tampere, Finland, (4) Department of Geriatric Medicine, University of Bergen and Diakonhjemmet Hospital, Oslo, Norway

**Introduction:** Nordic countries are known to have high hip fracture incidence. We compared patient characteristics, care practices and one-year survival of hip fracture patients treated in a Finnish and in a Norwegian hospital providing acute trauma and orthogeriatric care.

**Methods:** The prospective data comprised 1,626 hip fracture patients aged 65 and over sustaining their first hip fracture and treated in Seinäjoki Central Hospital, Seinäjoki, Finland and corresponding 3,649 patients treated in Diakonhjemmet Hospital, Oslo, Norway between 2011–2018. Differences in patient characteristics, care practices and one-year survival between the centres were statistically tested.  $P$ -value  $< 0.05$  was considered statistically significant.

**Results:** Norwegian patients were more likely female (74.2% vs. 70.4%,  $p = 0.003$ ), 90 years or over (31.1% vs 21.1%,  $p < 0.001$ ) and had pertrochanteric fractures (36.4% vs. 32.1%,  $p < 0.001$ ). Finnish patients had more likely ASA scores 4–5 (20.4% vs. 2.9%), known dementia (30.8% vs 26.7%), more than 10 medications in use (21.8%

vs. 9.3%) and BMI  $> 25$  (52.1% vs 15.3%), all  $p < 0.001$ . Delay to surgery  $< 24$  h (72.5% vs. 61.5%, length of stay (LOS) 1–3 days (20.9% vs. 6.7%) and internal fixation (44.2% vs. 40.5%) as surgical method were more common in the Norwegian cohort, while 4–7 days LOS (77.9% vs. 53.3%) and blood transfusions (40.9% vs. 25.8%) were more common in the Finnish cohort (all  $p < 0.001$ ). Of the Finnish and Norwegian patients, 73.1% and 66.7% ( $p < 0.001$ ), respectively, were alive one-year post-fracture.

**Key Conclusions:** A number of differences were observed across case-mix, care practices and one-year survival of hip fracture patients treated in two Nordic hospitals.

## P-447

### Assessment in-hospital falls in the Context of Risk Factors of Falling Detected in older patients of the hospital ward

Łukasz Magnuszewski (1), Agnieszka Kasiukiewicz (1), Zyta Beata Wojszel (1), Marta Świątek (1)

(1) Department of Geriatrics, Medical University of Białystok, Poland

**Introduction:** Fall prevention in a hospital ward is one of the most critical components of in-patient care for older patients. According to the literature, in-hospital fall rates are between 2.2 and 17.1 falls per 1000 patient days, with the highest rates in geriatric wards. The aim of the study was to assess the frequency of falls in a hospital geriatrics ward and the circumstances in which they occurred and evaluate the parameters of the comprehensive geriatric assessment (CGA) correlating with falls.

**Material and Methods:** A total of 416 (median age 82 (IQR 77–86) years, 77.4% women) hospitalizations in the geriatrics ward were analyzed within 8 months. We compared the results of a CGA (including health, psycho-physical abilities, nutritional status, risk of falls, frailty syndrome, etc.) in-patients who fell and did not fall.

**Results:** During the study period, 14 (3.3%) of 416 hospitalized patients experienced a fall during their hospital stay. In-patient fallers and non-fallers differed significantly in percentage reporting falls in the previous year (90.9% of in-patient fallers vs. 42.4% of non-fallers,  $p = 0.01$ ). Most falls occurred in patients rooms and less often in the bathroom and hallway. The activity during which these incidents occurred most often was getting up from bed. Half of the accidents resulted in injury to the body (most often the head or upper limbs). Falls occurred more often among people with greater disabilities, with many diseases, took more medications suffered from Parkinson's disease (35.7% vs. 12.4% in non-fallers,  $p = 0.01$ ), and diabetes (71.4% vs. 28.9% in non-fallers,  $p = 0.01$ ).

**Conclusions:** Our study showed that in the case of the geriatric ward, special attention should be directed at patients with a positive history of falls in the last year. It is crucial to document falls and their circumstances in a given medical facility and analyze them from the perspective of risk factors typical of hospitalized patients.

Key words: in-hospital falls, older people, geriatric ward.

## P-448

### Factors affecting in-hospital mortality in nonagenarian patients undergoing hip fracture surgery

Ana Cristina Sanjoaquin Romero (1), Natalia Rodríguez Osto (1), Beatriz Borao Laguna (1), Guillermo Menéndez Fermín (1), Romik Méndez Baldeón (1), Juan Millán Moreno Martínez (1), María Pilar Mesa Lampré (1)



(1) Hospital Nuestra Señora de Gracia

**Introduction:** Nonagenarian geriatric patients are especially vulnerable upon admission following hip fracture surgery. There are several determining factors regarding their outcome.

**Methods:** Descriptive, prospective study. Variables: sociodemographic, nutritional (miniMNA), previous functional assessment (I.Barthel), cognitive assessment, geriatric syndromes, comorbidity (I.Charlson), type of fracture, general and local complications, hospital stay and mortality.

**Results:** 626 patients, in-hospital mortality of 11.02%. Women: 80.99% (Fisher 0.044). Mean age at death:  $93.61 \pm 2.9$ . Mean age alive:  $92.67 \pm 2.5$ . Previous location ( $X^2 > 0.05$ ): domicile 375, residence 251. MiniMNA ( $X^2 0.025$ ): malnutrition risk 256 (deaths 7.4%), malnutrition 53 (deaths 11.3%). Hypoalbuminemia ( $X^2 > 0.05$ ). Barthel Index ( $X^2 0.008$ ): independent 38 (deaths 7.89%), mild 347 (deaths 8.02%), moderate 121 (deaths 13.22%), severe 76 (deaths 14.47%), total 44 (deaths 25%). Pfeiffer ( $X^2 > 0.05$ ): mild 107 (deaths 6.71%), moderate 102 (deaths 3.92%), severe 221 (deaths 11.31%). Geriatric syndromes: cognitive impairment diagnosed during admission ( $X^2 0$ ), previous delirium ( $X^2 > 0.05$ ). Recurrent falls: not significant. Comorbidities: Charlson: not significant; heart failure ( $X^2 0.13$ ); stroke ( $X^2 0.05$ ). Fracture type: not significant. General complications ( $X^2 < 0.05$ ): heart failure, dehydration, respiratory failure, bronchoaspiration, renal failure, urine retention, paralytic ileus; Local: surgical wound infection ( $X^2 0.027$ ). Mean hospital stay:  $20.55 \pm 9.8$  (Mann–Whitney 0.002).

**Conclusions:** Older age, male sex, institutionalization, worse previous functional status, risk of malnutrition as well as longer hospital stay, are associated with mortality. Heart failure, stroke, dysphagia and cognitive impairment increase mortality in nonagenarians patients. General complications and surgical wound infection influence mortality in this age group.

## Frailty and Resilience

### P-449

#### Evaluation of Frailty Awareness amongst Doctors in Surgical Specialties

Bethany Taylor (1), Syeda Huma Naqvi (2)

(1) Sandwell and West Birmingham Trust, (2) Sandwell and West Birmingham Trusy

**Introduction:** An estimated 10% > 65-year-olds and 25–50% > 85-year-olds live with frailty in the UK [1], making up a greater proportion of surgical caseloads. Perioperatively, frailty is an independent risk factor for adverse outcomes [1,2]. Timely recognition and assessment is vital in their prevention, however, awareness of frailty and the Clinical Frailty Scale (CFS) [3] is limited amongst clinicians [4].

**Methods:** A survey was completed by doctors of all grades across surgical specialties in Sandwell General Hospital. Questions explored recognition of frailty, use of CFS, and their influence in perioperative decision making.

**Results:** A total of 33 Doctors of all grades completed the survey. Whilst 97% believed they look after frail patients, 69.7% were aware of the CFS but only 30.3% had used the scale. All doctors thought frailty plays a role in their decision making peri-operatively, however > 87% rated their confidence in recognising frailty  $\leq 3/5$ .

**Key Conclusions:** Across all grades, there is an awareness of the importance of frailty, however a lack of confidence in its recognition. Need for further education is evident, particularly regarding the CFS. In this respect, focused education sessions are being implemented for all grades of doctors to consolidate knowledge and facilitate a multidisciplinary approach to decision making in surgery.

#### References:

1. British Geriatric Society (2014) Fit for Frailty Part 1. Available at: [https://www.bgs.org.uk/sites/default/files/content/resources/files/2018-05-23/fff\\_full.pdf](https://www.bgs.org.uk/sites/default/files/content/resources/files/2018-05-23/fff_full.pdf) (Accessed 14 December 2022).
2. Centre for Perioperative Care. 2021. Guideline for Perioperative Care for People Living with Frailty Undergoing Elective and Emergency Surgery. Available at: <https://cpoc.org.uk/sites/cpoc/files/documents/2021-09/CPQC-BGS-Frailty-Guideline-2021.pdf> (Accessed 14 December 2022).
3. Dalhousie University (2022) Clinical Frailty Scale. Available at: <https://www.dal.ca/sites/gmr/our-tools/clinical-frailty-scale.html> (Accessed 14 December 2022).
4. Taylor, JK, Fox, J., Shah, P., Ali, A., Hanley, M., and Hyatt, R. (2017) 'Barriers to the Identification of Frailty in Hospital: a Survey of UK Clinicians'. 4;3:207–12. Available at: <https://www.rcpjournals.org/content/futurehosp/4/3/207.full.pdf> (Accessed 14 December 2022).

### P-450

#### A multicentre cross-sectional observational survey to determine the effect of living with frailty on digital exclusion: Access to Video In Geriatric Intervention cLinics (Access-VIGIL)

Matthew Shorthose (1), Ben Carter (2), Nick Watts (1), Sue Wensley (1), Seema Srivastava (1), Andrea Joughin (1), Emma Thorman (1), Colin Mitchell (3), Rebekah Evans (4), Jess Laidlaw (1), Philip Braude (1)

(1) CLARITY (Collaborative Ageing Research) Group, North Bristol NHS Trust, UK, (2) Department of Biostatistics and Health Informatics, Institute of Psychiatry, Psychology and Neuroscience, King's College London, De Crespigny Park, London, UK, (3) Department of Elderly Medicine, Imperial College Healthcare NHS Trust, London, UK, (4) Surrey and Borders Partnership NHS Foundation Trust, Leatherhead, UK

**Purpose:** Age is a risk factor for digital exclusion, but many older people have excellent access to digital services. Frailty as a risk factor may offer a clearer mechanism of exclusion. The aim of this study was to assess the association between living with frailty and digital exclusion from video consultation.

**Methods:** We undertook a cross-sectional study in primary care, hospital at home, and secondary care services across an Integrated Care System in South-West England. Patients were enrolled between 21st February and 12th April 2022. The primary outcome was complete digital exclusion from video consultation (including no support network to assist). A secondary analysis looked at digital exclusion of the individual only. Frailty was measured using the Clinical Frailty Scale. The association between frailty and outcomes was analysed with logistic regression.

**Results:** 255 patients were included. Median age was 63 years old (IQR 43–77) with 148 (57%) female. Complete digital exclusion was rare (5.1%). Only 1 of 155 who were not frail (CFS 1–3) experienced complete digital exclusion compared to 12 of 99 (10.7%) living with frailty. There was no association between frailty and complete digital exclusion. Frailty was associated with individual digital exclusion: compared to CFS 1–3, CFS 4–5 aOR = 36.5 (95% CI 4.40–304.9)

and CFS 6–8 aOR = 65.4 (95% CI 6.63–645.9). The imprecise estimates were caused by only one person not living with frailty being digitally excluded.

**Conclusion:** Complete digital exclusion from video clinic is rare in this population when considering a person's support network. Frailty was associated with individual digital exclusion.

## P-451

### Assessing the minimal clinically important difference of six-minute walk in frail elderly Asians

Kaysar Mamun (1)

(1) Singapore General Hospital

**Introduction:** Rehabilitation interventions promote functional recovery among frail older adults and little is known about the clinical significance of physical outcome measure changes. The purpose of our study is to examine the minimal clinically important difference (MCID) for the 6-min walk distance (6MWD) among frail Asian older adults.

**Methods:** Data from the “Evaluation of the Frails’ Fall Efficacy by Comparing Treatments” study were analyzed. Distribution-based and anchor-based methods were used to estimate the MCID of the 6MWD. Participants who completed the trial rated their perceived change of overall health on the Global Rating of Change (GROC) scale. The receiver operating characteristic curve (ROC) was used to analyze the sensitivity and specificity of the cut-off values of 6MWD (in meters) for GROC rating of “a little bit better” (+ 2), based on feedback from participants.

**Results:** The mean (SD) change in 6MWD was 37.3 (46.2) m among those who perceived a change (GROC  $\geq$  2), while those who did not was 9.3 (18.2) m post-intervention ( $P = 0.011$ ). From the anchor-based method, the MCID value for the 6MWD was 17.8 m (sensitivity 56.7% and specificity 83.3%) while distribution-based method estimated 12.9 m.

**Key Conclusion:** The MCID estimate for 6MWD was 17.8 m in the moderately frail Asian older adults with a fear of falling. The results will aid the clinicians in goal setting for this patient population.

## P-452

### Examining the independent and interactive association of physical activity and sedentary behaviour with frailty in Chinese community-dwelling older adults

Na Li (1)

(1) Fujian Provincial Hospital

**Background:** While physical inactivity or prolonged sitting has been linked to an increased risk of frailty, the interaction between sitting time (ST), physical activity (PA) and frailty is largely unknown. The aim of this study was to examine the independent and interactive association between PA, ST and frailty in Chinese community-dwelling older adults.

**Methods:** A cross-sectional analysis was performed on 1458 participants (age  $\geq$  60) enrolled from a prospective cohort study of frailty in elderly people of Fujian Province. PA and ST levels were assessed using the International Physical Activity Questionnaire. A 40-item frailty index (FI) quantified frailty. Multivariable logistic regression

and linear regression models were applied to examine the independent association between PA or ST and frailty level. Interaction plots were used to visualise the interaction effects of PA and ST on frailty.

**Results:** Compared with light PA, the odds ratios (ORs) for frailty were significantly lower for moderate PA (OR, 0.609 [95% CI 0.419, 0.885],  $P < 0.001$ ) and vigorous PA (OR, 0.399 [95% CI 0.236, 0.673],  $P < 0.001$ ). Comparing subjects with ST  $< 4$  h/day, those with ST  $\geq 8$  h/day were significantly more likely to be diagnosed with frailty (OR, 3.140 [95% CI 1.932, 5.106],  $P < 0.001$ ), 6–8 h/day (OR, 1.289 [95% CI 0.835, 1.989],  $P > 0.05$ ), and 4–6 h/day (OR, 1.400 [95% CI 0.972, 2.018],  $P > 0.05$ ). Each one unit increase in metabolic equivalents (h/day) of PA was related to an average 0.928 (0.887, 0.971) decrease in prevalence of frailty, while each one unit increase in sitting time (h/day) was related to average 1.114 (1.046, 1.185) increase in prevalence of frailty. Negative interactive effects of PA and ST on frailty were observed ( $P < 0.001$ ).

**Conclusion:** PA can independently reduce the occurrence of frailty, while prolonged ST can significantly increase the occurrence of frailty. In addition, excess ST may counteract the beneficial effects of PA on frailty.

## P-453

### The Relationship and Affecting Factors Between Oral Health and Frailty in the Elderly: A Cross-sectional Study

Fatma Zehra Genç (1), Arzu Uslu (2)

(1) Necmettin Erbakan University, Nursing Faculty, Public Health Nursing, (2) Harran University, Health Science Faculty, Internal Medicine Nursing

**Introduction:** Older people can experience poor oral health and become more frailty. The aim is to investigate the connection between oral health and frailty in older people and to determine the affected factors.

**Methods:** The research was a community-based cross-sectional study. A Family Health Center conducted a study on 321 older people. Data were collected face-to-face using the Personal Information Form, Geriatric Oral Health Assessment Index, and Edmonton Frailty Scale. The relationship between oral health and frailty was examined by Pearson's correlation analysis and linear regression models were constructed.

**Results:** It was found that 76.3% of the participants did not visit the dentist regularly, 72.6% went to the dentist for dental problems and 56.1% brushed their teeth only once a day. It was determined that the oral health score of the participants was high and 52.6% had poor oral health. It was found that the oral health of older people was better among those who were single, primary/secondary school graduates, had regular dental visits, and had dental visits every six months. It was found that the participants' average frailty score was low and 56.1% of them were frailty at various levels. It found that the frailty score was higher in older individuals who were single, were women, had a chronic illness, were 75 years of age or older, and brushed their teeth less than twice a day. It was determined that there was a significant negative relationship between participants' oral health and frailty scores ( $r = -0.539$ ,  $p < 0.001$ ).

**Key Conclusions:** Poor oral health in older people has been found to increase frailty. Established regression models determined factors that affected oral health and frailty. This relationship and affected factors are important in providing appropriate early detection and care to older people.

**P-454****Evaluation of efficiency of different frailty tools to assess hospital readmission in geriatric wards. FRAILTOOLS Project**

Myriam Oviedo Briones Oviedo-Briones (1), Ángel Rodríguez Laso (2), José Antonio Carnicero (3), Leocadio Rodríguez-Mañas (4)

(1) Hospital Universitario Infanta Sofía, (2) Fundación para la Investigación Biomédica del Hospital Universitario de Getafe, Madrid, Spain, (3) undación para la Investigación Biomédica del Hospital Universitario de Getafe, Madrid, Spain, (4) Geriatrics Service, Hospital Universitario de Getafe, Madrid, Spain

**Introduction:** Frailtools is a prospective, multicenter study developed in five European countries designed to screen frailty and its outcomes. This study aimed to analyze the sensitivity, specificity and area under the curve (AUC) of different frailty tools regarding hospital readmission at 12 months.

**Methods:** 358 participants ( $\geq 75$  years, Mini-mental State Examination  $\geq 20$  points, Barthel  $\geq 90$ ), were consecutively recruited from Acute Geriatric Wards. The following scales were used: Fried Phenotype, Frailty Trait Scale (FTS) –3 and 5 items, SHARE-FI, Rockwood Frailty Index, Clinical Frailty Scale (CFS), FRAIL scale and Gérontopôle Frailty Screening Tool (GFST). At 12 months a new assessment was made in order to assess hospital readmission, among other variables. A sensitivity, specificity and AUC analysis were made.

**Results:** The sensitivity of the scales regarding hospital readmission in frail patients at 12 months was Fried Phenotype: 44%, FTS–3: 36%, FTS-5: 31%, SHARE-FI: 65%, Rockwood Frailty Index: 59%, CFS 51%, FRAIL scale 33% and GFST 67%. The specificity was Fried Phenotype: 68%, FTS–3: 36%, FTS-5: 31%, SHARE-FI: 42%, Rockwood Frailty Index: 61%, CFS: 66%, FRAIL scale: 79% and GFST: 49%. The AUC analysis with Frail, SHARE, GFST, CFS with 63%. The AUC in Rockwood-35 was 65%.

**Conclusion:** The tests with the highest sensitivity is the GFST and the test with the highest specificity is the FRAIL scale. There was a 64% probability that hospital readmission occurs more frequently in frail patients detected with Rockwood-35, vs. non-frail patients.

**P-455****Frailty Aware Surgical Care–Validation of Hospital Frailty Risk Score (HFRS) in Older Surgical Patients**

Xiaoting Huang (1)

(1) Changi General Hospital, Singapore

Frailty has an important impact on the health outcomes of older patients. The Hospital Frailty Risk Score (HFRS) is a validated tool that utilises International Classification of Diseases codes (ICD-10) to highlight frailty risk. Retrospective study of electronic health records (EHR) performed in patients aged 65 years and above between 1st April–31st July 2022. We sought to compare HFRS to the Charlson Co-Morbidity index (CCI) and validate HFRS as a predictor of adverse outcomes for surgical patients in Singapore. 1829 unique patients were included and mean age was 76 years. There was higher prevalence of males in the study population although the proportion were similar in those at high risk of frailty. Hospital Length of Stay (LOS), was longer in those at higher risk of frailty than those at lower risk (60.5% vs 15.6%,  $p = < 0.001$ ). There was statistically significant association between HFRS and CCI ( $p = < 0.001$ ). Compared with CCI, HFRS is a better predictor of long LOS (AUC 0.757 vs 0.631), 90-day mortality (AUC 0.663 vs 0.611), and 270-day

mortality (AUC 0.686 vs 0.684). Combined HFRS and CCI is a better predictor of 90-day mortality (AUC 0.670), 270-day mortality (AUC 0.724), and 30-day readmission (AUC 0.679 vs 0.646 for HFRS). First locally validated study in Singapore looking at HFRS in older surgical patients in a tertiary hospital. Patients with higher HFRS have poorer health outcomes, higher health care utilisation and is predictive of long LOS. Combined HFRS and CCI is a better predictor of mortality and 30-day readmission rates.

**P-457****Frailty change based on minimally important difference in nursing home residents: the SENIOR cohort findings**

Fanny Buckinx (1), Jean-Yves Reginster (1), Olivier Bruyère (1)

(1) WHO Collaborating Center for Epidemiologic aspects of musculo-skeletal health and ageing, Division of Public Health, Epidemiology and Health Economics, University of Liège, Belgium

**Introduction:** This study aimed to determine the minimally important difference (MID) in frailty among nursing home residents, assess changes in frailty over 12 months, and identify factors associated with worsening frailty.

**Methods:** We measured the frailty index at baseline and after 12 months using the ratio of current deficits to the total deficits considered. We calculated the MID in frailty based on the half standard deviation of frailty index scores. Participants were categorized into two groups: “death or deterioration” and “stable or improvement,” according to the MID. Multiple regression was used to compare participant characteristics between the groups.

**Results:** Of the 662 subjects in the SENIOR cohort, 444 were included in the present analysis. The MID was 7%. Based on this score, 27.3% of the sample improved, 38.1% remained stable, 14.6% worsened, and 20% died over the 12-month period. The group labeled “death or deterioration” consisted of 154 subjects, while the group labeled “stable or improvement” had 290 subjects. After adjusting for significant variables at baseline, as well as age, sex, and body mass index, only grip strength was significantly associated with the risk of death or worsening frailty, with an odds ratio of 0.97 (95% CI 0.94–0.99).

**Conclusion:** It is acknowledged that frailty is a dynamic condition, but the factors that predict changes in frailty vary among different populations. Accurately identifying these factors is crucial from a public health perspective to effectively manage frailty.

**P-458****Simpler modified fried frailty scale: translation and validation into Spanish**

C Corral-Tuesta (1), CG Álvarez-Pinheiro (1), Paula Sobrini-Morillo (1), V Lavilla-Gracia (1), S Lippo (1), Beatriz Montero Errasquín (1), Paola Jimenez Sanchez (1), J Corcuera Catala (1), Belén Escudero-González (1), Lucia Gutierrez Aguilera (1), C Morán

(1) HURYC

**Introduction:** The Fried frailty scale is one of the most widely used assessment for frailty but it may be challenging due to some complicated assessments and time-consuming in clinical practice. A simpler modified version, easier and faster, has been validated in Turkey. The aim is its translation, adaptation and validation into Spanish as part of an international program to extend its use across Europe.

**Methods:** Phase 1: translation based on WHO guidelines, adaptation and reliability testing. Phase 2: clinical validation, having Modified Fried frailty scale as our reference for frailty. Transversal study with community-dwelling adults  $\geq 65$  years able to walk independently  $\geq 6$  m. Exclusion criteria: participants with MMSE  $< 24$  and/or comorbidities that may affect grip strength. Sociodemographic data, functional status, Modified Fried frailty and FRAIL scales were also collected.

**Results:** 100 participants, 70% women,  $78 \pm 6.6$  mean age, 19% frail. Inter-rater and test–retest reliability is excellent (kappa index of 0.83 and 0.86 respectively). The internal consistency is moderate (Cronbach's alpha coefficient of 0.64). The correlation between the Simpler Modified Fried scale and the Modified Fried scale and FRAIL scale is moderate (kappa of 0.5 and 0.51 respectively). Sensitivity 63%, specificity 89%, PPV 57%, NVP 91%.

**Conclusions:** Our Spanish version has excellent reliability but moderate consistency and low sensitivity and PPV. It seems not to be an appropriate instrument for frailty screening. This could be due to the sample selection (strict inclusion criteria, only community-based participants, few frail participants, etc.) or cultural differences results from other European countries should be assessed.

## P-459

### Frailty And Anemia In Older Patients

Catrin Herpich (1), Ursula Müller-Werdan (1), Magdalena Kalymon (1), Varvara Moskiou (1), Christiane Ott (2), Lea Göger (2), Kristina Norman (1)

(1) Charite Universitätsmedizin, Dept of Geriatrics, (2) German Institute of Human Nutrition

**Background:** Anemia predisposes for frailty syndrome thus contributing to higher morbidity and mortality. Inflammatory processes underlie both entities. In this analysis, the association of frailty with anemia in the context of inflammation was investigated.

**Methods:** Frailty phenotype by Fried et al. was used, anemia categorized according to WHO criteria. Transferrin saturation (TSAT), soluble transferrin receptor (sTfR), ferritin, ferritin index (sTfR/log ferritin), hemoglobin, c-reactive protein (CRP) and interleukin 6 (IL-6) were quantified. Anemia of inflammation (AI) was defined as ferritin-index  $< 0.8$  and ferritin  $> 300$ ng/mL, iron deficiency anemia (IDA) as as TSAT  $< 20\%$  and ferritin concentrations  $< 300$ ng/mL and megaloblastic anemia as macrocytic anemia with an increased red cell distribution width (RDW-CV  $> 14.5\%$ ). Mann–Whitney-U-test, Chi<sup>2</sup>-test or regression analysis were used as appropriate.

**Results:** 67.3% of patients ( $n = 208, 79.0 \pm 7.11$  years, 53.8% women) exhibited frailty and 76.2% anemia, with a higher anemia prevalence in patients with frailty (82.1% vs 64.7%,  $p = 0.005$ ). Hemoglobin was lower ( $10.7 \pm 1.71$  vs  $11.4 \pm 1.91$ g/dL,  $p = 0.006$ ); CRP ( $9.01$  (13.6;24.8) vs  $4.33$  (6.24;14.8) mg/L,  $p = 0.003$ ) and IL-6 higher ( $12.4$  (16.6;25.9) vs  $8.36$  (8.99;14.6) pg/mL,  $p < 0.001$ ) in patients with frailty compared to patients without. While IDA was the main cause in patients without frailty ( $p = 0.038$ ), megaloblastic anemia was the main anemia type in patients with frailty and AI was found exclusively in patients with frailty. Frailty score was significantly associated with number of comorbidities ( $\beta = 0.054 \pm 0.024, p = 0.027$ , 95% CI 0.001;0.10), IL-6 ( $\beta = 0.01 \pm 0.004, p = 0.041$ , 95% CI 0.00;0.02) and hemoglobin concentrations ( $\beta = -0.12 \pm 0.05, p = 0.021$ , 95% CI  $-0.22; -0.02$ ).

**Conclusions:** The higher inflammatory state of patients with frailty potentially interferes with iron homeostasis thus further driving the development of anemia.

Acknowledgements.

Funded by DFG Forschungsgruppe TraceAge (FOR 2558).

## P-460

### Frailty in older dialysis patients: impact of sociodemographic and dialysis variables

Liliana Sousa (1), João Tavares (2)

(1) Department of Education and Psychology, University of Aveiro, Center for Health Technology and Services Research (CINTESIS.UA), (2) School of Health Sciences, University of Aveiro, Center for Health Technology and Services Research; The Health Sciences Research Unit: Nursing

**Introduction:** The prevalence of frailty among hemodialysis patients is common [1], usually associated to adverse outcomes, such as worst diagnosis, hospitalization, and mortality [2,3]. This study aims to identify the prevalence of frailty among older adults in Renal Replacement Therapy; considering sociodemographic and dialysis characteristics.

**Methods:** A cross-sectional study was performed with a sample of 93 older adults. The questionnaire included: sociodemographic, level of dependency (independent, partial dependent, and total dependent), mobility (normal, with help, and well-chair or confined to bed), Charlson Comorbidity Index (CCI); dialysis characteristics, namely years, type (Hemodiafiltration or hemodialysis), access (arteriovenous fistula and central venous catheter (CVC) ) and shift (morning, afternoon, night); and Frailty Clinical Scale. The Chi-squared and T-student test were used in data analysis.

**Results:** The mean age of participants was  $78.59 \pm 7.6$ , 51.6% were female and with a CCI mean of  $7.96 \pm 2.59$ . The prevalence of frailty was 40.9%. The frail older adults on dialysis were significantly more aged, dependent, with mobility impairment and living in long-term care facilities ( $p < 0.01$ ). There was a significant association between the type of dialysis access and shift and frailty; the analysis of standardized residuals showed that the use of CVC and the afternoon shift tended to be the group with more frailty older patients.

**Key Conclusions:** A higher prevalence of frailty was found in older dialysis patients, which highlights the need to implement a frailty management protocol in dialysis units to address the specific needs and vulnerabilities of older adult patients.

## P-461

### PRAE-Frail—a systematic review and network meta-analysis of interventions to prevent the onset of frailty in adults aged 60 and older

Annette Eidam (1), Jane Durga (1), Samuel Zimmermann (2), Johannes A. Vey (2), Kilian Rapp (3), Michael Schwenk (4), Matteo Cesari (5), Jürgen M. Bauer (1), Petra Benzinger (1)

(1) Center for Geriatric Medicine, Heidelberg University Hospital, Agaplesion Bethanien Hospital Heidelberg, Heidelberg, Germany, (2) Institute of Medical Biometry, Heidelberg University, Heidelberg, Germany, (3) Department of Clinical Gerontology, Robert-Bosch-Hospital, Stuttgart, Germany, (4) Department of Sport Science, Human Performance Research Centre, University of Konstanz, Konstanz, Germany, (5) Department of Clinical Sciences and Community Health, University of Milan, Milan, Italy

**Introduction:** Frailty may lead to multiple adverse health outcomes in older adults (e.g., falls, hospitalization), but specific guidelines for the prevention of this geriatric syndrome are still missing. We

performed a systematic review and component network meta-analysis (CNMA) to synthesize the effectiveness of different interventions in preventing frailty onset.

**Methods:** Eight databases were searched for randomized controlled trials (RCTs) of interventions in robust or pre-frail adults aged  $\geq 60$  years that assessed frailty incidence at follow-up. Additive CNMA was conducted to isolate the effect of different intervention types on frailty incidence, reporting relative risk (RR) with 95% confidence intervals (CI). Given its relevance as a marker of frailty, the effect on gait speed was analyzed as an additional outcome using a classic network meta-analysis and standardized mean differences (SMD) with 95% CI.

**Results:** Eleven eligible RCTs were identified from the 24,263 records screened. Nine trials (842 participants, all categorized according to the physical phenotype model of frailty) were included in the CNMA and four of these RCTs were also included in the analysis of the gait speed outcome. We found that physical exercise significantly reduced frailty incidence (RR 0.26, 95% CI 0.08; 0.83), while nutritional interventions did not (RR 1.16, 95% CI 0.33; 4.10). Interventions based on physical exercise also improved gait speed (SMD 1.55, 95% CI 1.16; 1.95).

**Key Conclusions:** The body of evidence on how to prevent frailty onset in older adults is still limited. Interventions based on physical exercise appear to be effective in reducing frailty incidence in this population.

## P-462

### Re-Examination of Successful Agers with Lower Biological than Chronological Age Still After a 20-year Follow-Up Period

Anna Viljanen (1), Marika Salminen (1), Kerttu Irjala (1), Päivi Korhonen (1), Tero Vahlberg (1), Matti Viitanen (1), Minna Löppönen (2), Laura Viikari (1)

(1) University of Turku and Turku University Hospital, (2) Wellbeing services county of Southwest Finland

**Introduction:** Successful ageing is the term often used for depicting exceptional ageing but a uniform definition is lacking. The aim was to re-examine and describe the successful agers living at home at the age of 84 years or over after a 20-year follow-up. The purpose was also to identify possible factors leading to their successful ageing.

**Methods:** Successful ageing was defined as the ability to live at home without daily care. Data on the participants' functional ability, objective health, self-rated health and satisfaction with life were gathered at baseline and after a 20-year follow-up period. A measurement of personal biological age (PBA) was established and the difference between the PBA and the chronological age (CA) was counted.

**Results:** The participants' mean age was 87.6 years (Standard deviation 2.5, range 84–96). All analyzed variables depicted poorer physical ability and subjective health at re-examination than at baseline. Still, 99% of the participants were at least moderately satisfied with their lives. The PBA at baseline was 6.5 years younger than CA, and at re-examination, the difference was even more pronounced at 10.5 years.

**Key Conclusions:** Successful agers were satisfied with their lives despite having poorer physical ability and subjective health suggesting them having psychological resilience. They also had a lower biological than chronological age, even more so at re-examination

than at baseline, suggesting also biological successful ageing. Further research is needed to evaluate causality.

Keywords: Personal biological age · Resilience · Successful ageing · Satisfaction with life.

## P-463

### Can calf circumference be used as a surrogate measure for sarcopenia in osteoporosis patients?

Anirudh Kumar (1), Mateen Arrain (1), Tahir Masud (1), Mun Hoe Poon (1)

(1) Nottingham University Hospitals NHS Trust

**Introduction:** Sarcopenia is increasingly being recognised as an important syndrome in older people which is associated with adverse consequences. Diagnosis includes measurement of muscle mass and strength/function. Measurement of muscle mass requires availability of specialised equipment such dual-energy X-ray absorptiometry, bioimpedance or MRI which may not be freely available to clinicians. Current literature suggests calf circumference (CC) could potentially be used as a surrogate for diagnosing sarcopenia. The aim of this study was to assess if CC could be used to diagnose sarcopenia in older UK osteoporosis patients.

**Methods:** Patients  $\geq 60$  years with osteoporosis were tested for sarcopenia, which was defined as: low muscle mass (measured by bioimpedance) and either reduced grip strength ( $< 30\text{kg}$  men,  $< 20\text{kg}$  women) or slow gait speed ( $\leq 0.8\text{m/s}$ ). Calf circumference was measured at the most prominent part of the right calf using a measuring diameter tape (Lufkin W606Pm) in a sitting position, to the nearest 0.1 cm. Pearson's correlation and logistic regression were used to test the relation between CC and muscle mass and sarcopenia respectively.

**Results:** Sixty-three patients (56 women), mean age =  $77.6 \pm 7.5$  years were studied. Prevalence of sarcopenia was 41%. CC was significantly correlated with muscle mass ( $r = 0.77$ ,  $p < 0.001$ ). Logistic regression showed that CC was a statistically significant predictor of sarcopenia (OR = 0.77, 95% CI 0.64–0.93;  $p = 0.007$ ).

**Conclusion:** These data suggest that in an older osteoporotic population, CC can potentially be used as a simple surrogate measure to diagnose sarcopenia when there is limited availability for more standard muscle mass measurements.

## P-464

### Can frailty scores predict the incidence of cancer? Results from two large population-based studies

Jonathan K. L. Mak (1), Ralf Kuja-Halkola (1), Yunzhang Wang (1), Sara Hägg (1), Juulia Jylhävä (1)

(1) Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Stockholm, Sweden

**Introduction:** There has been limited research on whether frailty may predict cancer risks. This study aimed to investigate the associations of frailty scores with the incidence of any cancer and five common cancers.

**Methods:** Data were from the UK Biobank (UKB;  $n = 453,144$ ) and the Swedish Screening Across the Lifespan Twin study (SALT;  $n = 36,888$ ). Frailty was defined by the frailty index (FI) and frailty

phenotype (FP). Incident cancers were ascertained from register data. Cox models were used to assess the association between frailty and cancer incidence.

**Results:** During a median follow-up of 11 years, 53,049 (11.7%) and 4,362 (11.8%) incident cancers were documented in UKB and SALT, respectively. Adjusted for age, sex, and other cancer risk factors, frail vs. non-frail individuals in UKB had increased risk of any cancer when defined by both FI (hazard ratio [HR] = 1.22; 95% confidence interval = 1.17–1.28) and FP (HR = 1.16; 1.11–1.21). The FI in SALT also predicted the incidence of any cancer (HR = 1.31; 1.15–1.49). Moreover, frailty was significantly associated with lung cancer in UKB, but not in SALT. Adding frailty scores to models including age, sex, and common cancer risk factors provided limited added discriminative ability for most cancers. In a within-twin-pair analysis in SALT, the association between FI and any cancer remained similar within dizygotic twins but was attenuated within monozygotic twins, suggesting that the association may partly be explained by genetic factors.

**Conclusion:** Frailty scores are associated with the incidence of any cancer and lung cancer, although their clinical utility for predicting cancers may be limited.

## P-465

### Obstructive sleep apnoea, oxidative stress and age-related frailty: AOX-FRAIL study protocol

María Juárez España (1), Victoria Sánchez-Flor Alfaro (1), Ana Isabel Soria Robles (1), Cristina Aguado Blanco (1), Marina Alcaraz Barcelona (2), Jesús Jiménez López (2,3), Ramón Coloma Navarro (2,3), Esther López Jiménez (1), Mariano Esbrí Víctor (1), Melisa López Utiel (1), Gabriel Ariza Zafra (1), Almudena Avendaño Céspedes (1,4,5), Rubén Alcántud Córcoles (1,5,6), Pedro Abizanda (1,3,5)

(1) Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain, (2) Neumology Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain, (3) Facultad de Medicina de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain, (4) Facultad de Medicina de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain, (5) CIBERFES, Instituto de Salud Carlos III, Madrid, Spain, (6) Fundación Hospital Nacional de Parapléjicos, Toledo, Spain, (7) Fundación Hospital Nacional de Parapléjicos, Toledo, Spain

**Introduction:** Obstructive sleep apnea (OSA) is a highly prevalent respiratory disorder and its prevalence increases with age. OSA may contribute to the development of frailty and increase oxidative stress in older people. This could be attributed to the fact that the intermittent hypoxia that occurs during apnea episodes can lead to inflammation and oxidative stress in the body, which can accelerate the aging process and increase the risk of chronic diseases. The main objective of this study will be to analyse whether the summative oxidative stress burden associated with the ageing process, frailty and OSA is differentially associated with adverse health events in real life.

**Methods:** Prospective cohort study, followed up for 2 years. The study will include 198 adult participants seen in outpatient clinics categorised into 6 homogeneous groups according to their age, diagnosis of OSA and frailty, which will allow a more accurate comparison of the results and a better understanding of the effects of OSA and frailty in ageing as well as the modulating effect of oxidative stress. A cardio-respiratory polygraphy will be performed at the beginning of the study. At baseline, 12 and 24 months, densitometry, muscle ultrasound and hand grip strength will be performed to

assess nutritional status, sarcopenia and frailty, as well as determination of markers of oxidative stress and low-grade inflammation in plasma.

**Key Conclusions:** The hypothesis of this study is that OSA and frailty are two health conditions that are interrelated in older adults and that increased levels of chronic low-grade inflammation and oxidative stress modulate the development of adverse health events in this age group.

## P-466

### The Prevalence of Oral Frailty in Community-Dwelling Older Adults Wearing Dentures

Shan Yun (1), Natsuka Ogawa (2), Miku Izutsu (3), Michiko Yuki (1)

(1) Faculty of Health Sciences, Hokkaido University, Japan, (2) Emergency and Critical Care Center, Tohoku University Hospital, Japan, (3) Graduate School of Health Sciences, Hokkaido University, Japan

**Introduction:** Denture plays a crucial role in improving masticatory ability, addressing psychosocial problems, and promoting oral health. However, an ill-fitting denture might lead to oral frailty (OF) in older adults. This study aimed to investigate the prevalence of OF and its associated factors among community-dwelling older adults who wear dentures.

**Methods:** A total of 97 denture-wearing older adults aged  $\geq 65$  participated in the analysis. OF was assessed using the Oral Frailty Index-8 (OFI-8). Participants were classified into two groups based on OFI-8 scores: the OF group and the robust group. Oral health-related quality of life (OHQOL) was assessed using the Geriatric Oral Health Assessment Index while swallowing function was measured using the Eating Assessment Tool. Additionally, oral health behaviors were examined. Depression levels were assessed using the Geriatric Depression Scale 15, and social isolation and loneliness were measured using the Lubben Social Network Scale and Three-Item Loneliness Scale. Group differences were analyzed using the t-test and Mann–Whitney U test.

**Results:** The prevalence of OF among denture-wearing older adults was found to be 75.3% (N = 73). The mean OFI-8 score was  $4.4 \pm 1.3$  in the OF group, while the robust group had a mean score of 2.0. The OF group exhibited significantly poorer OHQOL, and higher levels of depression and loneliness than the robust group.

**Conclusion:** This study suggests a noteworthy occurrence of OF among community-dwelling denture-wearing older adults. Considering the various benefits of denture use, it is crucial to recognize and address its potential psychological impacts.

## P-467

### Reference Values Of Gait Characteristics In Community-dwelling Older Persons With Different Physical Functional Levels

Ulrike Dapp (1), Dominic Vinyard (1), Stefan Golgert (1), Sebastian Krumpoch (2), Ellen Freiberger (2)

(1) Albertinen-Haus Geriatrics Center, Scientific Department at the University of Hamburg, (2) Institute for Biomedicine of Aging (IBA), Friedrich-Alexander-University Erlangen-Nürnberg (FAU)

**Introduction:** Quantitative gait analysis can support clinical diagnostics, monitor progression of diseases and provide information about the efficacy of interventions. Our aim was to contribute reference values of gait parameters of older persons based on their

functional ability. In addition, differences in sex and age were investigated for comparability with conventional stratification in literature.

**Methods:** Three established frameworks that assess gait characteristics were combined into a new framework-based approach that comprises eight gait parameters: gait speed, stride length, walk ratio, single and double support time, step width, step width CV (coefficient of variance), stride length CV. Gait parameters were stratified by the Short Physical Performance Battery (SPPB) and the LUCAS Functional Ability Index (FAI). Gait parameters of older community-dwelling persons were measured with an objective Gait system (GAITRite) across differing functional ability ranging from robust to transient (postrobust and prefrail) to frail physical status.

**Results:** We assessed 642 community-dwelling participants: age  $78.5 \pm 4.8$ ;  $n = 233$  male,  $n = 409$  female. Overall, our results showed clinically meaningful differences between the functional featuring a gradient declining from robust over transient to frail in most gait parameters. Stratification by functional ability (biological age) revealed a greater range of differentiation than chronological age.

**Key Conclusions:** We found discriminative power of stratifications by SPPB to be the highest, closely followed by LUCAS FAI, age groups and dichotomous age making the application of the LUCAS FAI more cost and time effective than conducting SPPB [1].

**Reference:**

[1] Dapp et al. *BMC Geriatrics* (2022) 22:713.

## P-468

### The Need for Palliative Care Expertise in the Emergency Department

Lucy Daniels (1), Bethan Graf (2), Deepa Kuriakose (2), Priya Paul (2)

(1) Peterborough City hospital, NWAFT, UK, (2) NWAFT, UK

**Introduction:** Peterborough City Hospital is a large district general in the East of England. The frailty team are based in the emergency department and review 400 patients per month. Previously, the frailty team excluded patients with a National Early Warning Score (NEWS)  $> = 3$  from assessment. In April 2023 the team changed their assessment criteria and reviewed all patients with moderate to severe frailty.

**Methods:** Clinical Frailty Score (CFS) was recorded on all patients who attend the emergency department April 2023. Consecutive patients CFS  $> = 7$  were assessed by the frailty team. The initial NEWS, previous admissions in the previous 6 months and mortality were recorded.

**Results:** 62 patients had a CFS of 7 and or above. 2 patients were excluded due to lack of clinical details. 11/60 (18%) patients died within 30 days, 19/60 (32%) of surviving patients had advanced care planning prior to discharge. The mean initial NEWS was 4.5 (range 0–13) in all patients, 9.6 (3–13) in the patients who died. 9/12 (75%) patients with a NEWS score  $> 8$  died within 30 days. The mean number of attendances in the previous 6 months = 1 in all patients and = 1 In those who died.

**Conclusions:** 18% patients who attended the emergency department with a CFS  $> = 7$  died, this was much increased if the NEWS was  $> = 8$ . 50% of severely frail patients seen in PCH emergency department required palliative care or advanced care planning. The authors conclude that palliative care services based in the emergency department are urgently required.

## P-469

### The identification and prediction of frailty based on Bayesian network analysis in a community-dwelling older population

Yin Yuan (1), Feng Huang (2), Pengli Zhu (2)

(1) Department of Geriatric Medicine, Fujian Provincial Hospital, Fuzhou, China, (2) Department of Geriatric Medicine, Fujian Provincial Hospital, Fuzhou, China

**Introduction:** Understanding the influential factors associated with frailty may help prevent or if possible reverse frailty. The present study aimed to investigate factors associated with frailty status and frailty transition in a community-dwelling older population.

**Methods:** A prospective cohort study on community-dwelling subjects aged  $\geq 60$  years was conducted. Participants who had completed two visits during 2020–2021 were included. Frailty status was evaluated using the Fried frailty phenotype. LASSO regression was applied for variable selection. Bayesian network analysis was used to identify factors related to frailty status and frailty transition.

**Results:** Of 1,981 subjects at baseline, 1,040 (52.5%) and 165 (8.33%) were classified as prefrailty and frailty. After one year, improved, stable, and worsening frailty status was observed in 460 (35.6%), 526 (40.7%), and 306 (23.7%) subjects, respectively. Based on the variables screened by LASSO regression, the Bayesian network structure suggested that age, nutritional status, instrumental activities of daily living (IADL), balance capacity, and social support were directly related to frailty status. The probability of developing frailty is 14.4% in an individual aged  $\geq 71$  years, which increases to 20.2% and 53.2% if the individual has balance impairment alone or combined with IADL disability and malnutrition. At a longitudinal level, ADL/IADL decline was a direct predictor of worsening in frailty state. Knowing the status of any one or more of these factors can be used to infer the risk of frailty based on conditional probabilities.

**Key Conclusions:** Older age, malnutrition, IADL disability, and balance impairment are important factors for identifying frailty. Malnutrition and ADL/IADL decline further predict worsening of the frailty state.

Keywords Bayesian analysis, Frail older adults, Risk factors.

## P-470

### Quality improvement project (QIP) to improve recognition of frailty in patients aged 65 years and over at the front door of a NHS teaching hospital

Bethan Day (1), Thomas Hughes (2), Abhishek Gupta (3)

(1) University Hospital Birmingham NHS Foundation Trust, (2) University of Birmingham, (3) University Hospital of Birmingham NHS Foundation Trust

**Background:** It is recognised that 10% of patients aged  $\geq 65$  have frailty and this increases to 25–50% in those aged over 85. Frailty recognition is important in planning long-term care for our patients as it's a risk factor for deconditioning, longer hospital stay and functional decline.

**Aim:** Improve recognition of frailty in patients seen by Older Persons Assessment Liaison team and performing comprehensive geriatric assessment (CGA) in those with CFS  $\geq 6$ .

**Methods:** Patient's hospital number, age, sex, CFS documentation with score, and whether a CGA was completed in patients with CFS  $\geq 6$ . A simple intervention of daily teaching regarding recognition of frailty was carried out for a week amongst the team. The

teaching highlighted the benefits of CFS and how to record it on patient electronic records. Post-intervention data collection was reviewed.

**Findings:** Baseline data collection for a week showed initial documentation of CFS as 0 in 114 patients. Post-intervention data collection for a week showed the team had seen 93 patients, of which 63 patients (68%) had CFS completed. Amongst these, 23 patients had a CFS  $\geq 6$  of which 9 (39%) had a CGA completed. This showed significant improvement in the recognition of frailty and completion of CGA.

**Conclusion:** This QIP showed simple intervention can significantly improve recognition of frailty and completion of CGA in patients presenting at the front door of our hospitals. Further cycles are planned to enhance the performance of our team to improve the percentage of frailty recognition and CGA completion.

## P-471

### Predictive Ability of Achilles Tendon Elastography for Frailty Assessment in Older Adults

Eda Ceker (1), Ayse Fadiloglu (1), Seriyeye Allahverdiyeva (1), Esra Cataltepe (1), Halit Nahit Sendur (1), Hacer Dogan Varan (1)

(1) Gazi University Faculty of Medicine, Department of Internal Medicine, Division of Geriatric Medicine

**Introduction:** The Achilles tendon (AT) is the largest and strongest tendon in the human body that plays a crucial role in various weight-bearing activities. Frailty is associated with reduced muscle strength, impaired balance and decreased physical performance which can lead to altered loading and biomechanical stress on the AT. This study aimed to evaluate the potential of Achille Shear Wave Elastography (ASWE) as a diagnostic tool for assessing frailty in physically active older adults.

**Material and Methods:** A total of 149 participants with a mean age of 73.8 years were included in the analysis. Patients with heart failure, AT injury, stroke history, active malignancy and claudication were excluded. Geriatric assessment, including handgrip strength, walking speed, Freid Frailty Index, the Short Physical Performance Battery (SPPB) and ASWE in neutral position were performed.

**Results:** Out of the 149 participants 61.7% were female and 26.8% were frail. Frail patients exhibited significantly slower walking speed, lower handgrip strength and SPPB scores. ASWE measurements demonstrated reduced elasticity in the AT of frail individuals. The area under the curve (AUC) was calculated to determine the diagnostic accuracy of ASWE, yielding a value of 0.647 (95% CI 0.564–0.724,  $p < 0.01$ ). The optimal cut-off point for ASWE was identified as 124.1 kilopascals.

**Conclusion:** These findings highlight the value of ASWE as a non-invasive and objective tool for assessing frailty in physically active older adults. Further research is needed to explore the predictive value of ASWE for disability risk in frailty syndrome.

Key Words: Achilles tendon, elastography, frailty.

## P-472

### Adductor Pollicis Muscle Thickness and Prediction of Frailty in Older Adults

Esra Cataltepe (1), Ayse Fadiloglu (1), Eda Ceker (1), Nermin Karakurt (1), Hacer Dogan Varan (1)

(1) Gazi University Faculty of Medicine, Department of Internal Medicine, Division of Geriatric Medicine

**Introduction:** The adductor pollicis muscle is the only muscle that is least affected by subcutaneous adipose tissue and can be measured externally. The aim of this study is to determine the relationship between adductor pollicis muscle thickness (APMT) and frailty.

**Material and Methods:** A total of 589 (16.3% frail, 54.7% pre-frail, 29% robust) patients were included. Patients with advanced dementia, cerebrovascular disease, neurodegenerative disease, polyneuropathy, rheumatoid arthritis, carpal tunnel syndrome, and using drugs that affect muscle function, such as steroids, pregabalin, and gabapentin were excluded. Comprehensive geriatric assessments and anthropometric measurements of the patients were performed. APMT was measured with a skinfold caliper. The diagnosis of frailty was based on Freid Frailty Index (frail ( $\geq 3$ ), prefrail (1–2), and robust (none)). The predictive ability of APMT for the diagnosis of frailty was examined.

**Results:** Among the total participants 64.3% were female, and the mean age was 74.05 years. There was no significant difference in terms of waist and hip circumference, or body mass index between frail and non-frail groups. APMT, handgrip strength, gait speed, and calf circumference were significantly lower in frail patients than in non-frail ones ( $p < 0.01$ ). The area under the curve of APMT for frailty was 0.619 (95% confidence interval [CI], 0.578–0.658;  $P < 0.01$ ). The best cut-off point for APMT was  $\leq 19.25$  mm for all individuals.

**Conclusion:** Adductor pollicis muscle thickness may be a useful anthropometric marker for frailty.

Keywords: adductor pollicis muscle, anthropometry, frailty.

## P-473

### Prevention at home in older persons with (pre-) frailty: Analysis of participant recruitment and characteristics of the PromeTheus multicenter randomized controlled trial

Tim Fleiner (1), Nerz Corinna (2), Denkinger Michael (1), Dallmeier Dhayana (3), Bauer Jürgen (4), Rapp Kilian (2), Werner Christian (4)

(1) Ulm University, Institute for Geriatric Research, (2) Robert-Bosch-Hospital Stuttgart, (3) Agaplesion Bethesda Clinic Ulm, (4) Heidelberg University Hospital, Agaplesion Bethanien Hospital

**Introduction:** Preventive measures for (pre-) frail people living at home are rare. The “PromeTheus” project investigates how an at home prevention program can stabilize or even improve daily functioning and participation as well as reduce the need for care. However, the target group is difficult to reach due to already reduced participation. This study aims to analyze differences in participant characteristics related to the recruiting strategy.

**Methods:** Within a multi-center RCT, persons aged  $\geq 70$  years, living at home or in assisted living facilities, able to walk  $\geq 10$  m, and (pre-) frailty (Clinical Frailty Scale 4–6) were pre-selected and pre-screened by general practitioners (GPs). As a secondary recruiting strategy, the prevention program was communicated via newspaper, flyers in health-insurance magazines and personal mail to 33,796 members of the health insurance in the study regions.



**Results:** Over 18 months, 385 participants were enrolled. 93 (24.1%) participants were enrolled via GPs and 292 (75.9%) via direct recruitment. Participants' functional capacity and degree of frailty at study inclusion as well as possible differences between those who were referred by GPs and those who were informed by the secondary recruiting strategy will be presented at the conference.

**Conclusion:** Engaging (pre-) frail persons living at home to participate in clinical studies involving preventive interventions requires a broad recruiting strategy. Pros and Contras as well as the impact of different recruitment strategies within a study merit a differential analysis in order to promote prevention interventions like the PromeTheus approach in (pre-) frail older adults.

## P-474

### Medication Assessment In Elderly

Terttu Tiirola (1)

(1) Pharmacist

**Introduction:** Polypharmacy is prevalent among the older population. Age-related and other chronic illnesses result in the use of multiple medicines. Due to physiological changes, older are exposed to adverse drug effects. In addition, overmedication or inappropriate medication causes a burden on health care.

**Methods:** One thousand sixteen home-dwelling subjects, 348 men (34%) and 668 women (66%) living in six Keusote area municipalities, had an annual comprehensive geriatric assessment. The median age was 81,5 years. Medication was assessed for 1015 subjects.

**Results:** Due to a geriatric assessment, medication was changed for 643 subjects (63%), including checked and updated notes, prescribing (pain medication etc.), deprescribing, dosage adjustments and addition of D-vitamin and calcium supplements. Deprescribing due to unnecessary or accidentally existing medicines was performed for 15% of studied subjects. Medication review as a part of the geriatric assessment was considered beneficial for 80% of subjects.

**Key Conclusions:** In this study, medication review lead to medicine changes in most subjects. Therefore, medication review analysis is essential to good practice for older people and should be included annually. Ministry of social affairs and Health guidelines emphasize multi-professional teams in medication review analysis. A comprehensive survey of medication is a time-consuming process. Therefore, resources of qualified pharmacists should participate in multi-professional collaboration. Before the doctoral visit, a pharmaceutical medication assessment will help create a pharmacotherapeutic plan for the old, frail person.

## P-475

### A multifactorial interdisciplinary intervention to prevent functional and mobility decline for more participation in (pre-) frail community-dwelling older adults (PromeTheus) : study protocol for a multicenter randomized controlled trial

Vanessa Haug (1), Christian Werner (2), Nacera Wolf-Belala (1), Dhayana Dallmeier (3), Corinna Nerz (4), Bastian Abel (2), Tobias Braun (5), Christian Grüneberg (5), Christian Thiel (5), Gisela Büchele (6), Rainer Mucbe (6), Ingrid Hendlmeier (7), Martina

(1) Institute for Geriatric Research, Ulm University Hospital, Ulm, Germany, (2) Center for Geriatric Medicine, Agaplesion Bethanien Hospital Heidelberg, Heidelberg University, Heidelberg, Germany, (3) Agaplesion Bethesda Clinic, Institute for Geriatric Research, Ulm

University, Ulm, Germany, (4) Department of Clinical Gerontology, Robert-Bosch-Hospital, Stuttgart, Germany, (5) Division of Physiotherapy, Department of Applied Health Sciences, Hochschule für Gesundheit Bochum (University of Applied Sciences), Bochum, Germany, (6) Institute of Epidemiology and Medical Biometry, Ulm University, Ulm, Germany, (7) Department of Social Work, University of Applied Sciences, Mannheim, Germany, (8) Department of Health Economics and Health Services Research, University Medical Center Hamburg- Eppendorf, Hamburg, Germany

**Introduction:** Prevention programs for vulnerable community-dwelling older adults are not yet established in routine practice. Research of multifactorial, interdisciplinary intervention programs that include available services of healthcare providers is also limited. Therefore, the aim of this study is to evaluate the effectiveness of such an intervention program (PromeTheus) to prevent functional and mobility decline for more participation in community-dwelling (pre-) frail older adults.

**Methods:** The study is designed as a three-center, randomized controlled trial with a 12-month intervention. Four hundred community-dwelling (pre-) frail older adults ( $\geq 70$  years) will be randomized 1:1 to the intervention group (IG) or the control group (CG). The IG will receive the PromeTheus program consisting of home-based physical exercises accompanied by physiotherapists and facultative counseling services delivered via existing healthcare structures. The CG will receive usual care and a one-time counseling session on recommendations for physical activity and nutrition.

**Results:** Primary outcomes are physical functioning (measured with the functional component of the Late-Life Function and Disability Instrument) and life-space mobility (measured with the University of Alabama at Birmingham Life-Space Assessment). Secondary outcomes are disability, physical capacity, physical activity, frailty, nutritional status, falls, fear of falling, health status, and psychosocial components.

**Key Conclusions:** The PromeTheus program is expected to result in higher function and mobility, greater independence and lower need for care, and more participation. As the PromeTheus program draws on existing German healthcare structures, its large-scale translation will be feasible, if evidence of (cost-) effectiveness and successful implementation can be demonstrated.

## P-476

### Frailty, Renal Function and 1-Year Mortality in Elderly Patients Undergoing Transcatheter Aortic Valve Replacement (TAVI)

Alessandra Chiarini (1), Miriam de Souza Dorado (1), Abel Gómez Clemente (1), Victoria del Carme García Astudillo (1), Jose-Benito Barbe Gil-Ortega (1), Maria Carmen Perez Bocanegra (1)

(1) Geriatric Unit of the Internal Medicine Department, Vall d'Hebron University Hospital, Barcelona

**Introduction:** Frailty in elderly patients is associated with function decline and mortality. Pre-procedure renal dysfunction is associated with worsening outcomes post TAVI. This study aimed to investigate the relation between renal function, frailty and 1-year mortality post TAVI.

**Methods:** We performed a comprehensive geriatric assessment to patients who underwent TAVI at our hospital between 2021.01.01 and 2022.05.15. The Essential Frailty Toolset (EFT) scale was used to determinate the frailty levels (not-mild, moderate and severe). Renal function was measured applying CKD-epi creatinine equation and the values were adapted as categorical data to determinate CKD ( $e\text{-GFR} \leq 45$  ml/min/1.73m<sup>2</sup> as CKD,  $e\text{-GFR} > 45$  ml/min/1.73m<sup>2</sup> NO-CKD) .

**Results:** 134 patients were included. Mean age was 82.5 (67–96), years and 59% were women, mean Barthel index 86.2 (30–100), mean Body Mass Index 28.2 (19.5–47). 82 patients (61%) were no frail and mild frail (EFT 0–2). The moderate frailty group (35.8%) presented more CKD than the other group (45.8% versus 20.7%). The mortality was higher in the moderate frailty group with CKD than with no CKD (22.7% versus 3.8%).

**Key Conclusions:** The mortality was higher in the moderate frailty group with CKD. The CKD could be considered as a risk factor for mortality in frail patients undergoing TAVI. Further studies are necessary to understand the impact of renal function in this patients.

## P-477

### Frailty as Risk Factor for Peri-Procedural Complications (PPC) in Patients Undergoing Transcatheter Aortic Valve Implant (TAVI)

Miriam De Souza (1), Alessandra Chiarini (2), Abel Gomez Clemente (2), Jose-Benito Barbe Gil-Ortega (2), Monica zuleta (2), Carmen Pérez Bocanegra (2)

(1) Vall d'Hebron University Hospital, (2) Vall d'Hebron University Hospital

**Introduction:** TAVI is a safer option for elderly patients with aortic stenosis disease who are not suitable for major cardiac surgery. Frailty could be associated with more PPC. This study analyses the association of frailty and PPC in patients submitted a TAVI.

**Methods:** Frail, IF-VIG and EFT frailty scales were used to estimate frailty in patients  $\geq 65$  years since 12 of June 2018 until 3 of May 2023. The PPC were reviewed into cardiologic report discharge and the other study variables were obtained from clinical chart of patients.

**Results:** 457 patients with severe aortic stenosis were evaluated during hospitalization or scheduled visits. 4 patients were excluded by age  $\leq 65$  years old. TAVI was refused for 69 patients and 44 are still pending to perform. 340 TAVI were performed. The mean age was 82.7 ( $\pm 5.6$ ) years and 56.1% were women. The prevalence of frailty varied between 67 and 71% depending on the particular scale used without concordance of prevalence between Frail, IF-VIG and EFT scale respectively ( $K = 0.32, 0.19$  and  $0.3$ ). EFT scale showed better correlation between PPC and frailty than others scales. The frail group presented more peri-procedural complications than no frail group in accordance with EFT frailty scale ( $p < 0.05$ ).

**Key Conclusions:** Frailty is associated with increase of peri-procedural complications and EFT frailty scale seems to be a useful predictive tool of peri-procedural complications in patients undergoing TAVI.

## P-478

### Person-Centered Integrated Care for older adults living in nursing homes

Felix-Jorge Morel-Corona (1), Mariona Espauella-Ferrer (1), Alba Marty-Perez (2), Mireia Zarco-Martinez (2), Joan Espauella-Panicot (1)

(1) Territorial Service of Geriatrics and Palliative Care of Osona and Ripollès. Hospital Universitari de la Santa Creu de Vic, Hospital Universitari de Vic. Vic, Barcelona, Spain, (2) Ribes Campdevanol Primary Care Team, Fundacion Hospital Campdevanol

**Introduction:** The Nursing homes are adopting a new paradigm for care that accepts person-centered care as the guiding or defining standard of practice [1].

**Aim:** To describe a model of health care in nursing homes based on integrated interdisciplinary model (IIM).

**Methods:** Cohort study of adults living in small town nursing home, comparing the traditional model care (TMC) and IIM, from January 2019 to March 2023. The IIM consists of the initial assessment by a nursing home nurse and a primary care nurse coordinated by a liaison nurse, determining the need for assessment by the primary care physician and/or the geriatrician. Variables: Sociodemographic, cognitive, polypharmacy ( $\geq 5$  drugs), inappropriate prescription (IP) [2] and medication review, chronic-complex-patient identification [3], complications that required transfers to the emergency room (ER), follow-up in the outpatient clinic, and end-of-life care. Frail-VIG Index (FI-VIG) [4] was calculated.

**Results:** 50 patients analyzed, median age 86years-old (76% women). 65.38% have chronic-complex and 9.62% advanced disease identification. Cognitive impairment: 36%. FI-VIG 65.38% moderate-frail, 9.62% severe-frail. A comparison was made between the TMC and IIM: polypharmacy (76.4% vs 51%, median drugs (7.4% vs 5.88%). IP (70% vs 43%). Reduction in: ER visits 22.9% contacts (26 vs 16 patients), acute hospitalization discharges 61.9% (21 vs 8 patients), referral to geriatric outpatient clinics 87.5% (9 vs 2 patients) and other specialties outpatient clinics 57.77% (45 vs 19 patients). End of life in hospital environment (100% vs 25%).

**Conclusions:** The IIM allowed the reduction of transfers to the ER, hospitalization and medical outpatient visits, as well as the medication review. End-of-life care improved generating satisfaction on everyone involved.

#### References:

1. Brownie S, Nancarrow S. Effects of person-centered care on residents and staff in aged-care facilities: a systematic review. *Clin Interv Aging*. 2013;8:1–10. <https://doi.org/10.2147/CIA.S38589>. Epub 2013 Jan 3. PMID: 23,319,855; PMCID: PMC3540911.
2. Molist Brunet N, Espauella Panicot J, Sevilla-Sánchez D, Amblàs Novellas J, Codina-Jané C, Altimiras-Roset J, et al. A patient-centered prescription model assessing the appropriateness of chronic drug therapy in older patients at the end of life. *Eur Geriatr Med*. 2015;6:565–9.
3. Gómez-Batiste X, Martínez-Muñoz M, Blay C, Amblàs J, Vila L, Costa X, et al. Proyecto NECPAL CCOMS-ICO©: Identificación y Atención Integral-Integrada de Personas con Enfermedades Crónicas Avanzadas en Servicios de Salud y Sociales. [Internet]. 2011. Available from: <http://www.iconcologia.net>.
4. Amblàs-Novellas J, et al. Índice frágil-VIG: diseño y evaluación de un índice de fragilidad basado en la Valoración Integral Geriátrica. *Rev Esp Geriatr Gerontol*. 2016.

## P-479

### Comparative analysis of frailty identification criteria on continuous non-invasive neurocardiovascular signals during an active stand test in The Irish Longitudinal Study on Ageing (TILDA)

Feng Xue (1), Silvin Knight (1), Emma Connolly (1), Aisling O'Halloran (1), Eoin Duggan (1), Rose Anne Kenny (1), Roman Romero-Ortuno (1)

(1) Discipline of Medical Gerontology, School of Medicine, Trinity College Dublin, Ireland

**Introduction:** Older people living with frailty are at higher risk of adverse health outcomes when their physiology is suddenly

challenged. We compared frailty by three different identification criteria in their continuous cardiovascular and neurovascular responses to an orthostatic active stand test.

**Methods:** We used data from wave 3 of The Irish Longitudinal Study on Ageing and identified four mutually exclusive groups: frail by physical Frailty Phenotype (FP), 32-item Frailty Index (FI), and the Clinical Frailty Scale (CFS) classification tree; and a fourth group where participants were not frail by any of these tools. Continuous physiological signals were visualized across frailty groups and statistically compared using one-dimensional statistical parametric mapping (SPM).

**Results:** 1170 participants (mean age 63.5 years, 51.3% women) were included: 25 frail only by FP, 102 by FI, 43 by CFS, and 1000 by none. All frail participants were more comorbid, more medicated, and more physically limited than non-frail participants, but these differences were most accentuated for the FI classification. In the pairwise comparison, only the frail by FI reported a significantly higher proportion of post-stand dizziness compared to the non-frail group ( $p = 0.010$ ). SPM analyses revealed that only the frail by FI had significantly different signals ( $p < 0.05$ ) compared to the non-frail group: lower heart rate between 5–15 s post-stand, lower SBP/DBP between 15–40 s post-stand, and lower tissue saturation index (frontal lobe cerebral oxygenation) around 20 s post-stand.

**Conclusions:** Different frailty identification tools captured different physiological responses to orthostatic stress. The FI showed the best discrimination in this analysis.

## P-480

### IF-VIG and Clinical Frailty Scale as one-year-mortality predictors after femoral proximal fracture

Paula Pérez Gracia (1), María Rotger Ruiz (1), Carla Capellades Buqueras (1), Anna Ibáñez Porcar (1), Julia Antonella López Ceballos (1), Cristina Díaz Creus (1), Enric Prats Bacardit (1), Aranzazu Palaci Amat (1), Alicia Calle Egusquiza (1), María José R

(1) Department of Geriatrics, Parc de Salut Mar

**Introduction:** After a hip fracture, older adult patients are about 3 times more likely to die within one-year after surgery than general population. The aim of this study was to evaluate frailty tools' ability to predict one-year mortality in Orthogeriatrics patients.

**Methods:** Retrospective analytic study of patients hospitalized in a Orthogeriatrics Unit after a femoral fracture. Frailty was assessed by Clinical Frailty Scale (CFS) and IF-VIG. For survival analysis, Kaplan–Meier curves and log-rank analysis were performed. Discriminative ability of both Frailty tools was assessed by the receiver operating characteristics (ROC) curve test.

**Results:** 533 patients were included, 24.9% of them died during the first year after the fracture. Mortality was related to frailty according to Clinical Frailty Scale ( $\chi^2 = 47.14$  log rank  $p = 0.000$ ) and also to IF-VIG ( $\chi^2 = 32.71$  log rank  $p = 0.000$ ). When it comes to discriminative ability, IF-VIG showed a slightly superior discriminative ability in predicting mortality over CFS (AUC 0.675; 95% CI 0.609 to 0.741) vs (AUC 0.655; 95% CI 0.589 to 0.721) but none of them presented AUC > 0.70.

**Key Conclusions:** In our population, CFS and IF-VIG are two frailty tools that can be easily performed in Orthogeriatrics units providing useful information for clinical complex decisions and planification of post-acute care.

## P-481

### CiruGerES study: the spanish experience regarding surgery in geriatric population

Miguel Ruiz-Marin (1), David Pares-Martinez (2), Manuel Romero Simo (3), Roger Cabezali-Sánchez (4), Roberto de la Plaza-Llamas (5), Ismael Martinez-Nicolas (6), CIRUGERES WORKING GROUP (7)

(1) Hospital General Universitario Reina Sofía de Murcia, (2) Hospital Germans Trias i Pujol. Barcelona, (3) Hospital General Dr Balmis de Alicante. Spain, (4) Hospital Calahorra, La Rioja. Spain, (5) Hospital Universitario de Guadalajara. Spain, (6) SENSAR, IDEhA Simulation Centre, Alcorcon University Hospital. Madrid. Spain, (7) Spain

**Introduction:** The increase in life expectancy entails a modification of the scenario in the users of the health services: elderly patients, with a percentage of them affected by frailty, who are submitted to surgical interventions of variable complexity and associated complications.

**Objectives and Methodology:** To assess the incidence of postoperative complications in frail compared to non-frail patients. Secondary objectives: prevalence of frail surgical patients, predictive capacity of morbidity and mortality of scales, correlation between scales and risk of complications. Prospective, observational, multicenter “snapshot” study with > 70 y.o. patients undergoing surgery during 3 months. Included variables: administrative, sociodemographic, clinical and surgery-related, frailty scales, surgical risk assessment, postoperative complications and characteristics of the centers.

**Results:** thirty-two public hospitals participated in the study, 12 (37.5%) being medium-sized, 12 (37.5%) large, 30 (93.75%) teaching and 24 (75%) urban. Of these, 18 centers (56%) screened susceptible patients. 2079 patients were included, median age 78.43 years (IQR 74–82), 58.8% women. Charlson comorbidity index (ICC) was 5.9 (IQR 4–7), with neoplasms 34.7% more frequent, diabetes 29%, other metabolic pathologies 27.8%, and the most frequent chronic treatment being antihypertensives (71.5%) and oral antidiabetics (24.7%). The most frequent areas were coloproctology (33.9%) and hepatobiliary pancreatic (25.5%) and surgery was scheduled in 1294 (62.2%), through CMI in 832 (40%) and oncology in 641 (30.8%). The PRISMA-7 scale identified 843 patients (40.55%), while the Clinical Frailty Scale (CFS) identified 1236 (59.45%). The highest correlation between scales was obtained between the PRISMA and CFS scales. The American College of Surgeons (ACS) Surgical Risk Calculator (SRC) predicted risk of any or major complication in 703 (33.8%) and 297 patients (14.3%), respectively. Regarding complications, 703 patients (33.8%) presented complications, being  $\geq$  III C-D 12.5%. The ICC obtained was 33.84 (IQR 20.9–39.7). In-hospital mortality was 5.5% and 3.75% 30 days after the initial surgery. Median post-operative stay was 4 days (IQR 2–9) and 114 patients (5.48%) were readmitted. There were statistically significant differences between frail vs. non-frail patients in the development of complications and mortality with both scales, and the best predictive capacity for mortality was the ACS calculator.

**Conclusions:** Using frailty scales can help modify your care and address the increased risk of complications. Tools such as the ACS SRC would help propose therapeutic alternatives at high risk of morbidity and mortality.

**P-482****Behaviour change for frailty management in primary Care**

David Tan (1)

(1) NHGP

**Introduction:** Frailty affects 12% of older adults in Asia Pacific societies. Frailty can be reversed with resistance exercise. Patients may be at different stages of change for physical activity and behaviour change techniques to increase physical activity could complement frailty intervention programs. The aim of the study was to evaluate the efficacy of behaviour change techniques in the management of mild frail and pre-frail adults in primary care.

**Methods:** Patients in a primary care centre with a Clinical Frailty Scale (CFS) of 3 or 4 were enrolled. Cognitive dissonance was created by testing hand grip strength. A coordinator counselled patients on the appropriate resistance exercises to perform, high protein food content as well as fall prevention advice. Patients were reassessed 3 months later and a comparison was made with a control group receiving usual care in 4 other primary care centres. Data analysis was performed using Stata and statistical significance was set a p-value of 0.05.

**Results:** 405 patients were recruited to the study. The mean age of the patients was 74.5 years. At 3 months follow up, CFS 3 patients in the intervention group had a 32.1% larger likelihood of improved CFS score (36.1% vs 4.0%,  $p < 0.001$ ). CFS 4 patients in the intervention group had a 17.9% larger likelihood of improved CFS score (32.0% vs 14.9%,  $p < 0.001$ ). Multivariate analysis showed a 9.64-fold increased likelihood of an improved CFS score in the intervention group ( $p < 0.001$ ).

**Conclusion:** Behaviour change techniques administered by a coordinator can improve frailty outcomes in primary care.

**P-483****The Benefits of virtual wards within the Frailty service- A pilot study on patients with Septicaemia**

Eloise Filby (1), Tiffany Loe (1), Samantha Chizhowezha (1), Eunice Amankwah (1), Dr Lucy Daniels (1), Dr Deyo Okubadejo (1), Dr Shazia Baloch (1)

(1) NWAFT

The National average for mortality rates due to Septicaemia within a population over 65 years ranged from 50–60% from 2000 to 2018 (Sepsis trust, 2017). Elderly patients have an increased incidence of mortality due to poor functional status, co-existing co-morbidities, reduced immunity, and increased admission length. The introduction of virtual wards has demonstrated an overall safe decrease in the length of admission and mortality in various patient groups. However, no studies have been conducted to demonstrate an effect in the mortality of septicaemia patients. Clinical information for patients evaluated by the Frailty team at Peterborough City Hospital (PCH) in April 2023 was extracted from the electronic patient records retrospectively. As part of a pilot study, 317 patients over the age of 65 years were included. 24 of these patients had positive blood cultures (7.5%), of which two were discharged to their residence and referred to the virtual ward. The remaining 22 patients were admitted to other medical wards. Nine of these 24 patients died from septicaemia (37.5%). There was 0% mortality among the two patients discharged to the virtual ward, over a 2 week period. This study shows that virtual wards have not contributed to increased mortality in frail patients with septicaemia. Therefore, the Frailty service is making a

positive contribution by appropriately selecting patients, with respect to low correlated mortality rates. Further data will need to be analysed over a longer period to understand the true impact of virtual wards on patient mortality in the elderly with septicaemia.

**P-484****Behaviour Change for Frailty Management In Primary Care**

David Wei Liang Ng (1), Lye Yoong Tan (2), Wei Chun Gan (3), Bee Yan Tan (3), Eng Sing Lee (4), Jeremy Kaiwei Lew (3), Gabriel Teck Yong Ding (3), Doreen Wai Peng Chan (3)

(1) National Healthcare Group Polyclinics (NHGP), Singapore, (2) NHGP, Singapore, (3) NHGP, Singapore, (4) Clinical Research Unit (CRU) NHGP, Singapore; Lee Kong Chian School of Medicine (LKC), Nanyang Technological University (NTU) Singapore

**Introduction:** Frailty affects 12% of older adults in Asia Pacific societies. Frailty can be reversed with resistance exercise. Patients may be at different stages of change for physical activity and behaviour change techniques to increase physical activity could complement frailty intervention programs. The aim of the study was to evaluate the efficacy of behaviour change techniques in the management of mild frail and pre-frail adults in primary care.

**Methods:** Patients in a primary care centre with a Clinical Frailty Scale (CFS) of 3 or 4 were enrolled. Cognitive dissonance was created by testing hand grip strength. A coordinator counselled patients on the appropriate resistance exercises to perform, high protein food content as well as fall prevention advice. Patients were reassessed 3 months later and a comparison was made with a control group receiving usual care in 4 other primary care centres. Data analysis was performed using Stata and statistical significance was set a p-value of 0.05.

**Results:** 405 patients were recruited to the study. The mean age of the patients was 74.5 years. At 3 months follow up, CFS 3 patients in the intervention group had a 32.1% larger likelihood of improved CFS score (36.1% vs 4.0%,  $p < 0.001$ ). CFS 4 patients in the intervention group had a 17.9% larger likelihood of improved CFS score (32.0% vs 14.9%,  $p < 0.001$ ). Multivariate analysis showed a 9.64-fold increased likelihood of an improved CFS score in the intervention group ( $p < 0.001$ ).

**Conclusion:** Behaviour change techniques administered by a coordinator can improve frailty outcomes in primary care.

**P-485****Correlations between measures used in the diagnosis of frailty and sarcopenia**

CG Alvarez-Pinheiro (1), C Corral-Tuesta (1), V Lavilla-Gracia (1), P Sobrini-Morillo (1), S Lippo (1), AJ Cruz-Jentoft (1), A Rodríguez-Díaz-Pavón (1), J Corcuera-Catalá (1), B Escudero-González (1), C Jiménez-Domínguez (1)

(1) Hospital Ramon y Cajal

**Introduction:** Measures of muscle strength and physical performance that are used in the diagnosis of sarcopenia and frailty may depend on body size and frame. There is no consensus on the need of adjusting strength and gait speed to anthropometric measures. We aimed to explore the correlations between these parameters.

**Methods:** Cross-sectional study including outpatients  $\geq 65$  years old able to walk independently, with no cognitive impairment (MMSE  $\geq 24$ ) or comorbidities that might interfere with measures. Grip

strength and gait speed were measured, and correlated with height and BMI.

**Results:** 100 patients were included, mean age  $78.0 \pm 6.6$  years, 70% female. Mean BMI was  $26.4 \text{ kg/m}^2$ . 19% were frail according to a modified Fried phenotype and 47% had probable sarcopenia. We found a moderate linear correlation between handgrip strength and height ( $r = 0.534$ ), but there are other factors contributing to the variability ( $R^2 = 0.28$ ). We did not find correlations between BMI, grip strength and gait speed or between height and gait speed.

**Conclusion:** Height may be a confounder when measuring handgrip strength, but not when using gait speed. BMI was uncorrelated with both. This information may inform choices of measures in definitions of physical frailty and sarcopenia.

## P-486

### Network Analysis of Biomarker and Molecular Mechanisms for Frailty and Sarcopenia

Valentina Ginevičienė (1), Asta Mastavičiūtė (1), Rūta Dadelienė (1), Ieva Eglė Jamontaitė (1), Vidmantas Alekna (1), Erinija Pranckevičienė (2), Justina Kilaitė (3), Ildus I. Ahmetov (4)

(1) Faculty of Medicine, Vilnius University, Vilnius, Lithuania, (2) Faculty of Medicine, Vilnius University, Vilnius, Lithuania; Faculty of Informatics, Vytautas Magnus University, Kaunas, Lithuania, (3) Clinic of Internal Diseases and Family Medicine, Institute of Clinical Medicine, Faculty of Medicine, Vilnius University, Vilnius, Lithuania, (4) Faculty of Medicine, Vilnius University, Vilnius, Lithuania; Liverpool John Moores University, Liverpool, United Kingdom

**Introduction:** The molecular mechanisms of sarcopenia and physical frailty involve an interaction between multiple biomarkers in different signaling pathways. However, it is sometimes difficult to assess which biomarker is related to specific molecular mechanism of these geriatric syndromes. Thus, the aim of this study was to create a network analysis of molecular mechanisms and identify biomarkers for sarcopenia and frailty.

**Methods:** Publications from 1997 to 2023 related to biomarkers and molecular mechanisms of sarcopenia and frailty were obtained from the database of Web of Science and Scopus. The bibliometric analysis (VOSviewer, v1.6.18) and Cytoscape v.3.9 were used to construct a network of keyword relationships.

**Results:** A total of 38 articles were obtained to be used in keyword analysis. The keywords were divided into 3 clusters: I. represent biological molecules such as “creatinine”, “cytokines”, “citrulline”, “interleukin”; II. represent physiological process and molecular mechanisms such as “inflammation”, “metabolism”, “oxidative stress”, “muscle atrophy”, “protein expression”, “protein degradation”; III. indicates the research methods, strategy and subjects. It was found that the top three keywords with the most occurrences were “inflammation”, “metabolism”, and “cytokines”. Biomarkers (from cluster I, especially “cytokines”) were strong associated with molecular mechanisms (from cluster II).

**Conclusions:** It was found that current research on frailty and sarcopenia focuses on biomarkers such as cytokines, which are related to molecular mechanisms of aging. Recently, the trend of sarcopenia and frailty research is changing from finding molecular mechanisms to examining biomarkers (cytokines) of inflammation, metabolic and muscle atrophy processes. This project has received funding from the

Research Council of Lithuania (LMTLT), agreement No S-MIP-22-36.

## P-487

### IGF-1 and geriatric syndromes in nonagenarians

Anna Ilyushchenko (1), Liubov Machekhina (2), Irina Strazhesko (2), Olga Tkacheva (2)

(1) Russian Gerontology Clinical Research Center of Pirogov Russian National Research Medical University of Ministry of Healthcare of the Russian Federation., (2) Russian Gerontology Clinical Research Center of Pirogov Russian National Research Medical University of Ministry of Healthcare of the Russian Federation

**Aim:** To assess the association between IGF-1 levels and geriatric syndromes in nonagenarians.

**Materials and Methods:** It was a cross-sectional study on the cohort of nonagenarians. The search for participants was carried out with the involvement of social services, including nursing homes and geriatric centres. Comprehensive geriatric assessment (short physical performance battery (SPPB), Barthel, Mini-Mental State Examination (MMSE), Mini Nutritional assessment (MNA) ) were performed. Blood samples were taken to assess the IGF-1 levels using chemiluminescence method. The study was reviewed by the local ethic committee. The statistical analysis was performed using R-studio programme, version 4.2.2. Statistically significant were differences with  $p < 0.05$ .

**Result:** The study included 3789 participants aged 90 to 107 who met the inclusion criteria. Median age was 92.5, while 75,5% of the cohort were women. Median IGF-1 level was 105.2 ng/ml (min–30.8 ng/ml, max–208 ng/ml). Analyzing functional status, we found out that 88,4% of the patients were frail, and the number of patients with functional dependence was 90,4%. Cognitive impairments of different severity were presented in 50,2% of the patients and malnutrition was presented in 83,6% of the patients. In patients with IGF-1 levels above the median the number of patients with cognitive impairment were 45,6%, below the median 54,7% ( $p < 0.05$ ). Negative associations were observed between IGF-1 levels and cognitive impairment, malnutrition, frailty and functional dependence.

**Conclusion:** According to our own data, the negative associations between low levels of IGF-1 and development of such geriatric syndromes as functional dependence, frailty, malnutrition, and cognitive impairment were observed. Therefore, IGF-1 seems to be a promising marker in clinical geriatric practice. Further prospective studies are needed to confirm these findings.

Keywords: Nonagenarians; IGF-1; geriatric syndromes; malnutrition; cognitive impairment; frailty.

## P-488

### Resilience Improvement Through A Multicomponent Dance-Movement Intervention Based On Technology For Older People: The Danzarte Programme

Emanuele Seminerio (1), Marina Barbagelata (1), Wanda Morganti (1), Antonio Camurri (2), Simone Ghisio (2), Mara Loro (3), Babette Dijk (4), Ilaria Nolasco (5), Claudio Costantini (6), Andrea Cera (2), Barbara Senesi (1), Carlo Custodero (7), Alberto Pilo

(1) Department of Geriatric Care, Orthogeriatrics and Rehabilitation, E.O. Galliera Hospital, Genova, Italy, (2) Department of Informatics, Bioengineering, Robotics and Systems' Engineering (DIBRIS), University of Genova, Italy, (3) Fondazione "Fondazione Piemontese dal Vivo", Torino, Italy, (4) Ligurian Health Agency, Chiavari, Italy, (5) Nursing home "Cardinal Minoretto", Genova, Italy, (6) Nursing home "RSA Debouchè", Nichelino, Torino, Italy, (7) Department of Interdisciplinary Medicine, "Aldo Moro" University of Bari, Bari, Italy, (8) Department of Geriatric Care, Orthogeriatrics and Rehabilitation, E.O. Galliera Hospital, Genova, Italy and Department of Interdisciplinary Medicine, "Aldo Moro" University of Bari, Bari, Italy

**Introduction:** Resilience is a crucial component of successful aging. However, which interventions might increase resilience in older adults is yet unclear. Aim of this study was to explore whether a technology-based multicomponent dance-movement intervention that includes physical, cognitive, and sensory activation can increase resilience in community-dwelling and nursing-home resident older people.

**Methods:** DanzArTe program consists of four sessions on a weekly basis, by using a technological platform that enables real-time interactions and manipulation of visual and auditory contents, and real-time automatic analysis of motion features based on body-tracking. 126 participants (mean age = 76.2 ± 8.7 years, females 75.4%) from two nursing homes and community-dwelling subjects were assessed, before and after the intervention, with the Resilience Scale-14 items (RES-14), the Multidimensional Prognostic Index (MPI), the Short Physical Performance Battery (SPPB), the Psychological General Well-Being Index (PGWBI-S), and the Client Satisfaction Questionnaire-8 (CSQ-8). Mann-Whitney and Wilcoxon signed-ranks tests were used for statistical analyses.

**Results.** At baseline significant differences in MPI ( $p < 0.001$ ) and RES-14 ( $p < 0.001$ ) between community-dwelling and nursing-home residents were observed at baseline ( $p < 0.001$  for both analyses). After intervention resilience significantly increased in total sample (RES-14 mean = 74.6 Vs. 75.8,  $p = 0.032$ ) and the nursing-home residents (RES-14 mean = 68.1 Vs. 71.8,  $p < 0.001$ ). All participants showed high overall satisfaction for DanzArTe program (CSQ-8 mean = 24.05 ± 4.32). No differences in SPPB, MPI and PGWBI-S were observed.

**Key Conclusions:** The DanzArTe technology-based multi-component intervention may improve resilience in older people especially if residents in nursing-home.

## P-489

### Prevalence of Frailty in Persons 70-years or Older–The HUNT Study

Ingebjørg Lavransdatter Kyrдалen (1), Bjørn Heine Strand (2), Geir Selbæk (3), Pernille Thingstad (4), Heidi Ormstad (5), Emiel Hoogendijk (6), Håvard Skjellegrind (7), Gro Gujord Tangen (8)

(1) The Norwegian National Centre for Ageing and Health, Vestfold Hospital Trust, Norway, (2) The Norwegian National Centre for Ageing and Health, Vestfold Hospital Trust, Norway, Norwegian Institute of Public Health, (3) The Norwegian National Centre for Ageing and Health, Vestfold Hospital Trust, Norway, Department of Geriatric Medicine, Oslo University Hospital, Oslo, Norway, Institute of Clinical Medicine, University of Oslo, Oslo, Norway., (4) Trondheim university-municipality, Norwegian University of Science and Technology, (5) University of South-Eastern Norway, (6) Department of Epidemiology & Data Science/Department of General Practice, Location VU University Medical Center, Amsterdam, (7)

Norwegian University of Science and Technology, Levanger Hospital, Nord-Trøndelag Hospital Trust, Levanger, Norway, (8) The Norwegian National Centre for Ageing and Health, Vestfold Hospital Trust, Norway, Department of Geriatric Medicine, Oslo University Hospital, Oslo, Norway, Oslo Metropolitan University

**Introduction:** Frailty is associated with adverse health outcomes. Valid estimates of the prevalence of frailty and pre-frailty is needed for future dimensioning of health care, and we will present prevalence numbers, stratified by age groups and sex among older adults  $\geq 70$  years in Norway.

**Methods:** We used data from the 4th wave of the Trøndelag Health Study (HUNT4) and the sub study for persons 70 years or older (HUNT4 70 +). Participation took place in field stations, at homes, and at nursing homes. Frailty was assessed using both a 35-item frailty index (HUNT-FI) composed of lab-measures, clinical assessments, and self-reported data and Fried frailty criteria. Inverse probability weighting and calibration using post-stratification weights and aggregated register data for Norway according to age, sex and education was used to secure representativeness.

**Results:** Participation rate for HUNT4 70 + was 51.3% ( $n = 9955$ ), 9196 had data on the Fried criteria and 9318 on HUNT-FI. Preliminary results are that the prevalence of frailty in persons  $\geq 70$  years using the Fried criteria is 9.2% and for HUNT-FI 30.7%. For pre-frailty, the prevalence is 40% using Fried criteria and 33.3% using HUNT-FI. The numbers increase with age, and more women than men are frail. Estimated numbers for Norway, are that 78,111 persons are frail using the Fried criteria, and 242,671 persons using the HUNT-FI.

**Key Conclusions:** The prevalence of frailty was higher in the HUNT4 70 + study than in previous Norwegian studies. These results are important for dimensioning of future health care services and for preventive efforts aimed at postponing frailty.

## P-490

### Correlation between self and external-assessment for ICOPE step 1 in Acute Geriatric Unit

Marie OTEKPO (1), Marine ASFAR (1), Jennifer GAUTIER (1), Marie MOUSSET (2), Jeanne TERRIER (2), Cédric ANNWEILER (1)

(1) Angers University Hospital, (2) University of Angers

**Introduction:** Integrated Care for Older People (ICOPE) method, developed by the World Health Organization (WHO) is an interesting approach in healthy aging. Proposed for people aged 60 years and above, ICOPE follows 5 steps. The first one (step 1) consists in a screening for decline in 6 intrinsic capacities and can be realized in self or external-assessment. In this study, we aimed to assess the correlation between results obtained in these two different forms.

**Methods:** We conducted an observational transversal monocentric study in Geriatric Department of Angers University Hospital between April and June 2021. Patients were assessed for ICOPE step 1 with both the self-assessment and an external-assessment by a formed health-professional. The global score and sub-score for each intrinsic capacity (IC) was assessed, along with potential confounders: age, sex, ADL, IADL, MMSE and FAB.

**Results:** Fifty-one patients were included (mean age 86.8 years). All patients had an alteration on the global ICOPE step 1 score, using both self and external-assessment, thus correlation was perfect. Detailed sub-score for each IC found poor (cognition, depression) to moderate (visual impairment, hearing, malnutrition, mobility) correlation. Only hearing correlated significantly (Cohen Kappa 0.50; CI 95% [0.26–0.75];  $p = 0.035$ ).

**Conclusion:** Self-assessment for ICOPE step 1 in an Acute Geriatric Unit shows limited benefits, regarding assessment time and conditions. The choice between one of these two methods should be adapted on the patient profile.

## P-491

### User Experience of “ICOPE Monitor” App for self-assessment ICOPE step 1 in Acute Geriatric Unit

Marine ASFAR (1), Marie OTEKPO (1), Elise RABIN (2), Marion MERCIER (2), Frédéric NOUBLANCHE (1), Cédric ANNWEILER (1)

(1) Angers University Hospital, (2) University of Angers

**Introduction:** Integrated Care for Older People (ICOPE) method, developed by the World Health Organization (WHO) is an interesting approach in healthy aging. Proposed for people aged 60 years and above, ICOPE follows 5 steps. The first one (step 1) consists in a screening for decline in 6 intrinsic capacities and can be self-assessed using “ICOPE Monitor” App for smartphone or tablet. Our goal was to determine the frequency of hospitalized patients able to use this App and to assess their User Experience (UX).

**Methods:** We included patients admitted for consultation, day hospitalization or Acute Unit in Geriatric Department of Angers University Hospital between May and June 2021. Each patient realized a self-assessment of ICOPE step 1, using ICOPE Monitor App on a tablet in presence of a formed professional. Success or failure was noticed, along with necessity of helping from the professional. After the ICOPE step 1 assessment, patients filled an AttrakDiff questionnaire to record their User Experience.

**Results:** One hundred seventy-six patients were included (mean age 86.6 years) and 87% needed help for using the tablet. AttrakDiff questionnaire mean values were positive.

**Conclusion:** ICOPE Monitor App was judged usable by hospitalized patients. For patients in trouble with its use, external assessment is a good alternative.

## P-492

### Lthy homes: linking personalised measures of indoor environmental quality and health to inform climate resilience strategies for ageing populations

Ruth Bowyer (1), Tom Matthews (1), Mark Mulligan (1), Claire Steves (1), Daniel Schillereff (1)

(1) King’s College London

The primary route that climate change will interact with the health of older individuals, who spend 80–90% of their time indoors, (up to 100% in the very frail), is via altered indoor environmental conditions. HealthyHomes will establish how the home and neighbourhood environment can be optimised to promote resilience in ageing as the UK confronts intensifying climate impacts (including extreme heat, cold temperatures and high humidity). Housing type, neighbourhood setting, personal development (genetic, socioeconomic), biological susceptibility and behaviours adopted to minimise indoor discomfort

together dictate one’s climate-resilient living conditions. Too little is known, however, about the relative importance and interactions between each node. We will execute a methodologically unique project that incorporates Internet-of-Things (IoT) environmental monitoring at unprecedented spatial and temporal density into a twin cohort study design to directly determine acute and chronic health responses to indoor environmental quality whilst controlling for personal and geographical mediators. Focusing on 100 pairs of frail or pre-frail (Frailty index  $\geq 0.2$ ), identical twins with a range of discordance for environmental exposures, our sensors will enable paired indoor-outdoor monitoring of a full range of health-influencing environmental parameters (temperature, humidity, air quality, ambient noise, light pollution) in multiple rooms at each twin’s home. Concurrent acute and long-term health data collection for each participant using wearable devices, symptom tracking, behavioural surveys and clinical visits will produce novel timeseries to statistically model the relationships between climate, indoor conditions and health outcomes, and determine how these vary between household types and neighbourhoods. This approach overcomes long-standing dependencies on spatially aggregated health data or assumed relationships between indoor and outdoor conditions. From here we will be able to build and evaluate a new heat vulnerability index tailored to older adults and establish a scenario-based framework against which policy measures to deliver resilience in health and ageing under 21st-century climate change can be assessed. Here we present our primary aims for the project, the innovative methodology that will underpin it, along with descriptive analysis of the environmental exposures used to assign discordance to our frail twins.

## P-493

### Predictors Of Days Spent At Home After Hospital Discharge In Older, Multimorbid Patients

Annelie Friederike Goldbeck (1), Ingrid Becker (2), Andrea Liekweg (3), Rebekka Lenssen (3), Ulrich Jaehde (4), M. Cristina Polidori (5)

(1) Ageing Clinical Research, Dpt. II for Internal Medicine, University Hospital of Cologne, Cologne, Germany; Clinical Research, Pharmaceutical Institute, Department of Clinical Pharmacy, University of Bonn, Bonn, Germany; Hospital Pharmacy, University Hospital of Cologne, Cologne, Germany, (2) Institute of Medical Statistics and Computational Biology, Faculty of Medicine and University Hospital of Cologne, Cologne, Germany, (3) Hospital Pharmacy, University Hospital of Cologne, Cologne, Germany, (4) Clinical Research, Pharmaceutical Institute, Department of Clinical Pharmacy, University of Bonn, Bonn, Germany, (5) Ageing Clinical Research, Dpt. II for Internal Medicine, University Hospital of Cologne, Cologne, Germany; Cologne Excellence Cluster on Cellular Stress-Responses in Aging-Associated Diseases (CECAD), University of Cologne, Faculty of Medicine and University Hospital Cologne, Cologne, Germany

**Introduction:** With advancing age, crucial person-centered outcomes like quality of life, functional independence and the ability to live at home gain importance over disease-related outcomes. The ability to live at home can be measured by the number of days spent at home (DAH), but is poorly evaluated in clinical routine.

**Methods:** Data from 214 hospitalized patients aged 65 years and older recruited in a prospective observational study at the University

Hospital of Cologne, Germany, followed up for 90 days after discharge, was collected. Patient-related characteristics, clinical characteristics and functional measurements were analyzed using multivariate linear regression. Relevant predictors among all covariates were determined using backward elimination (inclusion at  $p < 0.05$ ; exclusion at  $p \geq 0.1$ ).

**Results:** Median age of the patients was 80 years, 46% were women. Number of drugs at discharge ( $p = 0.065$ ), length of inpatient stay ( $p = 0.064$ ), gender ( $p = 0.064$ ), less than 70 s in the Timed Test of Money Counting (TTMC < 70s) ( $p < 0.001$ ) and the Multidimensional Prognostic Index (MPI) ( $p = 0.014$ ) were identified predictors of DAH. A lower MPI and TTMC < 70s were significantly associated with increasing DAH results were independent of age, level of care, number of comorbidities, body mass index and anticholinergic drug burden.

**Key Conclusions:** The results show that a lower MPI and TTMC < 70s were significant predictors for more DAH within three months after discharge. Taking the identified factors influencing DAH into account, patients at risk may be identified and preventive measures may be developed in the future to help patients maintain the ability to age in their own homes.

## P-494

### Inter-individual variability in the response to a multimodal intervention in frail older adults with diabetes

Alejandro Álvarez-Bustos (1), Olga Laosa (2), Emanuele Marzetti (3), Riccardo Calvani (4), Jose Antonio Carnicero (2), Alan Sinclair (5), Francesco Landi (6), Leocadio Rodríguez-Mañas (7)

(1) CIBER of Frailty and Healthy Ageing (CIBERFES), (2) Fundación de Investigación Biomédica de Hospital Universitario de Getafe, Madrid, Spain, (3) Department of Geriatrics and Orthopedics, Università Cattolica del Sacro Cuore, Rome, Italy, Fondazione Policlinico Universitario Agostino Gemelli, IRCCS, Rome, Italy., (4) Fondazione Policlinico Universitario Agostino Gemelli, IRCCS, Rome, Italy., (5) Foundation for Diabetes Research in Older People, Diabetes Frail, Medici Medical Practice, Luton LU1 3UA, UK; School of Life & Health Sciences, Aston University, Birmingham, UK, (6) Fondazione Policlinico Universitario Agostino Gemelli, IRCCS, Rome, Italy, (7) Biomedical Research Center Network for Frailty and Healthy Ageing (CIBERFES), Institute of Health Carlos III, Madrid, Spain, Department of Geriatrics, Hospital Universitario de Getafe, Madrid, Spain

**Introduction:** Although multimodal intervention has been associated with an improvement in functional performance in older adults with Type-2 diabetes mellitus (T2DM) and frailty, great individual response has been observed. Our objective is to explore the factors associated with the individual response in this population.

**Methods:** A cluster-randomized multicentre clinical trial was performed to allocate participants in a multicomponent intervention (MIG) based on a 16-week progressive resistance training and 7 nutritional and diabetological educational sessions or usual care group (UCG). 843 (77.83 years, 50.65% men) prefrail and frail (Frailty Phenotype  $\geq 1$ ) individuals  $\geq 70$  years with T2DM were included. Functional performance was assessed with the Short Physical Performance Battery (SPPB) and reassessed at one-year of follow-up.

We used multivariate binomial to explore the effect of the MIG vs UCG, and adherence in the MIG ( $\geq 85\%$ ) on the outcomes studied. Age, gender, basal SPPB score, number of frailty criteria (NFC), BMI, systolic (SBP) and diastolic blood pressure, glycosylated hemoglobin, and education level were used as confounders.

**Results:** MIG and SBP < 150 at baseline (increased) and SPPB score and NFC met (decreased) were significantly associated with the probability of improving the SPPB score. For worsening, significantly associated factors were MIG (decreased), SPPB score and the NFC (increased). Moreover, an adherence  $\geq 85\%$  in the MIG doubled the probability of improving their SPPB at 1 year [OR (95% CI) : 2.20 (1.00, 4.83),  $p$ -value 0.040].

**Conclusions:** Factors predicting the likelihood of improvement SPPB score in the MIG were high adherence ( $\geq 85\%$ ) and basal SPPB score, NFC, and SBP. Sources of fundingThe present work was funded by grants from the Spanish Ministry of Economy, Industry and Competitiveness, cofinanced by the FEDER Funds (ISCIII, PI20/00977) and CIBERFES (CB16/10/00464), and El Proyecto MITO-FUN, Fundación Francisco Soria Melguizo and by the European Commission Directorate General for Health and Consumer Affairs (DG SANTE) –Third Health Programme.

## P-495

### Relationship between Cognitive Social Capital by Local Welfare Commissioners and Certification Rate of Long-term Care Need of Local Residents

HIROE SUZAWA (1)

(1) Faculty of Health Science, Department of Nursing Kyoto Koka Women's University, Kyoto, Japan

The local welfare commissioners are entrusted by the government to engage in consultation and care support for elderlies living alone, needy persons, and their families. This study examined the relationship of the certification rate of long-term care to the commissioners' activities, their cognizance of residents' health and their cognitive social capital (SC). The analysis relies on SPSS ver. 28 applied to the database consisting the public information of certification rate of care in 11 primary school districts of K City in western Japan as of Feb., 2023, and 120 questionnaire responses from commissioners collected from Oct., 2020 to Mar., 2021. The questionnaires included such items as contents of commissioners' activities, their cognizance of residents' health, and their SC. From the results of qui-square test and multiple liner regression analysis, no significant difference was observed between the certification rate of long-term care and commissioners' cognizance of residents' health. The t-test revealed, however, the SC point was significantly high ( $p < 0.05$ ) for the group of commissioners who felt that the residents were healthy. The results also revealed that commissioners with higher cognitive SC tend to frequently participate in activities to encourage elderlies to be involved in local network. The results imply that commissioners' activities to facilitate local network positively affects the development of SC and improvement of commissioners' own cognizance of residents' health.



**P-496****Prevalence and associated factors of physical frailty among Japanese geriatric patients with chronic disease from a university hospital**

Daisuke Asaoka (1), Koji Sugano (2), Katsumi Miyauchi (3), Kazuhisa Takahashi (4)

(1) Department of gastroenterology, Juntendo Tokyo Koto Geriatric Medical Center, Japan, (2) Department of Respiratory Medicine, Juntendo Tokyo Koto Geriatric Medical Center, Japan, (3) Department of cardiology, Juntendo Tokyo Koto Geriatric Medical Center, Japan, (4) Department of Respiratory Medicine Juntendo University Graduate School of Medicine, Japan

**Introduction:** To investigate the prevalence of physical frailty in elderly patients with chronic disease who walk independently to our Medical Center, and to examine the association between frailty and chronic diseases as well as baseline factors.

**Methods:** In 2020–2022, total 1042 outpatients over 65 years old who were able to independently walk to our hospital were enrolled in this observational study. Medical history, cognitive function-related questionnaire (Mini-Mental State Examination; MMSE), Geriatric depression scale 15 (GDS15), ECG, walking speed /Hand grip strength, and skeletal muscle mass (whole-body dual X-ray absorptiometry: DXA) were assessed. Physical frailty was diagnosed according to the Japanese version of the Cardiovascular Health Study (J-CHS) criteria. The association between each factor and physical frailty was examined.

**Results:** Among eligible patients, 172 patients (16.5%) were classified as physical frailty. The median age was 78.4, 581 (55.7%) were females. A comparison between the frailty and non-frailty groups revealed that the frailty group had significantly higher rates of age, stroke/myocardial infarction/heart failure/ malignancy/diabetes history and number of medications taken. Additionally, frailty group exhibited significantly lower rates in terms of female, BMI, MMSE, ( $p < 0.05$ ). In multivariate analysis, age (OR 1.06), female (OR 0.11), BMI (OR 0.75), MMSE (OR 0.91) and osteoporosis (OR 1.74) were identified as factors associated with frailty ( $p < 0.05$ ).

**Conclusion:** The prevalence of physical frailty in the elderly individuals attending outpatient clinics was higher than in community-dwelling older adults. The factors of older age, male, low BMI, cognitive decline, and osteoporosis were associated with an increased risk of physical frailty.

**P-497****Frailty syndrome and cardiovascular disease in the elderly**

Catalina Raluca Nuta (1), Ovidiu-Lucian Bajenaru (1), Gabriela-Cristina Chelu (1), Sinziana-Georgeta Moscu (1), Anna Marie Hergelegiu (1), Nicolae Ovidiu Penes (1), Gabriel-Ioan Prada (1)

(1) Carol Davila University of Medicine and Pharmacy

**Introduction:** Frailty syndrome is defined as a biological syndrome involving a decrease in physiological reserve and an increase in the body's vulnerability to various stress factors. Geriatric cardiology can be considered an emerging discipline that aims to adapt the clinical

management of elderly cardiac patients by introducing the concepts of geriatric medicine into their routine cardiology care. The study objective was to evaluate particularities of cardiovascular diseases with increased prevalence in the elderly; to identify the risk factors involved in the occurrence of frailty syndrome in the elderly with cardiovascular diseases.

**Material and Methods:** A total of 387 subjects, age range 50–85 years, with a diagnosis of coronary artery disease, aortic valve stenosis, atrial fibrillation, and heart failure. Patients were divided into several categories according to age, sex, place of origin, and body mass index. The reference age groups were: 50–64 years (group A) and 70 + years (group B) .

**Results:** Regarding the distribution of cardiovascular diseases, in the case of the elderly, the highest prevalence was that of coronary heart disease, followed by heart failure, a trend that was also maintained in the case of adult patients. In the case of atrial fibrillation, the prevalence of elderly subjects was almost double that of adults, but the difference was not statistically significant ( $p > 0.05$ ). In patients with coronary artery disease, regardless of age group and sex, the most prevalent risk factors for frailty were, in order: vitamin D deficiency, joint pain, diabetes, sensory deficits, and peripheral vascular disease. The highest prevalence of diabetes was recorded among elderly men, double compared to that of women in the same age group, the difference being statistically significant ( $p < 0.05$ ).

**Conclusions:** The most prevalent cardiovascular conditions in subjects with risk factors for frailty syndrome were coronary heart disease and heart failure, both among adults and among the elderly. Among elderly patients with heart failure, the most prevalent risk factors for frailty were, in order: vitamin D deficiency, osteoporosis, and sensory deficits. Among patients with heart failure, diabetes mellitus, and peripheral vascular disease had the highest prevalence in men, regardless of age.

**P-498****Rapid realist review of virtual wards for people with frailty**

Maggie Westby (1), Sharea Ijaz (2), Jelena Savović (1), Hugh McLeod (1), Sarah Dawson (1), Tomas J. Welsh (3), Hein Le Roux (4), Nicola Walsh (5), Natasha Bradley (6)

(1) The National Institute for Health Research, Applied Research Collaboration West (NIHR ARC West), University Hospitals Bristol NHS Foundation Trust, Bristol, UK; Bristol Medical School, University of Bristol, Bristol, UK, (2) The National Institute for Health Research, Applied Research Collaboration West (NIHR ARC West), University Hospitals Bristol NHS Foundation Trust, Bristol, UK; Bristol Medical School, University of Bristol, Bristol, UK., (3) RICE–The Research Institute for the Care of Older People, Bath, UK; Bristol Medical School, University of Bristol, Bristol, UK; Royal United Hospitals Bath NHS Foundation Trust, Bath, UK, (4) NHS England and NHS Improvement South West, UK; Churchdown Surgery, Parton Rd, Churchdown, Gloucester, UK; One Gloucestershire Integrated Care System Quality Improvement, UK, (5) Faculty of Health and Applied Sciences, Glenside Campus, University of the West of England, Bristol, UK, (6) Centre for Health & Clinical Research, University of the West of England, Bristol, UK

**Introduction:** Virtual wards (VWs) deliver multidisciplinary care to people with frailty at home, aiming to mitigate the risk of hospital admission. Different VW models exist and evidence of effectiveness is inconsistent. A rapid realist review was conducted to identify types of VWs, and to develop explanations for how and why VWs could best deliver effective frailty management.

**Methods:** Published and grey literature were searched to identify evidence on VWs for frailty, focussing on Great Britain and Ireland. Information on how and why virtual wards might ‘work’ was extracted and synthesised iteratively with input from patient/public contributors and clinicians. Twelve hypothesised context-mechanism-outcome configurations were generated.

Results 17 published and 11 grey literature documents were included. VWs could be short-term and acute (1–21 days), or longer-term and preventative (3–7 months). Effective VW operation requires common standards agreements, information sharing processes, an appropriate multidisciplinary team that plans patient care via regular ‘virtual ward rounds’, and good coordination. VWs motivate and bring together appropriate health and social care teams to plan and deliver frailty management: from selection of patients, through comprehensive assessment, proactive care and monitoring, and as-needed reactive care, to discharge and continuity of care. Patients and caregivers are key partners, needing good communication and support, shared care and feeling included, safe and empowered to manage their condition.

**Key Conclusions:** Insights gained from this review could inform implementation of VWs for frailty. A combination of acute and longer-term VWs may be needed, within a whole system approach. An emphasis on proactive care is recommended.

## P-499

### Comparing the Diagnostic Accuracy of Frailty Assessment Instruments Across Europe: An External Validation of the Global Burden of Disease study Frailty Index

Mark R O’Donovan (1), Duygu Sezgin (2), Aaron Liew (2), Zubair Kabir (3), Rónán O’Caoimh (4)

(1) Health Research Board Clinical Research Facility, University College Cork, Mercy University Hospital, Cork City, Ireland, (2) College of Medicine, Nursing and Health Sciences, University of Galway, Galway, Ireland, (3) School of Public Health, University College Cork, Cork City, Ireland, (4) Department of Geriatric Medicine, Mercy University Hospital, Cork City, Ireland

**Background:** Accurate comparable prevalence estimates are required to better understand the epidemiology of frailty, however in many countries they are missing or incomparable. The Global Burden of Disease Frailty Index (GBD-FI) applies the deficit accumulation model to generate frailty scores from items available in the Global Burden of Disease study. The concurrent validity and diagnostic accuracy of this tool compared with other frailty measures needs to be assessed.

**Methods:** Data were obtained from the Survey of Health Ageing and Retirement in Europe (SHARE). A 20-item GBD-FI was constructed and compared with different, established, frailty measures including: a 70-item frailty index (FI-70), the Clinical Frailty Scale (CFS), Frailty Phenotype (FP) and SHARE-FI. Area under receiver operating characteristic curves (AUC) were fitted to examine diagnostic accuracy for frailty.

**Results:** In total, 34,054 participants aged  $\geq 50$  years from 15 countries were included with a mean age of 65 years. The majority (54%) were female. Frailty prevalence was 22% using the GBD-FI (ranging from 8% in Switzerland to 40% in Poland). The GBD-FI had good to excellent diagnostic accuracy for frailty, irrespective of approach. The AUC was 0.86 (95% confidence interval: 0.85–0.87) measuring frailty with the CFS, 0.87 (0.86–0.88) using the FP, 0.88 (0.87–0.89) with the SHARE-FI and 0.94 (0.94–0.94) using the FI-70.

**Conclusion:** The GBD-FI demonstrated concurrent validity and good–excellent diagnostic accuracy, suggesting it is a valid measure of frailty. It has the potential to be an efficient, replicable and consistent approach to comparing frailty between countries and regions across time using GBD data.

## P-500

### Muscle Multi-parametric NMR Imaging Development in Aged People With Sarcopenia or Frailty Syndrome; CLINICAL Study: The MIDAS clinical trial

Gael Galli (1), Emma Moreno (2), Serge Anandra (2), Emeline Ribot (2), Sylvain Miraux (2), Valery Ozenne (2), Amir Redjai (3), Florent Guerville (1), Isabelle Bourdel-Marchasson (3)

(1) Pole de gérontologie clinique, CHU De Bordeaux, UMR 5164 CNRS, Université Bordeaux, (2) UMR 5536 CNRS, Université Bordeaux, (3) Pole de gérontologie clinique, CHU De Bordeaux, UMR 5536 CNRS, Université Bordeaux

**Introduction:** Frailty is a state associated with an increased risk of disease and impaired functional abilities in elderly patients, which can be divided between frail, pre-frail and robust. Unlike dependence, it is reversible, therefore, prevention or even reversion of this process is of tremendous importance, especially in western society where the elderly population is growing. However, relevant biomarkers of frailty are currently lacking. As muscle function plays an important role in frailty, the MIDAS clinical study focused on intramuscular lipid inclusion or myosteosis, completing assessment of body composition by studying the patient’s overall fatness and muscle mass.

**Methods:** Using magnetic resonance imaging (MRI) of the thighs on a Siemens 3T PRISMA magnetic machine of the Magnetic Resonance Center for Biological Systems (University of Bordeaux, France), and a MicroFET 6® dynamometer to measure the thigh isometric flexion force. 8 frail, 23 pre-frail and 18 robust patients were evaluated. We calculated the fat fraction within muscles (myosteosis) and in the thigh (overall adiposity) following a segmentation of the tissues in the region of interest.

**Results:** Regarding myosteosis, the ANOVA test revealed a significant difference in fat fraction between frail, pre-frail and robust patients ( $p = 0.0232$ ). Tukey’s post-hoc analysis revealed a significant difference in myosteosis between frail and pre-frail groups ( $p = 0.0427$ ) and between frail and robust groups ( $p = 0.0192$ ).

**Key Conclusions:** Myosteosis could represent a usable imaging biomarker in clinical practice to allow early diagnosis of frailty, towards better prevention and development of curative tools for frailty, to achieve a better aging process.

**P-501****IF-VIG and Clinical Frailty Scale as one-year-mortality predictors after a Proximal Femoral Fracture**

Paula Pérez Gracia (1), María Francisca Rotger Ruiz (1), Anna Ibáñez Porcar (1), Carla Capellades Buqueras (1), Julia Antonella López Ceballos (1), Cristina Díaz Creus (1), Enric Prats Bacardit (1), Aránzazu Palací Amat (1), Alicia Calle Eguszquiza (1), M

(1) Parc de Salut Mar (Barcelona)

**Introduction:** After a hip fracture, older adult patients are about 3 times more likely to die within one-year after surgery than general population. The aim of this study was to evaluate frailty tools' ability to predict one-year mortality in Orthogeriatrics patients.

**Methods:** Retrospective analytic study of patients hospitalized in a Orthogeriatrics Unit after a proximal femoral fracture. Frailty was assessed by Clinical Frailty Scale (CFS) and IF-VIG. For survival analysis, Kaplan–Meier curves and log-rank analysis were performed. Discriminative ability of both Frailty tools was assessed by the receiver operating characteristics (ROC) curve test.

**Results:** 533 patients were included, 24.9% of them died during the first year after the fracture. Mortality was related to frailty according to Clinical Frailty Scale ( $\chi^2 = 47.14$  log rank  $p = 0.000$ ) and also to IF-VIG ( $\chi^2 = 32.71$  log rank  $p = 0.000$ ). When it comes to discriminative ability, IF-VIG showed a slightly superior discriminative ability in predicting mortality over CFS (AUC 0.675; 95% CI 0.609 to 0.741) vs (AUC 0.655; 95% CI 0.589 to 0.721) but none of them presented AUC > 0.70.

**Conclusion:** In our population, CFS and IF-VIG are two frailty tools that can be easily performed in Orthogeriatrics units providing useful information for clinical complex decisions and planification of post-acute care.

**P-502****Sleep problems improvement in community-dwelling older adults: the + AGIL Barcelona multidomain program**

Ana González (1), L.Mónica Pérez (2), M Fernanda Velarde (1), M. Pamela Burbano (1), Luis Soto-Bagariga (2), Francisco Diaz (3), M. Belén Enfedaque (4), M. Inzitari (5)

(1) Parc Sanitari Pere Virgili, Barcelona, Spain, (2) RE-FiT Barcelona Research group. Vall d'Hebron Institute of Research (VHIR) and Parc Sanitari Pere Virgili, Barcelona, Spain, (3) Centre d'Atenció Primària Bordeta-Magòria, Institut Català de la Salut, Barcelona, Spain, (4) Institut Català de la Salut, Gerència de Barcelona, Barcelona, Spain, (5) RE-FiT Barcelona Research group Faculty of Health Sciences, Universitat Oberta de Catalunya (UOC), Barcelona, Spain. Vall d'Hebron Institute of Research (VHIR) and Parc Sanitari Pere Virgili, Barcelona, Spain

**Introduction:** Sleep problems are frequent in older adults and have been associated with negative physical, mental, and social consequences. + AGIL Barcelona, is a consolidated multidomain program that aims to optimise older adults' intrinsic capacity through a coordinated approach among primary care, geriatrics and community resources. We aimed to assess the + AGIL Barcelona longitudinal effect on older adults' sleep quality.

**Methods:** We include all consecutive participants since 2016. After a comprehensive geriatric assessment (CGA), including a self-reported sleep problems questionnaire [Jenkins Sleep Questionnaire (JSQ) –4 items], a tailored, multidisciplinary intervention, including a) 10-week boost multicomponent exercise program, b) promotion of healthy life habits (nutritional and sleep counselling, loneliness detection), c) comprehensive medication review, and d) screening for cognitive impairment and depression. Linear mixed models were used to analyze the changes in sleep problems at three and six months. Models were adjusted by age and sex.

**Results:** We included 146 participants (mean age 82.3 [SD = 5.7], 69.9% women). Psychotropic drug intervention was performed in 36.3%, in which mean number of drugs was 8.3 (SD = 3.0), and 65.4% had past or current depressive symptoms. A clinically and statistically significant improvement in time before sleep change (-8.2; 95% CI -14.1;-2.2 and -9.1; 95% CI -17.9;-7.3 min) at three and six months, respectively. Positive results are maintained for the monthly frequency of non-restorative sleep according to JSQ ( $\beta/\text{month} = 0.80$ ,  $p = 0.035$ ).

**Conclusions:** In our sample, sleep quality can benefit from a coordinated multidisciplinary integrated program, including revision and optimization of psychotropic treatments, thanks to participants' empowerment and the holistic approach.

**P-503****Profile of the geriatric patient in a specific nephrology consultation**

Luz Delgado Domínguez (1), Orlando Siverio Morales (2), María Adela Dávila Jerez (1)

(1) Geriatrics Department. HU Nuestra Señora de Candelaria. Santa Cruz de Tenerife. Spain., (2) Nephrology Department. HU Nuestra Señora de Candelaria. Santa Cruz de Tenerife. Spain

**Introduction:** In 2021, life expectancy in Spain reached 83.3 years. Almost in parallel, the prevalence of chronic kidney disease (CKD) has also been increasing progressively. The objective of our work is to analyze the profile of the patients evaluated in a Nephrogeriatrics consultation.

**Methods:** Observational study on a retrospective cohort of 204 patients assessed between May 1, 2020 and April 30, 2021. The following were taken into account: age, sex, referring service, analytical parameters associated with CKD, functionality and frailty.

**Results:** 204 patients were quantified during 12 months. The mean age was 84.03 years. 57.35% were men and 42.65% were women. Most were referred from Primary Care (84.15%). Analytically, a mean creatinine of 2.04 mg/dl stood out with an estimated mean glomerular filtration rate of 30.49 mg/dl, a mean albumin/creatinine ratio of 617.25 mg/g and a mean hemoglobin of 11.89 g/dl. 15.71% required erythropoietin. Regarding iPTH, 70.31% presented hyperparathyroidism, presenting 25-OH Vitamin D deficiency in 81.1%. Functionally, 65.19% presented a Barthel with some kind of dependency. According to the Frail scale, 29.41% were "pre-frail" and 58.82% "frail".

**Key Conclusions:** There is a high demand on the part of Primary Care that requests assessment of an increasingly elderly patient profile and with an increasingly reduced glomerular filtration rate. A high percentage of patients have anemia, hyperparathyroidism and vitamin D deficiency. CKD in its most advanced stages is associated with a greater degree of dependency and frailty.

## P-504

### The diagnostic and predictive accuracy of the PRISMA-7 screening tool for frailty in older adults: A Systematic Review, and Meta-Analysis

Abdirahman Mohamed (1), Claire McCormack (2), Ahmed Gabr (1), Aoife Leahy (1), Elaine Shanahan (1), Margaret O'Connor (1), Owen Higginbotham (3), Sarah Hembrecht (4), Mary Walsh (5), Kevin Barry (4), Rose Galvin (3)

(1) Department of Therapeutics and Ageing UHL, (2) School of Medicine, University Limerick, (3) School of Allied Health, University Limerick, (4) Royal College of Surgeons in Ireland, (5) University College Dublin

**Introduction:** Frailty is associated with adverse outcomes in older adults. Frailty screening tools have been developed to identify pre-frail and frail individuals. This study examined the diagnostic and predictive accuracy of the Program of Research to Integrate the Services for the Maintenance of Autonomy 7 (PRISMA-7) frailty screening tool.

**Methods:** A systematic literature search was conducted in PubMed, EMBASE, CINAHL, EBSCO and the Cochrane Library. Prospective or retrospective cohort and cross-sectional studies that explored the diagnostic and/or predictive accuracy of the PRISMA-7 tool in older adults were included across all healthcare settings. A pre-specified PRISMA-7 score of  $\geq 3$  (maximum score 7 points) was used to identify frailty. Study quality was assessed using the QUADAS-2 tool. A bivariate random effects model was used to generate pooled estimates of sensitivity and specificity.

**Results:** Eleven studies validated the diagnostic accuracy of the PRISMA-7. Eleven studies examined the predictive accuracy of the PRISMA-7, and two studies examined both diagnostic accuracy and predictive accuracy of the Prisma7. Meta-analysis of diagnostic accuracy studies showed pooled sensitivity of 82% (95% CI 73.8–88.2), and pooled specificity of 79% (95% CI 72–85.6%), respectively. Meta-analysis of the predictive accuracy of the PRISMA-7 showed adverse outcomes of Emergency Department, and hospital length of stay were significantly higher in frail older patients.

**Conclusion:** Frailty is a complex and multi-system syndrome that is associated with adverse outcomes. The PRISMA-7 has a high sensitivity and specificity for frailty identification with good predictive accuracy for multiple adverse outcomes for patients supporting its potential utilization across healthcare settings.

## P-505

### Age And Frailty In Osteoporosis In The Elderly With Chronic Pain

Pablo Mourelle Sanmartín (1)

(1) Lucus Augusti University Hospital (Spain)

**Introduction:** Osteoporosis is the most prevalent metabolic bone disease in the elderly patient, a frequent cause of chronic pain when it is complicated and with great repercussions in physical, mental and social spheres [1,2]. Deficits accumulation's theory, the basis of frailty at the cellular level, explains the differences in the pathogenesis of many of elderly pathologies [3]. Our main objective was to determine the association between age and frailty in osteoporosis in patients with chronic pain.

**Methods:** A cross-sectional descriptive observational study was designed under daily clinical practice conditions. 455 patients with chronic pain were recruited according to the International Association

for the Study of Pain criteria. Patients older than 18 years with no upper age limit were included and 169 variables from different spheres were collected, including the osteoporosis diagnosis. A Frailty Index (31 items) was developed following the steps established by consensus [4] and various frailty categories were established according to the frailty score (FI-score). Finally, a descriptive study and a logistic regression analysis were carried out between osteoporosis, age, sex and FI-score variables.

**Results:** Chronic pain patients osteoporosis' prevalence was 7.42% (5.14%-9.91%; 33 cases) and presented a significant positive correlation with the frailty degree (Spearman[s] = 0.271,  $p < 0.001$ ). Unlike sex (Exp[B] 1.520,  $p = 0.330$ ) and age (Exp[B] 1.015,  $p = 0.329$ ), the FI-score was significantly associated (Exp[B] 1.090,  $p < 0.001$ ).

**Key Conclusions:** Frailty degree per se is the main factor associated with the increased osteoporosis prevalence in older patients with chronic pain.

#### References:

1. Rolland Y, Cesari M, Fielding RA, Reginster JY, Vellas B, Cruz-Jentoft AJ. Osteoporosis in Frail Older Adults: Recommendations for Research from the ICFSR Task Force 2020. *J Frailty Aging*. 2021;10(2):168–75.
2. Zanker J, Duque G. Osteoporosis in Older Persons: Old and New Players. *J Am Geriatr Soc*. 2019;67(4):831–40.
3. Mitnitski AB, Mogilner AJ, Rockwood K. Accumulation of deficits as a proxy measure of aging. *ScientificWorldJournal*. 2001;1:323–36.
4. Searle SD, Mitnitski A, Gahbauer EA, Gill TM, Rockwood K. A standard procedure for creating a frailty index. *BMC Geriatr*. 2008;8:1–10.

## P-506

### Overcoming Barriers in Health Self-Management: The MIRATAR Project's Approach to Frailty and Multimorbidity Care

Maria J. Santofimia (1)

(1) Universidad de Castilla-La Mancha, Ciudad Real, Spain. Cristina Ballesteros<sup>1</sup>, Juan Carlos López<sup>2</sup>, Maria J. Santofimia<sup>2</sup>, Pedro Abizanda<sup>1,4,5</sup>, Leocadio Rodríguez<sup>4,9</sup>, Carlos Ángel Iglesias<sup>8</sup>, Álvaro Carrera<sup>8</sup>, Costanza Tobío Soler<sup>3</sup>, Vicente Díaz Gandasegui<sup>3</sup>, Xavier del Toro García<sup>2</sup>, Félix Jesús Villanueva Molina<sup>2</sup>, Javier Dorado Chaparro<sup>2</sup>, Jesús Fernández-Bermejo Ruiz<sup>2</sup>, Cristina Bolaños<sup>2</sup>, Henry Llumiguano<sup>2</sup>, Almudena Avendaño Céspedes<sup>1,4,6</sup>, Rubén Alcántud Córcoles<sup>1,4,7</sup>, Alba Costa<sup>4,9</sup>, Carla Barrio Romera<sup>3,1</sup> Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain.<sup>2</sup> Universidad de Castilla-La Mancha, Ciudad Real, Spain.<sup>3</sup> Universidad Carlos III de Madrid, Madrid, Spain.<sup>4</sup> Centro de Investigación Biomédica en Red "Fragilidad y Envejecimiento Saludable" (CIBERFES), Instituto de Salud Carlos III, Madrid, Spain.<sup>5</sup> Facultad de Medicina de Albacete, Universidad de Castilla-La Mancha, Spain.<sup>6</sup> Facultad de enfermería de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain.<sup>7</sup> Fundación Hospital Nacional de Paraplégicos, Toledo, Spain.<sup>8</sup> Universidad Politécnica de Madrid, Madrid, Spain.<sup>9</sup> Servicio de Geriátria, Hospital Universitario de Getafe, Getafe, Spain

**Introduction:** MIRATAR aims to develop a multimodal platform for predictive, preventive, personalised, and participatory care, focusing on frailty and multimorbidity conditions. The project seeks to overcome barriers such as user acceptance and privacy concerns that hinder the widespread adoption of virtual assistants in health self-management.

**Methods:** The methodology is divided into four phases over a period of 24 months: The first phase involves the development of a multi-platform virtual assistant, including Android devices, smart mirrors, and hologram projectors. The second phase focuses on the development of artificial intelligence predictive models for frailty and multimorbidity risks, using high-quality data from heterogeneous sources. The third phase delivers personalised interventions built on top of the developed predictive models, using a knowledge base of generic interventions collected from domain experts. The final phase supports health promotion and prevention through health literacy, individuals' self-management, and sustainable behavioural change.

**Results:** MIRATAR has developed innovative tools to enhance the quality of life for frailty and multimorbidity patients and prevent condition deterioration. Key outcomes include 80% model accuracy, 85% quality of life improvement, and 90% dashboard acceptance. Additionally, 10% of participants with a BMI  $\geq$  30 will prevent their condition from worsening, and 50% of those with high blood pressure will avoid acute decompensation.

**Key Conclusions:** MIRATAR could become Spain's first national platform for predictive, preventive, personalised, and participatory care for frailty and multimorbidity conditions. It has outlined necessary organisational changes and financing incentives to promote healthy lifestyles and integrated care, providing clear recommendations for public health authorities.

## Geriatric Emergency Medicine

### P-507

#### Incidence and relationship of hyponatremia in concurrent use of combining thiazides with desmopressin or SSRIs in Taiwan

Hui-Hsuan Huang (1)

(1) CYCH hospital

**Background:** Hyponatremia has multifactorial effects on patients. Especially it may cause debilitating symptoms and even require hospital admission. It has been suggested that hyponatremia is observed mainly in patients. The certain risk factors are those receiving large doses of thiazides (known as TAH, thiazide-associated hyponatremia), or taking several medications simultaneously. This raises the motivation to analyze what certain subgroups patients and drugs-associated hyponatremia subsequently.

**Method:** In this cohort study, the date of receiving thiazides, desmopressin or SSRIs was defined as the index date. The follow-up time ended at the date of onset of hyponatremia (ICD-9-CM: 276.1). To calculate cumulative incidence rates, the Kaplan–Meier method was used. The comparisons of the cumulative incidence curves among groups were conducted by log-rank tests.

**Results:** Upon propensity score matching and adjusting, 3740 were involved in TAH group. They matched with concurrent use of drugs population. Gender is nonstatistical significance, whereas age and concomitant drugs both make significant difference. The prevalence is more obvious in the elderly with age 60–79 (aHR:3.91, 95% CI 1.71–8.94) and age above 80 (aHR:9.94, 95% CI 4.31–22.92). TAH is dominant with combined drugs, including thiazide with SSRI (aHR:1.48, 95% CI 1.22–1.78) and thiazide with desmopressin (aHR:1.36, 95% CI 1.05–1.75).

**Conclusion:** Through demographic analysis, we can catch a glimpse of the tendency of prevalence of hyponatremia in Taiwan. It can simultaneously remind clinicians what the situation should be careful. Most importantly, we can seize the prime time to monitor serum

sodium levels in the senior, and patients with thiazide concurrent use of SSRI or desmopressin in advance of hyponatremia.

### P-508

#### Geriatric population triage: the risk of real-life over and under triage in an overcrowded ED. 4- and 5-level triage systems compared: The CREONTE (Crowding and R E Organization National Triage) study

Gabriele Savioli (1), Iride Francesca Ceresa (2), Maria Antonietta Bressan (1), Angelica Varesi (3), Gaia Bavestrello Piccini (4), Viola Novelli (1), Sara Cutti (1), Alba Muzzi (1), Giovanni Ricevuti (3), Ciro Esposito (3), Abdel Bellou (5), Enrico Oddone

(1) IRCCS Policlinico San Matteo, (2) IRCCS Humanitas Rozzano, (3) Università di Pavia, (4) Service des urgences, cliniques universitaires de Bruxelles, hôpital Erasme, Bruxelles, Belgique., (5) Institute of Sciences in Emergency Medicine, Guangdong, China, (6) Department of Public Health, Experimental and Forensic Medicine, University of Pavia

**Introduction:** Frailty and old age is a significant risk factor for adverse outcomes such as mortality and long hospital stays. Therefore, adequate triage is a critical healthcare issue for geriatric (> 75 years old) patients with frailty who accesses Emergency Department (EDs).

**Methods:** We examined geriatric ED access both in the context of 4-level (4LT) and 5-level triage systems (5LT), from January 1, 2014, to December 31, 2020. This studied the wait times and under- (UT) and over-triage (OT) in geriatric and general populations. We also examined the impact of crowding indices on the triage system function and during the COVID-19 pandemic in the study populations.

**Results:** We evaluated 423,257 ED presentations. Visits to the ED by geriatric, more fragile and seriously ill individuals increased, with progressive increases in crowding. Geriatric people undergo to UT and OT, both in 4LT and 5LT system. The rise in the length of stay (LOS), exit block, boarding, and processing times showed a net increase in throughput and output factors, with a consequent lengthening of wait times and an increase in UT in geriatric population. Crowding results in an increased risk of UT more in 4LT than in 5LT.. In the pandemic phase were many accesses of older and more serious patients. There has been a general reduction in waiting times, an increase in crowding indices and high intrahospital mortality.

**Conclusions:** Introducing a 5LT improved ED performance and patient care; however, geriatric triage remains a challenge in EDs since this population is more prone to UT.

### P-509

#### A case of Lucio's Leprosy caused by M.Leprae presenting as Lucio phenomenon

Aníbal Gutiérrez-Torres (1), Genaro Nájera-Montero (2), Roberto Israel Vázquez-Garza (1), José de Jesús Muñoz-Gutiérrez (1), Óscar Alfredo Torres-Ortega (1), Mauricio Vázquez-Guajardo (1), Alejandra Pérez-Legaria (1), Alexandra G. Ramírez-Ortíz (1), Valer

(1) Geriatrics Service, Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM), Nuevo León, México., (2) Dermatology Service, Hospital Metropolitano "Dr. Bernardo Sepúlveda", Nuevo León, México., (3) Internal Medicine Service, Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM), Nuevo León, México

**Case report:** A 95-year-old patient was brought to the emergency room with a diffuse dermatosis. Comprehensive geriatric assessment revealed that he used to hunt and eat nine-banded armadillos. His medical history included a fall 10 years earlier which caused an untreated hip fracture that led to the patient being bedridden. Upon physical examination the patient presented a disseminated dermatosis characterized by multiple reticular erythematous-violaceous plaques located in acral areas with well-defined rounded edges. Blistering was evident as well as necrotic areas through-out the dermatosis, especially on the fingertips and toes. Upon palpation edema was present, the plaques were painful and presented a firm and cold texture. Superciliary madarosis was also seen as well as violaceous and dry earlobes. Laboratory findings revealed leukocytosis with neutrophilia and lymphopenia, anemia, hypoalbuminemia and elevated CPK. A dermatologic consultation was made and there was a clinical suspicion of leprosy presenting as Lucio's phenomenon. Slit skin smears were taken and Ziehl–Neelsen staining revealed acid-fast bacilli ranging from 1 to 10 bacillus in every field, thus, confirming the diagnosis of Lucio's Leprosy. Furthermore, a PCR for RLEP and LPM was made which confirmed the causative agent to be *M. leprae*. Treatment with steroids was initiated and the patient was referred to the national Leprosy program so multi-drug treatment could be started.

**Conclusion:** Lucio's phenomenon is a medical emergency and a specific kind of leprosy reaction manifested by erythematous, irregular macules that become purpuric and then necrotic spreading in ascending fashion and is often endemic to Mexico [1,2,3,4].

## P-510

### Strategy to reduce inappropriate indwelling urinary catheters in older adults at the emergency departments: a quality procedure

Antonio Foschini (1)

(1) ULB, Université Libre de Bruxelles

**Introduction:** The majority of indwelling urinary catheters (IUCs) placed in hospitalised patients do not have a justified indication. Inappropriate IUCs lead to complications, which are more common in older adults. The emergency department (ED) plays a significant role in placing IUCs in hospitalised patients, and particularly in the older patients.

**Methods:** We assessed the knowledge about appropriate IUCs of the ED healthcare providers at Saint Pierre Hospital in Brussels. We then conducted a training explaining an evidence-based clinical protocol for appropriate IUCs in older adults. We assessed the effects of the training by comparing the prevalence of inappropriate IUCs in the elderly before and after the training.

**Results:** Seventy-eight patients over 75 years old were admitted to the ED between October 2022 and March 2023 and received a IUCs. We found a significant reduction of inappropriate IUCs from 50% before training to 25% after training ( $p = 0.024$ ). Patients who received inappropriate IUCs had higher rates of cognitive impairment, urinary incontinence and were more frequently admitted to geriatric departments. Inappropriate IUCs were primarily related to urinary tract infections or heart failure requiring less than 6L/min of oxygen, and appropriate IUCs were related primarily to urological diagnoses or admission to intensive care unit. We did not find any clinical

predictors of inappropriate IUCs, probably due to the low power of our study.

**Conclusion:** Our study demonstrates the effectiveness of a training for the healthcare providers to reduce the inappropriate IUCs of older adults in the ED. A geriatric profile may be related to a higher risk of OAS, although these preliminary results remain to be confirmed.

## P-511

### How could pre-hospital 'Silver Triage' for older people living with frailty be improved?—The views of paramedics

Wakana Teranaka (1), Howell Jones (2), Lyann Gross (3), Patrick Hunter (4), Simon Conroy (2)

(1) Central and North West London NHS Foundation Trust, (2) Central and North West London NHS Foundation Trust; University College London, (3) North Central London Integrated Care Board, (4) London Ambulance Service

**Background:** Ambulance services provide a key link in the urgent care chain as most older people access acute care via ambulance conveyance. However, the role of frailty-attuned assessment and care in this context is poorly understood. North Central London Integrated Care System (United Kingdom) has invested in a pre-hospital programme where support London Ambulance Service: 'Silver Triage'. We report here on feedback on the scheme from paramedics.

**Methods:** 452 cases Silver Triage cases took place between November 2021 and January 2023. Utilising paramedics were sent an electronic survey including free text questions the results of which were analysed thematically. Subsequent data will also be presented at the conference.

Results 103 comments were organised into three key themes: 1. Improving access to the service—expanding to a 24-h service, accessible in other areas of London, available to emergency medicine technicians and for people not living in care homes. 2. Improving information about the service—education for paramedics on who to refer and increasing awareness in local emergency departments. 3. Improving delivery of the service—requests for video conferencing, reported technology issues and frustrations with pathway breakdown. For example if the agreed plan was not to convey and to support instead through hospital at home services any lack of availability led to conveyance to hospital contrary to outcome of triage.

**Key Conclusions:** Whilst the Silver Triage scheme has been well received by paramedics, there are clear areas for improvement to ensure sustainable and equitable pre-hospital care for older people living with frailty.

## P-512

### Falls and anticoagulation; a 'NICE' opportunity to step away from the CT scanner?

Eleanor Reid (1), Sarah Gilson (1), Ruth Kitchener (1), Stephen Lim (2), Kit Morris (1), Gayle Strike (1)

(1) UHS, Southampton, UK, (2) NIHR Applied Research Collaboration and Biomedical Research Centre, University of Southampton, UK

**Introduction:** Falls in older people are common and multimorbidity increases indications for anticoagulation. Recently updated National Institute for Health and Care Excellence (NICE) guidelines for head injuries on anticoagulation treatment recommend physicians to consider CT imaging within 8 h only if clinically appropriate. This change offers an opportunity to review our current clinical practice, with the potential to reduce unnecessary hospital admissions for CT imaging.

**Methods:** In this retrospective study, case note reviews were conducted by two geriatricians for all patients aged  $\geq 80$  years who had CT brain imaging on admission to the University Hospital Southampton ED over a 4-month period in 2021. Medications classified as anticoagulants included warfarin, direct oral anticoagulants, heparin, and anti-platelets.

**Results:** 601 CT scans were performed with 310 (52%) on patients presenting with head injury on anticoagulation (mean age 87 years). Excluding major trauma scans ( $n = 24$ ), only 5 patients (2%) had haemorrhagic pathology, of which 4 patients had a history of high-risk injury at clinical presentation (e.g. low GCS/ facial trauma). Only 1 patient (0.3%) had a pathology (tiny haemorrhage on clopidogrel) where clinical presentation may not have anticipated. No patients required neurosurgical intervention.

**Conclusions:** This study shows a very low proportion of patients with head injury on anticoagulants had confirmed haemorrhagic pathology on CT imaging. Our findings support shared decision-making conversations with patients and families to avoid CT imaging for patients who are deemed low-risk following thorough clinical assessment. This can help reduce unnecessary hospital admissions among low-risk patients, with potential significant cost-savings.

## P-513

### Rates and causes of readmission and death in very older patients referred from nursing homes due to traumatic brain injury

Maria Auxiliadora Castillo Delgado (1), Francesca Argentina (1), Monserrat Barcons Marqués (1), Ana Merello De Miguel (1), Rocío Menéndez Colino (1), Juan Ignacio González Montalvo (1)

(1) University Hospital La Paz

**Objective:** To describe the rates and causes of readmission and death in elderly patients referred from nursing homes (NH) to the emergency department (ED) with traumatic brain injury (TBI).

**Methods:** Descriptive study of older patients assessed in the ED and diagnosed with TBI from June 1st, 2020, to January 31st, 2022. Comprehensive geriatric assessment (CGA) was performed. New ED visits, readmissions and mortality causes were recorded during 1-year follow-up. The causes were classified as direct if they were secondary to TBI or indirect if they were unrelated to TBI.

**Results:** We included 204 patients (76% females). Mean age was 87 years (SD:9.5). Mean Barthel Index was 46/100 (SD: 30.7) and Geriatric Deterioration Scale was 3.9/7 (SD: 2.1). During 1-year follow-up, 66% had at least another ED visit, and 28% had a hospital readmission. Main causes of readmission were indirect in 24%: respiratory infections (10%) where aspiration pneumonia was the most frequent, heart failure (5%), urinary tract infections (5%), and others (4%). Direct causes, as neurological complications (2%) and new falls (2%), were less frequent. One-year mortality was 28%. Causes of death were indirect in 19%, direct in 4% and unknown in 5% of the cases. Among indirect causes, respiratory (10%) and urinary tract infections (6%) were the most frequent.

**Conclusion:** TBI patients referred from NH are very older and disabled patients, and had a high rate of new ED visits, readmissions, and

mortality during 1-year follow-up. Respiratory infections were the most frequent cause of readmissions and mortality.

## P-514

### Threat or Opportunity? Short-Term Risks Related to Regular Medications in Older Adults visiting Emergency Department—a Retrospective Observational Study

Ria Holstein (1), Eeva Saario (1), Esa Jämsen (1), Mari Hongisto (2), Johanna Kaartinen (2), Maaret Castrén (3)

(1) University of Helsinki, (2) Emergency Medicine and Services, Helsinki University Hospital (HUS), (3) University of Helsinki and Emergency Medicine and Services, Helsinki University Hospital (HUS)

**Introduction:** Drug-related problems (DRPs) contribute to many ED visits among older adults. Long-term, polypharmacy and potentially inappropriate medications (PIMs) are known to increase risks for DRPs. The short-term effects of these pharmacological factors remain unclear; therefore, we aimed to determine their effects on the outcomes of ED visits in older patients.

**Methods:** We retrospectively observed  $\geq 75$ -year-old patients non-urgently transported to the ED in Espoo, Finland in 2018 and 2019. We studied hospital admissions, 30-day readmissions and 30-day mortality. Comorbidities were evaluated with Charlson Comorbidity Index (CCI). Statistical analyses were performed by logistic regression. Sex and CCI score were used in adjusted multivariable analyses.

**Results:** Median age of the 392 included patients was 84 years. The number of regular medications ranged between 0 and 20 (median 7). 80% of the patients had polypharmacy and 78% used at least one PIM. 69% of patients were admitted to hospital, 24% were readmitted and 4.6% died within 30 days. The number of regular medications or the number of PIMs did not affect hospital admissions. Higher number of PIMs increased readmission risk, also in adjusted analysis (OR 1.18, 95% CI [1.02–1.36],  $p = 0.03$ ). The number of regular medications was associated with decreased 30-day mortality [adjusted OR 0.82, 95% CI (0.69–0.99),  $p = 0.04$ ].

**Key Conclusions:** Polypharmacy does not increase risks for admissions, readmissions or short-term mortality among older ED patients. The excessive use of PIMs increases the risk for readmissions. Instead of polypharmacy, the EDs should focus on evaluating the appropriateness of pharmacological treatment.

## P-515

### Establishing the core elements of a frailty at the front door model of care using a modified real-time Delphi technique

Íde O'Shaughnessy (1), Christine Fitzgerald (1), Aoife Whiston (1), Patrick Harnett (2), Helen Whitty (2), Des Mulligan (2), Marian Mullaney (2), Catherine Devaney (2), Deirdre Lang (2), Jennifer Hardimann (2), Brian Condon (1), Christina Hayes (1), Aliso

(1) School of Allied Health, Faculty of Education and Health Sciences, Ageing Research Centre, Health Research Institute, University of Limerick, Ireland, (2) National Clinical Programme for Older People, Clinical Design and Innovation, Health Service Executive, Ireland, (3) Department of Nursing and Midwifery, University of Limerick, Ireland, (4) School of Medicine, Faculty of Education and Health Sciences, University of Limerick, Ireland, (5) College of Medicine, University of Arizona, United States, (6) Department of Ageing and Therapeutics, University Hospital

Limerick, Dooradoyle, Limerick, Ireland, (7) Limerick EM Education Research Training (ALERT), Emergency Department, University Hospital Limerick, Dooradoyle, Limerick, Ireland, (8) Department of Health, Baggot Street, Dublin 2, Ireland, (9) Department of Occupational Therapy, University Hospital Limerick, Dooradoyle, Limerick, Ireland

**Background:** This study aimed to develop a set of expert consensus-based statements underpinning operational design, outcome measurement and evaluation of a Frailty at the Front Door (FFD) model of care for older adults within an Irish context.

**Methods:** A modified real-time Delphi method was used. Facilitation of World Café focus groups with an expert panel of 86 members and an advisory group with a Patient and Public Involvement panel of older adults generated a series of statements on the core elements of the FFD model of care. Statements were analysed thematically and incorporated into a real-time Delphi survey, which was emailed to members of the expert panel. Members were asked to rank 70 statements across nine domains using a 9-point Likert scale. Consensus criteria were defined a priori and guided by previous research using 9-point rating scales.

**Results:** Fifty members responded to the survey representing an overall response rate of 58%. Following analyses of the survey responses, the research team reviewed statements for content overlap and refined a final list of statements across the following domains: aims and objectives of the FFD model of care, target population, screening and assessment, interventions, technology, integration of care, evaluation and metrics and research.

**Conclusion:** Development of a consensus-derived FFD model of care represents an important step in generating national standards, implementation of a service model as intended and enhances opportunities for scientific impact. Future research should focus on the development of a core outcome set for studies involving older adults in the ED.

## P-517

### Analysis of Discharge and Re-Admission Rates of Patients Reviewed by the Specialist Acute Frailty Service in the Emergency Department

Olivia Meakin (1), Rebecca Oates (1), Vee-Han Lim (1)

(1) Bolton NHS Foundation Trust

**Introduction:** Bolton NHS Foundation Trust is one of busiest Emergency Departments (ED) in England. Early specialist input in older patients is widely recognised to improve the quality of care delivered. This project analysed the readmissions and discharges made in patients assessed by the specialist acute frailty service in the ED.

**Methods:** Data was collected between January–December 2022. The service consisted of a consultant geriatrician and a frailty advanced nurse practitioner (ANP) between 8am–5pm, Monday–Friday. Patients were selected by the frailty ANPs with set criteria. The data was compared to data collected between January–December 2020 and differences analysed.

**Results:** 32% of patients reviewed in 2022 were discharged, compared to 49% in 2020. Of those discharged in 2022, 62% had been initially referred to the medical team for admission, compared to 31% in 2020. 7-day readmission rate for the team was 13.7% in 2022 compared to 14.2% in 2020.

**Key Conclusions:** We have demonstrated that specialist input has positive impacts on patient flow by reducing admission and discharge bias. This is exemplified by the improvement in the deflected discharges for patients initially referred to medicine. The percentage of

re-admissions also decreased. Differences in discharges between data sets can be explained by differences in service models, notably the reduction of a 7-day to 5-day service. Development of the service further will improve outcomes. This will be done with frailty education for ED staff and by introducing a 7-day service.

## P-518

### Bell's palsy...Or is it ?

Sanidhya Khanna (1), Suheil Ponnambath (1)

(1) Aneurin Bevan University Healthboard

This is an unusual case of a 78 year old man, who presented with a 1 day history of left facial droop preceded by a “ left ear pop ” whilst playing lawn bowls 3 days prior. He was sat at his computer when he first noticed left sided facial asymmetry. He was initially reviewed in the emergency department and on examination he was noted to have an obvious isolated left lower motor neuron facial palsy with no other associated lateralising neurology. Given his past medical history of Type 2 Diabetes Mellitus and Hypertension, a CT head was requested and was unremarkable. He was diagnosed as a case of Bell's Palsy. However, given the acute nature of his presentation, a subsequent MRI brain scan was done and revealed an ipsilateral left posterior pontine infarct. It is therefore imperative to consider a pontine infarct in an elderly patient with vascular risk factors who present with subacute isolated lower motor neuron facial palsy.

## P-519

### Evaluation of the Impact of a Geriatric Acute Mobile Team on Emergency Department Visits and Hospitalisations among Older Patients

Sofie Arvidsson (1), Karol Biegus (2), Anne Ekdahl (2)

(1) Geriatric Medicine, Helsingborg Hospital, Sweden., (2) Geriatric Medicine, Helsingborg Hospital, Sweden. Institution of Clinical Sciences Helsingborg, Faculty of Medicine, Lund University, Sweden

**Introduction:** In 2019 a mobile geriatric acute team (GAT) was created in southern Sweden. GAT operates by assessing and treating geriatric patients in their home environment. This study intended to evaluate the effectiveness of GAT's interventions in terms of reducing the number of emergency department (ED) visits, hospitalisations, and hospital days for patients.

**Methods:** This is a retrospective study using data from Scania's medical record system. The number of ED visits, hospitalisations, and hospital days were compared for a period of three months before and after the first visit by GAT. All patients referred to GAT between 28th of April and 17th of October 2022, who had not been assessed by GAT earlier in 2022, fulfilled the inclusion criteria.

**Results:** 101 patients were included in the study. There was a statistically significant decrease in ED visits three months after GAT's first visit for patients living in nursing homes (n = 27) or where GAT had given intravenous antibiotics (n = 11) or fluids (n = 14). Additionally, there were significantly fewer hospitalisations and hospital days for patients living in nursing homes (n = 27), patients referred from the ambulance (n = 13), and patients who had received intravenous antibiotics (n = 11) after GAT's first visit.

**Key Conclusions:** The results suggest that geriatric acute mobile teams are effective care providers, successfully reducing hospital days, unnecessary ED visits and hospitalisations for older people.



**P-520****Spine injuries evaluation in geriatric patients using the Priority Triage System**

NIKOLAOS SYRMOS (1)

(1) Aristotle University of Thessaloniki Greece

Aim of this study was to evaluate cases with spine injuries in geriatric patients according to Priority Triage System. 20 subjects were included in 0.14 men and 6 women. Range of age between 68 to 88 years old and mean age 74,5 years. RESUSCIATION in 1 case, EMERGENT in 1 case, URGENT in 1 case, NON URGENT in 7 cases, REFERRED in 10 cases. The main causes of the spine injuries were falls and domestic injuries. Only traumatic spine reported 6 subjects, arm-hand-skull injuries spine injuries reported 6 subjects, head-neck-face plus traumatic spine injuries reported 3 subjects, thorax-abdomen plus spine injuries reported 3 subjects and finally 2 cases were multi trauma patients. 2 emergency Neurosurgical Interventions, 2 admissions in Intensive care Unit, 2 admissions in Neurosurgical Department, 2 admissions in Orthopedic-ENT-Surgical-Maxillofacial-Plastic Surgery-Ophthalmology Departments and finally in 12 cases, medical instructions are given. Priority system remains a useful tool in order to evaluate such cases.

**P-521****Traumatic brain injuries evaluation in geriatric patients using the Priority Triage System**

NIKOLAOS SYRMOS (1)

(1) Aristotle University of Thessaloniki Greece

Aim of this study was to evaluate cases with spine injuries in geriatric patients according to Priority Triage System. 20 subjects were included in 0.16 men and 4 women. Range of age between 67 to 87 years old and mean age 73,5 years. RESUSCIATION in 1 case, EMERGENT in 1 case, URGENT in 1 case, NON URGENT in 8 cases, REFERRED in 11 cases. The main causes of the traumatic brain injuries were falls and domestic injuries. Only traumatic brain injuries reported 7 subjects, arm-hand-spine injuries spine injuries reported 5 subjects, head-neck-face plus traumatic spine injuries reported 3 subjects, thorax-abdomen plus spine injuries reported 3 subjects and finally 2 cases were multi trauma patients. 3 emergency Neurosurgical Interventions, 1 admissions in Intensive care Unit, 2 admissions in Neurosurgical Department, 3 admissions in Orthopedic-ENT-Surgical-Maxillofacial-Plastic Surgery-Ophthalmology Departments and finally in 11 cases, medical instructions are given. Priority system remains a useful tool in order to evaluate such cases.

**P-522****Frailty–Everyone’s business**

Jay Acharya (1), Amir Manzoor (1), Peter Enwere (1), Keefai Yeong (1), Arvin Lingeswaran (1), Agustín Aranda-Martínez (1), Kamal Soliman (1), Clarence Chikusu (1), Emma Wilkinson (1), Radcliffe Lisk (1), Richard Williams (1), Rashid Mahmood (1)

(1) Ashford &amp; St. Peter’s Hospital

**Introduction:** Senior adults are the main users of health services across the UK/world. According to the getting it right first time (GIRFT) 2021 report, older patients are disproportionately admitted to an acute hospital bed. At ASPH, 53% over 75 years, and 63% over

85 years get admitted. They often do not need emergency treatment. Their medical needs can be managed in the community, either at their home or closer to home.

**Method:** Enhanced front door frailty service, dedicated home first team of allied health professionals, flow coordinators, and junior doctors for rounds, to complete assessments jobs/facilitate the timely discharge or treatment Criteria to admit was adopted to ensure only those requiring treatment that cannot be delivered outside the hospital were admitted. Consultant in charge presence in the afternoon to support discharges Community services like urgent community response teams, locality hubs, SDEC services, rapid access clinics, and virtual wards were used to ensure ongoing care and recovery of these patients in their homes or usual place of residence. Quality improvement methodology was adopted to implement and study the changes using PDSA cycles.

**Results:** Timeline Numbers Not admitted/admitted < 24 h (%) Bed day savings (£k) (LOS 7 days) Feb 2,324,343.62371 Jan 2,328,240.78403 Dec 2,233,037.58434 Nov 2,223,435.90294 Oct 2,221,538.18287 Sept 2,222,031.82245 Aug 2,219,536.00241 July 2,224,345.23389 June 2,219,735.02242 May 2,217,936.88231 April 2,211,729.10119 Mar 2,217,528.60175 Feb 2,211,823.1098 Jan 225,321.2036 Significant bed day cost savings (£500/day NHS bed cost)

**Conclusion:** Enhanced frailty services with a dedicated and collaborative team approach allowed sustained progress and improvement with benefits to our patients and care providers.

**P-523****Acute medical care for older adults with frailty**

Maricelis Cruz-Grullon (1), Antonio García-Alvarez (1), Claudia Roca-Rabionet (2), Mariona Espauella-Ferrer (2), Ines Espallargas-Vargas (1), Eva Alda-Sanchez (3), Antonia Conejo-Caravaca (3), Marta Exposito-Izquierdo (3), Joan Espauella-Panicot (4), Nuria Molist-Brunet (4)

(1) Territorial Service of Geriatrics and Palliative Care of Osona and Ripollès. Hospital Universitari de Vic. Vic, Barcelona, Spain, (2) Territorial Service of Geriatrics and Palliative Care of Osona and Ripollès. Hospital Universitari de la Santa Creu de Vic, Hospital Universitari de Vic. Vic, Barcelona, Spain, (3) Emergency Department, Hospital Universitari de Vic, Vic, Barcelona, Spain, (4) Territorial Service of Geriatrics and Palliative Care of Osona and Ripollès. Hospital Universitari de la Santa Creu de Vic, Hospital Universitari de Vic. Vic, Barcelona, Spain

**Introduction:** Managing acute admission of older adults with frailty is a challenge in hospitals [1]. Aim: To describe clinical characteristics and use of health resources of patients with frailty who are admitted to the acute medical unit (AMU) of the Emergency Department (ED).

**Methods:** Prospective, descriptive and observational study, from March 2022 to March 2023. Analyzing patients over 85-years-old with moderate-severe frailty and under 85-years-old who belong to the selected risk groups (from nursing home, dementia and advanced chronic patients (ACP)). Variables: age, gender, complex chronic patient (CCP) and ACP[2], comprehensive geriatric assessment (CGA), cognitive status, Clinical Frailty Scale (CFS) [3], primary care assessment, advanced care planning, length of stay, resources at discharge and final destination, 3-month mortality, readmission between 72 h and 28 days after discharge.

**Results:** 17.6% of patients admitted at the AMU were included (n = 354), 57% women; mean age 87.7 ± 3.83 years-old. 33% (n = 117) were identified as CCP or 20.3% (n = 72) ACP. 61.2% (n = 217) had cognitive impairment. Medium stay at ED: 7 h. 16%

(n = 57) were hospitalized directly at conventional units, 34% (n = 120) were transferred to intermediate care, 26% (n = 92) to hospital-at-home integrated care and 24% (85) home-discharged. 61% (n = 216) do not had a prior assessment by primary care and only 24% (n = 85) had advanced care planning. 3-months mortality after discharge was 22% (n = 78) and readmissions between 72 h and 28 days after discharge were 20.6% (n = 73).

**Conclusions:** The AMU setting attends an elevated number of moderate-severe frailty patients. This should allow adapting the alternatives to acute hospitalization, performing an advanced care planning and optimizing individual requirements, both for the acute episode and for future decompensation.

**References:**

1. Oo MT, Tencheva A, Khalid N, Chan YP, Ho SF. Assessing frailty in the acute medical admission of elderly patients. *J R Coll Physicians Edinb.* 2013;43 (4) :301–8. <https://doi.org/10.4997/JRCPE.2013.404>. PMID: 24350311.
2. Gómez-Batiste, X., Martínez-Muñoz, M., Blay, C., Amblàs, J., Vila, L. y Costa, X., (2013). Identificación de personas con enfermedades crónicas avanzadas y necesidad de atención paliativa en servicios sanitarios y sociales: elaboración del instrumento NECPAL CCOMS-ICO©. *Medicina Clínica.* 140 (6), 241–245. <https://doi.org/10.1016/j.medcli.2012.06.027>.
3. Lee H, Lee E, Jang IY. Frailty and Comprehensive Geriatric Assessment. *J Korean Med Sci.* 2020 Jan 20;35 (3) :e16.

## P-524

### A novel approach to Nursing home residence attending the Emergency department. D24 NR0A

Claire Noonan (1), Louise Kelly (1), Derek Hayden (1), Josephine Soh (1), SP Kennelly (2)

(1) Tallaght University Hospital, (2) Tallaght University Hospital, Trinity College Dublin

Nursing home residents (NHR) are among the most vulnerable members of our community. Often the Emergency Department (ED). Is the first point of care for NHR during acute illness. This is a novel approach to provide a accessing gerontologically attuned care, with collaboration between the nursing home liaison service and ED. These initial cases outline the referral pathway and treatment of a NHR following a pre-alert regarding transfer to acute care compared to the patient journey prior to this innovation. NHR was transferred to ED with acute on chronic renal impairment following GP bloods. History of requiring long term urinary catheter and stage 5 chronic kidney disease. Previously treated for a urinary tract infection (UTI) and antibiotics were commenced following urine culture. Pre-alert by senior nursing staff in NH facilitated prompt identification and review of NHR in ED on arrival. NHR had comprehensive geriatric assessment by Registered Advance Nurse Practitioner (RANP) and review by Consultant Geriatrician. The cause of renal impairment was determined to be dehydration secondary to catheter associated UTI. The NHR was given a bolus Intravenous fluids and discharged with scheduled return clinic two days later and written and verbal guidance was provided to NH staff to monitor for signs of dehydration and treat with sub-cutaneous fluids as required. Total episode of care within 6 h including return review. NHR presented to ED with acute on chronic renal impairment in 2021, on background of similarly CKD. Also treated for a catheter associated UTI. There was no pre alert from NH regarding the transfer and was reviewed by ED staff. Total episode of

care last 11 h. This novel pathway is a close collaboration between community and acute services. This streamlined service aims to deliver timely, effective and person centred acute care for NHR presenting to ED. Future direction of this service includes focus on advance care directives and ED presentation avoidance.

## P-525

### The Refeeding Syndrome: a neglected but potentially serious condition for geriatric in acute units

Alanoud Alfehaidi (1)

(1) HMC

**Introduction:** Acute geriatric units in Rumailha hospital provide care to unwell older patients with a range of complex medical condition with variable degree of severity of frailty. Refeeding syndrome (RFS) is widely considered to be a common problem among the elderly, Refeeding syndrome is defined as severe, (and potentially fatal) electrolyte and fluid shifts associated with metabolic abnormalities in malnourished patients undergoing refeeding, whether orally or enterally. Risk of RFS is usually neglected or overlooked among hospitalized patients and is not well recognized due to lack of a screening tool to identify risk of the refeeding syndrome. Currently there are no well recognized protocols /CPG for refeeding screening risk assessment tool or prevention and management of refeeding syndrome guideline available in HMC.

**Objectives:** Early screen and management of refeeding syndrome using a rule of thumb by involving multidisciplinary team from 0 to 95% at geriatric units between July to Dec 2023. Early detection of Refeeding syndrome by using Refeeding syndrome risk assessment tool. Early assessment and management in individuals with Low, High and very high risk of refeeding syndrome.

**Methods:** A multidisciplinary team was formed in May 2022 to conduct a quality improvement project to prevent Refeeding syndrome using “Plan-Do-Study-Act (PDSA) methodology”. All stakeholders were involved, and interventions were carried out in three steps. First step was to create Assessment screening tool which would help identify the high-risk category (1st PDSA). Second step was to develop Multidisciplinary Team interventions of Refeeding syndrome management (2nd PDSA) and standardizing the approach by establishing an intervention guideline. Third step was to pilot in two units of the acute care units to analyze the effectiveness of this initiative (3rd PDSA).

**Results:** Following multimodal multifaceted intervention by the interdisciplinary team members (Physicians, Nursing and clinical Dieticians) showed refeeding syndrome manage probably in the pilot units.

**Conclusion:** Prevention and management of refeeding syndrome in the acute care units is really challenging due to the complexity of the medical conditions. However, this project has shown refeeding syndrome treatment and prevention is possible if early screening and interventions are implemented by multidisciplinary team members. Next steps would be to Establishing Clinical Practice Guidelin (CPG) on assessment and Management of Refeeding syndrome.

**P-526****Expedited Dietary evaluation and interventions within 24 h of acute geriatric admissions leading to better outcomes**

Alanoud Alfehaidi (1)

(1) HMC

**Objectives:** To optimize nutritional status of an acutely unwell older adult with early dietary interventions within 24 h. of admission. To complement medical management of acute and chronic diseases by addressing nutritional issues.

**Background:** Elderly presenting to the acute geriatric units (AGU) have significant co-morbidities with multiple risk factors for malnutrition associated with poorer health outcomes and complications in acutely unwell patients. Prompt assessments and management of patients upon admission would significantly improve the general health thus minimizing the hospitalization. According to the policy, clinical dietitian review are acceptable to take place upto 36h from the time of referral following which dietary interventions maybe placed which can be upto 36-72h from the time of admission. Aim was to establish Medical nutrition evaluation and interventions within 24 h of all admissions on AGU.

**Methods:** Prompt evaluation and implementation of medical nutrition interventions within 24 h of admission followed by daily monitoring of dietary parameters. Comprehensive geriatric care plans were created by virtue of direct feedback of dietary issues and recommendations to the multidisciplinary teams (MDT) during daily morning reports on medical management of acute and chronic diseases.

**Results:** All patients were seen promptly ranging from 1 to 16 h. Dietary interventions were implemented within 24 h of dietary evaluation. All patients admitted to the AGU had nutritional issues ranging from malnutrition, dehydration, poor oral intake, dietary deficiencies, and bowel habit disturbance. Malnutrition score improved from severe to moderate, Fluid management requires detailed evaluation and collaborative intervention working in close conjunction with MDT to prevent dehydration and fluid overload. Thorough evaluation, intervention and monitoring has led to significant improvements in oral intake from 30% on admission to 70% upon discharge with perseverance and innovative strategies. Early identification and management of micronutrient deficiencies has led to quicker recovery. Bowel habit disturbance managed efficiently with dietary interventions, patients open bowels within 24 h of admission. By virtue of early interventions, the length of stay consistently remains around 6 days.

**Conclusion:** Early dietary interventions leads to quicker resolution of acute and chronic medical issues in older people. Unique method of collaborative care model was developed wherein clinical dietitians became an integral part of the team.

**P-527****Adapting frailty in-reach service in response to increasing emergency care pressures**

Fiona Morley (1), Georgina Otley (1), Michael Azad (1)

(1) Nottingham University Hospitals NHS Trust

**Introduction:** Reducing duplication of admission clerking for elderly patients is crucial in the face of extended front-door pressures, increased bed-wait times and an overstretched workforce. The frailty in-reach team serves as a conduit between the emergency department (ED) and health care of the older person (HCOP) wards aiming to

address clinical needs in an increasingly pressured landscape. This relies on a clear understanding of the team's role within the HCOP department to prevent duplication of workload for junior doctors. Printing of electronic clerking was introduced, satisfying both the paperless ED and paper-based ward, to reduce work repetition. This was in conjunction with educating the HCOP team to evaluate the acknowledgement of the frailty in-reach teams' work and improve collaborative working.

**Methods:** Data obtained from patients' paper and electronic notes in three PDSA cycles (Dec'22 and March'23). Cycle 1 evaluated the service and developed a clerking protocol and education plan for the HCOP team. Cycles 2&3 assessed the impact and implemented additional education interventions.

**Results:** Overall 8% reduction in duplication of clerkings. (Cycle1: n = 8/39 [20.5%], cycle2: n = 7/41 [17.1%], cycle3: n = 6/48 [12.5%]). Chi-squared analysis revealed a statistically significant reduction ( $p < 0.05$ ) in duplication of patient clerkings when frailty team clerking was electronic only (All cycles  $p = 0.009$ , baseline: cycle1  $p = 0.002$ , baseline: cycle2  $p = 0.04$ ).

**Conclusion:** Printing clerkings alone did not reduce duplication. However, increased HCOP team awareness and education about the frailty in-reach role led to a statistically significant reduction in duplication and therefore reduced workload for all—a positive contribution to improving the current service provision.

**P-528****Audit Assessing the Effectiveness of an Intervention in Those with a Fractured Neck of Femur in Line with the NICE National Current Standards at Weston General Hospital**

Anna Stoate (1), Linn Oo (1)

(1) University Hospital Bristol and Weston

**Introduction:** In the United Kingdom an average of 65,000 patients attend hospital with hip fractures each year [1], with 87% of these patients over the age of 70 [2]. Effective pain management is associated with significantly improved outcomes. Pain is known to be a significant trigger for delirium which itself greatly increases one year mortality and morbidity [1]. Given the magnitude of the issue, this audit aimed to assess the effectiveness of an intervention in relation to the NICE National Standards for Neck of Femur (NOF) fractures [3]. **Methods:** Data sets were collected from NOF fracture patients attending Weston General Hospital (WGH) Emergency Department (ED). The first data was from 29 patients between 4/4/2022–13/5/2022 and the second from 48 patients between 12/9/2022–22/2/2023. The red phone pro-forma in ED was amended in-between these data collections to include pain scoring and X-ray. Basic analysis allowed comparison between data sets.

**Results:** 11.11% of patients had pain assessed within 15 min of arrival compared to 13.79% previously. For standard 2&3, 8.82% of patients had analgesia within 60 min, thus not meeting NICE targets. 93.18% of patients had an x-ray requested within 120 min compared to 62.07% previously.

**Conclusion:** Our results were very positive regarding X-ray time. However, the intervention didn't improve pain assessment and analgesia time. Going forward, block training should be increased given that only 33% of patients received one on admission. Additional consideration would be to edit the pro-forma to include pain reassessment to closer meet NICE targets and improve patient care.

References:

[1] Dixon, J. et al. (2018) 'Assessment and early management of pain in hip fractures: The impact of Paracetamol', Geriatric Orthopaedic

Surgery & Rehabilitation, 9, p. 215,145,931,880,644. <https://doi.org/10.1177/2151459318806443>.

[2] Royal College of Emergency Medicine (2022) Fractured Neck of Femur, National Report 2020/21. Available at: [https://res.cloudinary.com/studio-republic/images/v1635410710/Fascia\\_Iliaca\\_Block\\_in\\_the\\_Emergency\\_Department\\_Revised\\_July\\_2020\\_v2/Fascia\\_Iliaca\\_Block\\_in\\_the\\_Emergency\\_Department\\_Revised\\_July\\_2020\\_v2.pdf?\\_i=AA](https://res.cloudinary.com/studio-republic/images/v1635410710/Fascia_Iliaca_Block_in_the_Emergency_Department_Revised_July_2020_v2/Fascia_Iliaca_Block_in_the_Emergency_Department_Revised_July_2020_v2.pdf?_i=AA) (Accessed: 01 June 2023).

[3] Overview: Hip fracture in adults: Quality standards (2012) NICE. Available at: <https://www.nice.org.uk/guidance/qs16> (Accessed: 01 June 2023).

## P-529

### Doing Nothing is NOT An Option

Jay Acharya (1), Rashid Mahmood (2), Amir Manzoor (2), Radcliffe Lisk (2)

(1) Ashford & St. Peter's Hospital, (2) Ashford & St. Peter's Hospital

Doing nothing is NOT an option. A story of successful collaboration as part of wider quality improvement exercise in development of frailty services in a district general hospital in United Kingdom J Acharya, R Mahmood, A Manzoor, R Lisk Department of Senior Adult Medical Services, Ashford and St Peters NHS Foundation Trust, Chertsey, UK.

**Introduction:** An ever-growing worldwide population and UK is no exception. Health service models are under immense pressure due to ageing phenomenon. With unprecedented demand, their often low acuity, hence low priority, delayed conveyance and unavailability of services to address their needs due to delayed arrival; frail patients often have to wait longer in Emergency Department (ED) to receive care. Innovation and new models of care are therefore needed to address this challenging situation.

**Method:** Quality improvement initiative to establish acute frailty service. Development of Older Person Assessment Unit (OPAU) in Oct 2022 with already established and functional frailty team. Plan for direct referral to OPAU from South East Coast Ambulance Service (SECAMB). Weekly meetings with SECAMB. Geriatrician of the Day supporting alternative pathways. Development of frailty poster with referral criteria uploaded on SECAMB iPads, displayed in triage area within ED. Single point of access phone number to access frailty team. SECAMB webinar for education and awareness of alternative pathways, attended by 40 front line SECAMB staff.

**Results:** Patients referred directly to ED vs OPAU Oct 2022–2214–0 Nov 2022–2218–2 Dec 2022–2405–8 Jan 2023–2232–8 Feb 2023–1198–18 March 2023–2224–32 April 2023–2079–33 May 2023–2284–39.

**Conclusion:** With sustained efforts and effective collaboration, numbers of patients being referred to alternate pathway (frailty team) are increasing with anticipated significant reduction to SECAMB conveyance to ED in the long run, addressing overcrowding issues.

## P-530

### Making Clinical Sense Of Geriatric Syndromes

Rashid Mahmood (1), Jay Acharya (1), Amir Manzoor (1), Radcliffe Lisk (1)

(1) Ashford & St. Peter's Hospital

Making clinical sense of geriatric syndromes. R Mahmood, J Acharya, A Manzoor, R Lisk Department of Senior Adults Medical Services Ashford and St Peters NHS Foundation Trust (ASPH), Chertsey, UK.

**Introduction:** With increasing awareness about frailty and its making headlines across the healthcare sector, geriatric syndromes are often the centre of clinical discussion and are often associated with frailty. Having a good understanding of these geriatric syndromes and their timely recognition by non-specialists is essential to provide effective, evidence-based care with accurate risk stratification of these vulnerable older, frail patients.

**Method:** We looked at the clinical outcomes of patients assessed by the general physicians including time from arrival to post-take ward, same-day discharge, LOS, and readmission based on the geriatric syndromes of fall, confusion and reduced mobility. These were for patients presenting with from November 2022 and April 2023.

**Results:** Falls (Number of patients—95) —Confusion (39) —Reduced mobility (9) Time of arrival to the time of post-take ward round (avg. hours) : 09:45–09:13–11:28 Avg. length of stay (LOS) (days) : 8.77–8.67–9.77 LOS < 1 day 9%–13%–11% LOS 1–3 days 31%–23%–11% LOS 3–5 days 11%–13%–0% LOS > 5 days 49%–51%–78% 7-day re-admission 8%–10%–0% 30 days readmission 11%–8%–0%.

**Conclusion:** Those presenting with reduced mobility, although small in numbers, were likely to stay longer once admitted but had better readmission rate. Patients presenting with falls and confusion had similar LOS and readmission rates. This should inform our practice whilst planning for the care of those presenting with these geriatric syndromes with anticipation of better health outcomes.

## P-531

### Use of new technologies por a better care continuity between care homes and terciary hospitals

Esther Lueje (1), Marta García-Salmones (1), Marina Verano (1), Óscar Gómez (1), Ana Isabel Hormigo (1)

(1) Hospital Universitario Fundación Jiménez Díaz

**Introduction:** Describing how technology permits a better continuation of care between hospitals and care homes, by registering referrals of residents to emergency department (ED) and detecting Frequent Users (FU).

**Methods:** Retrospective, descriptive study including institutionalized patients who were admitted to ED of tertiary hospital from 2021 to 2022. Detected by an informatic report which permitted elaboration of data base. We registered date of admission, cause of derivation, care home of origin, length of stay and hospitalisation and/or mortality rates. We also identified FU as the users that came  $\geq 4$  times in the last 3 months. We created a powerBI, giving us interactive view, being updated every month.

**Results:** 3798 referrals. An increase of referrals of 44.4% from 2021 to 2022, with 3% more hospitalisations. Mortality has remained unchanged 8–9%. The main cause of derivation in 2021 was falls, whilst in 2022 respiratory infection, 69.8% of hospital admissions. FU were recruited. We selected the 5 care homes with more FU and visited them so we could explore areas of improvement, consistent in personalized training matching needs. Most of the users where complex chronic patients with palliative care needs where we could develop advanced care planning. We have observed a tendency of a more adequate use of ED and hospital services in these individuals, especially those with heart failure following a training.

**Key Conclusions:** The use of technology helps us improve coordination between care homes and hospital, and permits detecting the main causes of ED derivation and most frequent users. An early identification permitted us to plan a more adequate use of referrals, and avoid futile procedures and treatments in order to provide quality care.

**P-532****Geriatric Mobile Team in an Emergency Department of a general hospital: preliminary results**

Thaïs Roig González (1), M. Teresa Jiménez (1), Alessandra Chiarini (2), Montse Costa (3), M.José Rego (3), M.Jesús Domínguez (3), Helena Manjón (1), Miriam Moreno (1), Miquel Àngel Mas (4), Ramón Miralles Basseda (4)

(1) Department of Geriatrics, Hospital Universitari Germans Trias i Pujol, Badalona, Barcelona, Spain., (2) Department of Geriatrics, Hospital Universitari de la Vall d'Hebron, Barcelona, Spain., (3) Emergency Department, Hospital Universitari Germans Trias i Pujol, Badalona, Barcelona, Spain., (4) Department of Geriatrics, Hospital Universitari Germans Trias i Pujol, Badalona, Barcelona, Spain. Metropolitana Nord Chronic Care Management Team, Institut Català de la Salut, Catalonia, Spain

**Introduction:** The intervention of a Geriatric Mobile Team (GMT) in the Emergency Department (ED) could be useful in attending frail patients and improving prognostic endpoints.

**Methods:** Doctors working in the ED made hospital consultations to the GMT. 66 patients (included consecutively over a period of 6 months) were evaluated by the GMT (composed of a geriatric nurse, a social worker and a geriatrician).

**Results:** The mean age of patients was 85.3 years. 44 (66.6%) patients lived at home, 21 (31.8%) lived in nursing homes. 28 (42.4%) patients were Complex Chronic Patients and 5 (7.6%) had advanced chronic diseases with palliative needs. Data on the Clinical Frailty Scale (CFS) was available for 47 patients. The most frequent score was 7 (24.2%; 19.7% for CFS 5 and also for 6). 42 patients (62.8%) had cognitive impairment (from mild cognitive impairment to dementia). The most frequent diagnoses were infections. In 40 patients (60.6%), the intervention focused on assessing the need for admission and determining the most suitable resources (intermediate care, home hospitalization, ...), followed by interventions to make decisions regarding medical management in the ED. After the GMT intervention, a change in the initially proposed approach was made in 52 patients (78.8%). 65.2% required Hospital Admission, while 16.7% were discharged home. In 12 patients (18.2%), at least one contact was made with their outpatient referral team.

**Conclusions:** A GMT could support interventions aimed at improving the management of geriatric patients in the ED by adapting to their care needs.

**P-533****A wound, and an extrapyramidal syndrome can hide so much more**

Gael Galli (1), Ombeline Helluy (2), Aurelie Lafargue (2), Isabelle Bourdel-Marchasson (3)

(1) Pole de gérontologie clinique, CHU De Bordeaux, UMR 5164 CNRS, Université Bordeaux, (2) Pole de gérontologie clinique, CHU De Bordeaux, (3) Pole de gérontologie clinique, CHU De Bordeaux, UMR 5536 CNRS, Université Bordeaux

**Introduction:** Behçet's syndrome or Behcet's disease is a variable vessel vasculitis, affecting primarily people that originate from the ancient Silk Road (Turkey, Japan, China, Korea, Middle Eastern and North African countries). It is responsible for a systemic presentation that associates bipolar aphthosis (oral and genital ulcerations), eye involvement (mostly anterior uveitis), skin lesions, oligo-arthritis, and neurological symptoms such as cerebral venous thrombosis but also

central-nervous system involvement. Although mainly affecting patient before 50 years old, Behçet's syndrome can rarely affect elderly people.

**Methods:** Case-Report of an extra-pyramidal syndrome and necrotic dermatitis leading to the discovery of a Behçet's syndrome in an elderly woman.

**Results:** A 79 years-old woman was admitted to the university hospital for a rapid loss of functional independence following the development of an extra-pyramidal syndrome and necrotic angiodermatitis. Interrogation retrieved previous episodes of red eyes with visual acuity loss compatible with anterior uveitis. Physical examination retrieved a bipolar aphthosis, an extrapyramidal syndrome, oligo-arthritis of the knee and the ankle. The patient presented with elevated C-reactive protein even after resolution of the angiodermatitis, joint fluid evaluation ruled out an infectious arthritis and magnetic resonance imaging was not in favor of an atypical extra-pyramidal syndrome such as supranuclear paralysis. Finally, colchicine treatment and systemic prednisone administration followed by methotrexate allowed amelioration of the symptomatology.

**Key Conclusions:** Behçet's syndrome can rarely affect patients over 70-years-old and this diagnosis should not be ruled out on the sole age criteria when the clinical presentation is compatible and differentials diagnosis eliminated.

**P-534****A simple case of falls and confusion?**

Gael Galli (1), Ombeline Helluy (2), Aurelie Lafargue (2), Isabelle Bourdel-Marchasson (3)

(1) Pole de gérontologie clinique, CHU De Bordeaux, UMR 5164 CNRS, Université Bordeaux, (2) Pole de gérontologie clinique, CHU De Bordeaux, (3) Pole de gérontologie clinique, CHU De Bordeaux, UMR 5536 CNRS, Université Bordeaux

**Introduction:** Adrenal insufficiency occurs when the adrenal gland is incapable to produce enough cortisol and can result from autoimmunity affecting the gland itself, adrenal infections (such as tuberculosis), but can also rarely result from neoplasia (as a paraneoplastic syndrome) or even from infiltrative causes such as IgG4 syndrome. Hemolytic autoimmune anemia occurs when anti-erythrocytes autoantibodies lead to the development of a regenerative anemia with elevated hemolytic markers. This condition can develop alone or secondary to autoimmune diseases, but also from neoplastic conditions such as lymphomas or solid tumors.

**Methods:** Case-Report of a paraneoplastic adrenal insufficiency and hemolytic autoimmune anemia secondary to a papillary tumor in an elderly woman.

**Results:** A 84 years-old woman was referred to the university hospital for multiple falls, confusion, rapid loss of functional independence and elevated C-reactive protein. Physical examination highlighted visual hallucinations, cognitive impairment, vigilance fluctuations, low blood pressure with no fever. Biological evaluation retrieved hyponatremia, hyperkalemia, eosinophilia, regenerative anemia with low haptoglobin, lactate dehydrogenase and bilirubin elevation. Cortisol dosage at 8 o'clock followed by Adrenocorticotropic hormone (ACTH) stimulation test and direct Coombs test confirmed adrenal insufficiency and hemolytic autoimmune anemia. There was no adrenal or pituitary tumor, no lymphadenopathy and antinuclear antibodies were negative. Finally, computed tomography scan identified a papillary tumor and cortisol supplementation strikingly alleviated the neurological and biological symptoms.

**Key Conclusions:** Adrenal insufficiency and/or hemolytic autoimmune anemia with no evident causes in an elderly patient should lead

to extensive investigations in the hypothesis of a paraneoplastic syndrome.

### P-535

#### Aspects of in-hospital fatal outcomes in geriatric patients—3-year data from the Department of Geriatrics

Gytė Damulevičienė (1), Ieva Gurblytė (2)

(1) Clinical Department of Lithuanian University of Health Sciences (LSMU), Kaunas, Department of Geriatrics of LSMU Kaunas Hospital, (2) Clinical Department of Lithuanian University of Health Sciences (LSMU), Kaunas

**Introduction:** Complex health issues in older age lead to prolonged length of hospital stay, longer contact with iatrogenic factors, and increased risk of dangerous hospital-acquired infections. Therefore, older people are particularly liable to lethal outcomes. In 2021 in Lithuania, 81.2% of in-hospital deaths were patients  $\geq 65$  years. We aimed to determine the aspects of lethal outcomes among geriatric patients.

**Methods:** A retrospective study was conducted using 525 medical records of patients who died during the hospitalisation in the Department of Geriatrics of the LSMU Kaunas Hospital over the 3 year period from January 1, 2020 to December 31, 2022. Pearson correlation coefficient, Bonferroni post-hoc, ANOVA, t test were used.

**Results:** Patients' mean age was  $84.6 \pm 7.3$  years. Multimorbidity was prevalent in almost all patients (99.8%), mean number of chronic diseases— $5.3 \pm 1.6$ . Most commonly diagnosed chronic diseases were ischaemic heart disease (99.4%), arterial hypertension (90.7%), and dementia (14.8%). At least one geriatric syndrome was found in 447 (85.1%) patients, mean number of syndromes was  $2.0 \pm 1.4$ . COVID-19 infection diagnosis was confirmed for 348 patients (66.3%). Cl. difficile infection diagnosis was confirmed for 57 patients (10.9%). Mean length of stay was  $10.0 \pm 9.4$  days. In the 3-year period, the fewest in-hospital deaths occurred in 2022—38.7%. COVID-19 infection (U07.1) was most common reason of death in 2020–2022 ( $n = 233$ , 44.4%).

**Key Conclusions:** Geriatric in-patient deaths in 2020–2022 were mostly caused by COVID-infection, cardiovascular and urogenital system diseases, whilst deaths caused by cardiovascular system diseases, tumors and COVID-19 infection were more common in general Lithuanian population.

### P-536

#### Older Person Assessment Unit (OPAU)

Rashid Mahmood (1), Jay Acharya (1), Amir Manzoor (1), Radcliffe Lisk (1), Mehak Chadha (1), Pradeep Chandran (1)

(1) Ashford & St. Peter's Hospital

Older person assessment unit (OPAU) A frontier to tackle frailty at the front line Mahmood, J Acharya, A Manzoor, R Lisk, M Chadha, P Chandran Department of Senior adults medical services, Ashford and St Peters NHS Foundation Trust, Chertsey, United Kingdom.

**Introduction:** Frail patients are main NHS service users, often having subtle presentations with geriatric syndromes. Complex interplay between medical and socio-economic issues causes uncertainty to care providers leading to delays in care delivery and risk of hospital admission disproportionately. It is essential that their care is provided by a specialist team in a dedicated clinical area, with a system for

direct conveyance with timely assessments of these patients outside busy emergency departments, avoiding admissions where possible. Method OPAU established -October 2022. Monday–Friday, 8–4 operational hours. Team: Consultant Geriatrician, Physician Associate, Junior Doctor. Readily available MDT, use based on patient needs. Direct telephone referrals to OPAU from Ambulance service before conveyance. Patients presented to ED (out of hours) seen by Medical team and OPAU patients seen by Frailty team. Data collection from Nov 2022—April 2023 (Falls presentation only).

**Results:** 47 ED patients compared with 50 OPAU patients. Average time of arrival to post-take 10:00 h vs 02:20 h. Average LOS 7.74 vs 3 days. LOS < 1 day 13% vs 60%. LOS > 5 days 45% vs 22%. 7 day re-admission rate 16%—14% 0.30 day re-admission rate 11–4%.

**Conclusions:** Patients in OPAU were seen quickly, were more likely to be discharged same day, with short admission if required, and were less likely to be readmitted within 30 days. We proposed dedicated assessment areas with extended hours of operation, direct conveyance as the way forward to tackle frailty effectively in our busy hospitals.

### P-537

#### Geriatric pre-surgical consultations in hip and knee arthroplasty provide a pathway to prevent fragility and optimize outcomes in older patients

Beatriz Neira Martín (1), Encarna Ulloa Rodriguez (2), Mónica Insa Martínez (3), Jan Missé Xandri (4), Eva Heras Muxella (5)

(1) Geriatrician. Ageing and Health Department. Nostra Senyora de Meritxell Hospital. Andorra., (2) Nurse. Ageing and Health Department. Nostra Senyora de Meritxell Hospital. Andorra, (3) Social worker. Ageing and Health Department. Nostra Senyora de Meritxell Hospital. Andorra, (4) Physical Trainer. Ageing and Health Department. Nostra Senyora de Meritxell Hospital. Andorra, (5) Head of Ageing and Health Department. Nostra Senyora de Meritxell Hospital. Andorra

**Introduction:** The older population candidate for total hip and knee arthroplasty is increasing exponentially in developed countries, due to the high prevalence of osteoarthritis. To address the complex health needs of these patients, a multidisciplinary geriatric preoperative evaluation was conducted to identify comorbidities and geriatric syndromes that could affect post-surgical recovery and facilitate successful reintegration into the community.

**Methods:** The study, conducted between June 2022 and May 2023, included 35 patients aged over 70 with primary hip and knee osteoarthritis. A multidisciplinary comprehensive geriatric assessment was conducted, considering the main geriatric syndromes. Preoperative analytical parameters and the patients' treatments were reviewed, and Vivifrail passports were provided. Additionally, patients were offered postsurgical recovery in the Convalescence Unit.

**Results:** 35 patients were included (68,57% women) with 76,84 mean age (DE 4,71). 77,14% were under 79 years. 68,57% were pre-frail patients (Frail-VIG index < 0,20, main Barthel-index 95, main Lawton-Index 7, main Hand-Grip 16,5 kg). 94,28% had osteoarthritis (60% of hip). Ten patients performed preoperative physiotherapy. All patients lived at home (34,28% alone) and 51,42% had architectural barriers. 62,85% had undiagnosed conditions: 37,14% experiencing insomnia and 34,20% depression. 85,71% had uncontrolled pain. 74,28% had polypharmacy. Additionally, the study identified preoperative anemias in 14,28% of the patients, renal failure in 14,28%, hypertension in 17,14%, and vitamin D deficits in 25,71% of the patients.

**Conclusions:** A preoperative multidisciplinary geriatric evaluation helps treat illnesses and comorbidities, maintaining pre-frail conditions and preventing complications, leading to faster recovery after arthroplasty surgery.

### P-538

#### Acute outreach services evaluating urgent health care needs among older adults residing in nursing homes or receiving home care

Pauli Lamppu (1), Anni Karppila (1), Kaisa Rajala (1)

(1) Central Uusimaa Wellbeing County

**Introduction:** Nursing home (NH) residents and community-dwelling older people receiving home care (HC) services are at high risk of acute changes in condition of health. This leads to frequent emergency department (ED) visits and hospitalizations. Acute outreach service (AOS) is one of the ways to provide urgent clinical evaluation and care in peoples homes. While acute outreach services getting more common there is very little evidence on the feasibility and effectivity of these services. Study population: People receiving communal HC services (N = 330) or housing in a communal NH (N = 220) in a small city. Intervention: A piloted 24/7 AOS provided by hospital-at-home service of wellbeing services county of Central Uusimaa between March 13 and June 11, 2023.

**Methods:** Mixed-methods study was used to evaluate the feasibility and initial effectivity of the intervention. Feasibility was evaluated from structured reporting of all contacts to the service by the registered nurses working in the acute outreach unit. Feasibility was also assessed through structured phone interviews to important stakeholders contacting the service and receiving care from the service (mostly nursing assistants in NHs and HC). Initial effectivity was assessed from reporting of ambulance and ED service use.

**Results:** AOS was contacted 55 times, these resulted in 17 home visits, 22 cases were resolved by phone consultation only. AOS was considered highly helpful and appropriate for the patients by the nurses working in HC and NH services. Data on ED service use is pending.

**Key Conclusions:** This pilot study supports AOS as a feasible component in tomorrows health care systems.

### P-539

#### Continuity care during hospitalization in an orthogeriatric service after geriatric pre-surgical consultations in hip and knee arthroplasty: a pathway to improve patient recovery

Beatriz Neira Martín (1), Encarna Ulloa Rodriguez (2), Mónica Insa Martinez (3), Jan Missé Xandri (4), Eva Heras Muxella (5)

(1) Geriatrician. Ageing and Health Department in the Andorran Healthcare System. Nostra Senyora de Meritxell Hospital. Andorra, (2) Nurse. Ageing and Health Department in the Andorran Healthcare System. Nostra Senyora de Meritxell Hospital. Andorra, (3) Social Worker. Ageing and Health Department in the Andorran Healthcare System. Nostra Senyora de Meritxell Hospital. Andorra, (4) Physical Trainer. Ageing and Health Department in the Andorran Healthcare System. Nostra Senyora de Meritxell Hospital. Andorra, (5) Head of Ageing and Health Department in the Andorran Healthcare System. Nostra Senyora de Meritxell Hospital. Andorra

**Introduction:** Orthogeriatric units are well-established in the management of hip fracture. However, extending the multidisciplinary

geriatric approach to include preoperative evaluations and geriatrician interventions in hip and knee arthroplasty can also be beneficial.

**Methods:** A study conducted from June 2022 to May 2023 included 35 patients over 70 with primary hip and knee osteoarthritis. They underwent a comprehensive geriatric pre-surgical consultation, including physical exercises, treatment for undiagnosed conditions, and information on postoperative functional recovery.

**Results:** Among 33 patients (66.66% women), the mean age was 77 years. 63.63% were pre-fail, with mean Barthel-Index of 93.28, mean Lawton-Index of 7, mean SPPB of 7.45, and mean Hand Grip strength of 16.47 kg. 88.57% had arthrosis. The mean time between consultation and surgery was 23.73 days (SD 10.061), with a mean hospital stay of 5.67 days (SD 2.93). Complications post-surgery: anemia (65.71%, 24.24% required transfusions), iron deficiency (78.78%, 53.84% received IV therapy, 46.15% oral), hematoma (12.12%, 75% in hip prosthesis), insomnia (60.60%), UTI (18.18%), hypertension (15.15%), delirium (12.12%), respiratory infection (3%), wound infection (3%), cellulitis (3%). Mean Barthel-Index post-op: 63 (SD 14). 75.75% recovered in Geriatric Convalescence Unit, mean stay 15.92 days (SD 6.2). 88% regained baseline Barthel-Index.

**Conclusions:** Pre-surgical consultations in Orthogeriatric units are essential to prevent complications before and after arthroplasty surgery, avoid underdiagnosis, and proactively plan for functional recovery, ensuring successful community reintegration and faster recovery.

### P-540

#### Frailty SDEC (Same Day Emergency Care) –Future Of Acute Frailty Service

Radcliffe Lisk (1), Jay Acharya (1), Peter Enwere (1), Amir Manzoor (1), Rashid Mahmood (1)

(1) Ashford & St. Peter's Hospital

Frailty SDEC (Same day Emergency Care) –Future of acute frailty service R Lisk, J Acharya, P Enwere, A Manzoor, R Mahmood Department of Senior Adults Medical Services, Ashford and St Peters NHS Foundation Trust, Chertsey, United Kingdom.

**Introduction:** SDEC is national initiative by NHS England with aim to provide emergency care to those who otherwise would be admitted to hospital, in the right place and right time. Rapid assessment will help patients and care providers with reduction in wait time and admissions. Emergency departments (ED) are not ideal for addressing the needs of frail patients, often presenting with low acuity issues and due to complex interplay between medical/socio-economic issues, are usually at risk of hospital admission disproportionately.

**Method:** We looked at care for patients referred directly by Southeast Coast Ambulance Service (SECamb) during 8–4 pm on weekdays and weekend via traditional model of ED care and compared it with OPAU (8-4pm) from Nov 2022–May 2023. 16,000 patients were screened, filtered based on OPAU referral criteria (age ≥ 65, NEWS ≤ 4, geriatric syndromes).

**Results:** ED Weekdays—ED Weekends—OPAU Total Numbers: 25–25—91 Average time to arrival to post-take (hours) : 8:00–06:59—03:33 Average LOS (days) : 8.69—9:44—02:19 LOS < 1 day: 4%—4%—62% LOS 1–3 days: 32%—28%—10% LOS 3–5 days: 12%—8%—8% LOS > 5 days: 52%—60%—18% 7 day re-admission 8%—0%—6.6% 30 day re-admission 16%—8%—9% t-test: P = 0.0319 (OPAU vs weekdays) P = 0.0021 (OPAU vs weekends).

**Conclusion:** Those referred directly to OPAU were assessed rapidly, more discharged same day, reduced LOS stay if admitted, with similar readmission rate. We propose frailty SDEC, which is gold for

provision of SDEC to frail patients with clear benefits to both patients and healthcare providers.

## P-541

### Experience of a geriatric emergency unit and discharge options

Martha Choquehuanca Leon (1), Leopoldo Bárcena Goitiandía (1), Virginia Yuste Porro (1), María de los Ángeles Sánchez Fraga (1), María Herrera Abian (1), Marco Antonio Castillo (1)

(1) Hospital Universitario Infanta Elena

**Introduction:** The emergency department (ED) may be the first point of care for the overall assessment of older adults presenting with an acute illness. Having options that allow the best follow-up of the patient depends on the levels of care that the hospital. The aim of the present study was to describe the characteristics and hospital discharge of patients admitted in a Geriatric Emergency Unit (GEU) of a university hospital. Method: A descriptive retrospective observational design was used. The medical data was collected from medical electronic database, from 1st November 2022 to 31st April 2023. Age, origin, functional status with Barthel index (BI) at basal, delirium screening with Confusion Assessment Method (CAM), reason for consultation and hospital discharge were collected.

**Results:** 560 assessments were registered. Mean age of the patients was 87,5 years, 64,5% were female; place of origin home 56%; BI mean was 52 points; CAM was positive in 55%; reason for consultation were: respiratory symptoms 31%, cardiovascular symptoms %20, infection symptoms 14%, gastrointestinal symptoms 8%, deterioration of general condition 8%, and other causes 19%; direct hospital discharge 76%, home hospitalization 10%; virtual wards 5.5%, day clinic 3%, outpatient geriatrics 5%, and follow-up in primary care 52,3%, hospital admission in 24%.

**Conclusions:** Patients who were assessed in the Geriatric Emergency Unit, after case management, were referred to different levels of care adapted to their situation. In the management of acutely ill elderly people in the ED, it is important to have in-hospital and out-of-hospital support to avoid hospital admissions.

## Geriatric Rehabilitation

### P-542

#### Are robots really effective in dementia care?

Lamprini Moustakopoulou (1), Theodoula Adamakidou (2), Alexandra Mantoudi (2), Paraskevi Apostolara (2), Dimos Mastrogiannis (3), Marianna Drakopoulou (2), Marianna Mantzorou (2)

(1) Help at home program, Municipality of Nauplion, Greece, (2) Nursing Department, University of West Attica, Athens, Greece, (3) General Department of Lamia, University of Thessaly, Greece

**Introduction:** In today's evolving digital era, technologies have been developed in order to improve the health, well-being and quality of life of older adults. During the past few years, robots have been used in dementia care. Aim of the study: To present an overview of the effectiveness of the use of robots in dementia care of older adults.

**Material and Methods:** A review of the recent literature was conducted in PubMed, Scopus and Google scholar databases using the key words "older adults", "dementia", "robotic pets", "android robots", "effectiveness".

**Results:** Studies have shown that robots (humanoid and pet) decrease anxiety and stress and lead to reduction in the use of pain-killers and phycoactive medications in older adults with dementia [1,2]. Robots can activate the emotions of older adults and offer them social experiences through activating past memories and enjoying the present [3]. However, there are some concerns regarding the utilization of robots such as cost, stigma, patient safety and ethical issues. There might be a risk of dehumanizing and infantilizing treatment by using robots [4]. The lack of human qualities and traits and the possibility of job losses is also a great concern [5]. Furthermore, caregivers experience stress due to technical difficulties and consider robots as a tool that puts on more labor to the caring workload [6].

**Key Conclusions:** Although the use of robots in dementia care of older adults can be effective, more research must be conducted in order to find ways to address the concerns that have emerged.

#### References:

- Petersen S, Houston S, Qin H, Tague C, Studley J. The Utilization of Robotic Pets in Dementia Care. *J Alzheimers Dis.* 2017;55 (2) :569–574.
- Kang HS, Makimoto K, Konno R, Koh IS. Review of outcome measures in PARO robot intervention studies for dementia care. *Geriatr Nurs.* 2020;41 (3) :207–214.
- Ihamäki P, Heljakka, K. Robot Pets as “Serious Toys”- Activating Social and Emotional Experiences of Elderly People. *Inf Syst Front* 2021. <https://doi.org/10.1007/s10796-021-10175-z>.
- Ienca M, Jotterand F, Vică C. et al. Social and Assistive Robotics in Dementia Care: Ethical Recommendations for Research and Practice. *Int J of Soc Robotics* 2016; 8:565–573.
- Papadopoulos I, Ali S, Papadopoulos C, Castro N, Faulkes N, Koulouglioti CA. qualitative exploration of care homes workers' views and training needs in relation to the use of socially assistive humanoid robots in their workplace. *International Journal of Older People Nursing* 2022;17 (3) :e12432.
- Persson M, Redmalm D, Iversen C. Caregivers' use of robots and their effect on work environment—a scoping review. *Journal of technology in human services* 2022;40 (3) :251–277.

### P-543

#### How Comorbidities Affect Physical Activity and Health-related Quality of Life of Older Adults in Urban Greece?

Anna Psarrou (1), Paraskevi Apostolara (1), Theodoula Adamakidou (1), Dimos Mastrogiannis (1), Alexandra Mantoudi (1), Sotirios Plakas (1), Marianna Drakopoulou (1), Stelios Parissopoulos (1), Afroditi Zartaloudi (1), Alexandra Koreli (2), Marianna Mantzo

(1) Postgraduate program Community nad Public Health Nursing, University of West Attica, Egaleo, Greece, (2) Nursing Department, University of West Attica, Athens, Greece

**Introduction:** The subjective perception of poor health status, accompanied by stress and fear about chronic diseases and geriatric syndromes are factors with a serious impact on quality of life perception of older adults. Aim of the study: To investigate the impact of comorbidities on older adults' physical activity and health-related quality of life. Material and .

**Methods:** A community based cross-sectional study was conducted from February-May 2022 by completing a) a Socio-demographic characteristics questionnaire b) the Short Form Health Survey (SF-36) and c) the International Physical Activity Questionnaire (IPAQ). 124 adults aged 65 and over participated in the survey.

**Results:** The average age of the participants was 71.6 years, 62.1% of which, were women. 75.2% of the older persons had a chronic disease (most prevalent: hypertension 40.3% and diabetes 20.2%) with a



mean value of comorbidities 1.5. 83.1% were taking medication, 24.8% of which were taking more than 5 medication per day. Comorbidity was found to be an independent prognostic factor of low physical activity ( $p = 0.03$ ). It was also found to affect the observed levels of mental health ( $p = 0.005$ ), physical ( $p < 0.001$ ), social ( $p = 0.001$ ) and emotional role ( $p < 0.001$ ), somatic pain ( $p = 0.002$ ), vitality ( $p < 0.001$ ) and general health ( $p = 0.003$ ).

**Key Conclusions:** Results showed that comorbidity promotes inactivity and negatively affects all aspects of quality of life of older adults. The challenges regarding management of chronic diseases and syndromes deriving from population ageing should motivate health systems to develop strategies that add life to years of older people and preserve their right to healthy ageing.

## P-544

### Accelerate Mobilization & IN-patient Rehabilitation Program

kawa amin (1)

(1) Hamad medical corporation

**Background:** The geriatric population is increasing worldwide due to rapid development in medical technology and novel treatments. The curve of life expectancy and ageing is growing. Adding years to life does not necessarily mean extending wellness. Physical inactivity and being admitted to hospitals make older adults more vulnerable to loss of independence. Patients who undergo strict bed rest lose 1 to 1.5% of their strength per day. One-third of older adults develop a new disability in the activity of daily living during hospitalization and half of these are unable to recover function.

**Objective:** AMIN program started from September 21 to January 23. The aim was to prevent frailty acceleration by setting up an early therapist assessment and intervention program. The researchers are aiming to set the standard for acute geriatric patients' participation in "Out of bed therapeutic activities". The ultimate goal was to have meals outside the bed. Methodology All patients in one of the acute geriatric wards will receive an initial assessment by therapists [Occupational, physical, and swallowing and speech team], using a standard therapist's assessment. The patients will be categorized based on their functional and cognitive levels into active, low-level function, and complete dependent categories.

**Results:** Despite the difficulties during the pandemic and staff deployment, the researchers recorded 351 patients. With the assistance of the nursing staff, the therapist managed to increase the rate of having meals outside the bed from 25 to 83%. More importantly, it is the embedding of the culture of preparing patients to have meals sitting in a chair in their room or the lunch hall. on average 94% of patients and families received education about mobilization after discharge from the unit to continue physical activities in their home environment.

## P-545

### Rehabilitation nurses' knowledge about pain in older adults in Malta

Michela Maria Calleja (1)

(1) University College of Cork

**Purpose:** Rehabilitation nurses require adequate knowledge about pain to improve patient experience and quality of care. We explored nurses' knowledge and attitudes towards pain in older adults in a large rehabilitation hospital in Malta.

**Design:** A cross-sectional study.

**Methods:** In total, 130 nurses received a short survey, which gathered sociodemographic data, information regarding usual pain management, and prior education on pain. A modified version of the Knowledge and Attitudes Survey Regarding Pain (KASRP) with 18 questions was used, alongside the 24-item Pain in the Older Adults' Knowledge Survey (POAKS). Non-parametric tests identified factors associated with KASRP and POAKS scores.

**Results:** Overall, 89 nurses completed the survey (response rate 68%). The median modified KASRP score was 50% (IQR 3.00), with only two nurses achieving the proposed "adequate" score of  $> 80\%$ . The median POAKS score was 79% (IQR 4.00). The only determinant of performance was nationality, with Maltese nurses performing better in POAKS than non-Maltese nurses (median 20.00 (3.00) vs 16.50 (5.00);  $P = 0.003$ ), indicating a possible language-related performance issue. Nurses scored poorly in some questions relating to analgesia administration, particularly opioids, as well as pain indicators and pain assessment.

**Conclusions:** Rehabilitation nurses have fair knowledge of pain management in older people but require further education, particularly in opioid indication for pain management, pain expression and assessment.

**Clinical Implications:** Education for rehabilitation nurses should include pain assessment and management, as pain complicates rehabilitation and diminishes quality of life. These results can inform education and quality improvement efforts.

## P-546

### Quality Improvement Project to improve handover of patient's transferred to Intermediate care unit from Tertiary Hospitals

Faireena Singh (1), Abhishek Gupta (1)

(1) University Hospital Birmingham NHS Foundation Trust

**Background:** An ideal handover follows a standardised approach, which facilitates to retain valuable patient information whereas a poor quality handover leads to adverse patient consequences such as inadequate patient care, management and failure to follow up on treatment. A quality improvement project was carried out to improve handover of patients transferred to Norman Power Centre (NPC) which is an Intermediate care unit. Concerns were expressed by nursing staff due to lack of effective handover. The handover proforma previously used at NPC was not specific to the care needs of patients.

**Methods and results:** Effectiveness of the existing handover proforma at NPC was evaluated with the help of a questionnaire distributed to staff. Seventy percent of the nurses reported that the existing handover did not follow a standardised SBAR (Situation, background, assessment, Recommendation) approach and 90% of the nurses suggested that it should be amended. In the first PDSA cycle after studying the feedback a new handover proforma was created using SBAR approach. This improved handover proforma was then used by the nurses in the next month when accepting patients from other hospitals. In the next PDSA cycle feedback was obtained via a questionnaire from the staff. The result of the questionnaire showed 100 percent of the nurses agreed that the new handover proforma was following a standardised SBAR approach and there was a definite improvement observed in patient handover process.

**Conclusion:** This Quality Improvement Project resulted in improved handover experience by introduction of a specific and standardised handover document.

## P-547

### The Mental Health of Older Adults is Crucially Affected by the Neighborhood Built Environment

Nikolaos Stasinou (1), Andreas Tsatsaris (2), Sotirios Plakas (1), Kleomenis Kalogeropoulos (3), Marianna Mantzorou (1)

(1) Nursing Department, University of West Attica, Athens, Greece, (2) Department of Surveying and GeoInformatics Engineering, University of West Attica, Athens, Greece, (3) Department of Surveying and GeoInformatics Engineering, University of West Attica, Athens, Greece

**Introduction:** The neighbourhood built environment (BE) as the spatial carrier of most material facilities and activities, can affect the mental health of city-dwelling older adults. Aim of the study: To explore possible associations between the built environment, the proximity and accessibility of daily living service facilities, with the mental health of older adults.

**Materials and Methods:** A review of the recent literature was conducted in PubMed, Scopus, and Google Scholar databases using the keywords “built environment”, “GIS”, “mental health”, “older adults”, “well-being”.

**Results:** There is a significant relationship between the built environment (BE) and older adults’ mental health [1,2]. BE features such as land use diversity and GIS-measured walkability that promote physical, social and cognitively stimulating activities positively affect cognitive functioning [3] which has been negatively correlated with older adults’ depression [4]. Leisure, exercise and landscape facilities as well as cleanliness and peacefulness of neighborhoods were also found to be positively associated with older adults’ mental wellbeing [1,5]. Facilities accessibility and distance to the closest park have been positively correlated with mental health [6]. Parks and public spaces are crucial locations for social interactions in daily life, serving as vital hubs for older adults to uphold interpersonal bonds and strengthen community cohesion, both of which are beneficial for their mental health [7].

**Key Conclusions:** Collaboration between scientists from different fields, can create a friendly for older adults built environment in order to promote their mental health by creating possibilities to age in place and experience a peaceful and secure community environment.

**References:**

1. Liu Y, Lu S, Guo Y, Ho HC, Song Y, Cheng W, Chui CHK, Chan OF, Chiu RLH, Webster C, Lum TYS. Longitudinal associations between neighbourhood physical environments and depressive symptoms of older adults in Hong Kong: The moderating effects of

terrain slope and declining functional abilities. *Health Place*. 2021;70:102585.

2. de Vries S, van Dillen SM, Groenewegen PP, Spreeuwenberg P. Streetscape greenery and health: stress, social cohesion and physical activity as mediators. *Soc Sci Med*. 2013;94:26–33.

3. Ng TP, Nyunt MSZ, Shuvo FK, Eng JY, Yap KB, Hee LM, Chan SP, Scherer S. The Neighborhood Built Environment and Cognitive Function of Older Persons: Results from the Singapore Longitudinal Ageing Study. *Gerontology* 2018;64 (2) :149–156.

4. Scult MA, Pauli AR, Mazure ES, Moffitt TE, Hariri AR, Strauman TJ. The association between cognitive function and subsequent depression: a systematic review and meta-analysis. *Psychol Med*. 2017;47 (1) :1–17.

5. Yue Y, Yang D, Owen N, Van Dyck D. The built environment and mental health among older adults in Dalian: The mediating role of perceived environmental attributes. *Soc Sci Med*. 2022;311:115333.

6. Zhang R, He X, Liu Y, Li M and Zhou C (2022) The Relationship Between Built Environment and Mental Health of Older Adults: Mediating Effects of Perceptions of Community Cohesion and Community Safety and the Moderating Effect of Income. *Front. Public Health* 10:881,169.

7. Evans GW. The built environment and mental health. *J Urban Health* 2003;80:536–55.

## P-548

### The Recovery of Mobility Post Hip Fracture as Measured by the New Mobility Score and Patient Perception

Jonathan Hewitt (1), Mary Walsh (2)

(1) Cardiff University, (2) University College Dublin

**Introduction:** Return to prior mobility after hip fracture is an important patient goal. This study aimed to assess recovery of mobility at 30 and 120 days post fracture using the New Mobility Score (NMS) and patient perception.

**Methods:** This prospective cohort study included consecutive patients  $\geq 60$  years admitted after hip fracture if they could provide informed consent and participate with or without a proxy. Pre fracture mobility was measured using the NMS. Participants were contacted by telephone or in person at both 30 and 120 days to complete the NMS and questions about recovery of mobility. At day-120, EQ-5D-5L was also completed.

**Results:** Of 82 patients admitted with hip fracture during the study period, 60 were eligible and consented. The mean age of participants was 83.3 years, with 70% (n = 42) being female and all lived at home pre-fracture. All participants (n = 60) completed 30-day follow-up only 83% (n = 50) at 120 days with 3 patients known to have died. The proportion of participants mobile unaided indoors, outdoors and shopping respectively was 78% (n = 47), 63% (n = 38) and 50% (n = 30) pre-fracture; 5% (n = 3), 2% (n = 1), and 0% at day 30; and 42% (n = 23), 20% (n = 10) and 16% (n = 8) at day 120. The mean total NMS score pre-fracture, at 30 days, and 120 days was 7.28 (SD = 2.1), 2.73 (SD = 1.7) and 5.6 (SD = 2.2), respectively. At day-120, moderate to severe problems with mobility (EQ-5D-5L score  $\geq 2$ ) were reported by 44% (n = 22). No participant recovered their pre-fracture mobility at day-30. At day-120, of the 28% (n = 14) who recovered mobility (NMS), 64% (n = 9) still reported their mobility as worse than pre fracture.

**Key Conclusions:** Most participants did not recover their pre fracture mobility by 120 days. There was an associated loss in health-related quality of life, primarily in the domain of mobility. This patient group may benefit from access to physiotherapy up to 4 months after hip fracture.

**P-549****Effects of high-intensity interval training with robot-assist walking exercise on cardiopulmonary function and gait ability in geriatric patients with chronic stroke**

Jiae Kim (1)

(1) Asan Medical Center

**Background:** There have not been many studies about the effect and safety of robot-assisted high-intensity interval training (HIIT) in geriatric patients with stroke.

**Objectives:** To investigate the effect of HIIT with robot assist walking exercise on cardiopulmonary function and gait ability in geriatric patients with chronic stroke.

**Methods:** This was a prospective, randomized controlled trial, single-blinded, multicenter study. Twenty-two participants with chronic stroke were randomly assigned to the robot assist walking group (n = 11) or the control (n = 11). Robot-assist walking group exercised 25 min, 3 d/week for 8 weeks with Morning-walk. The HIIT strategy involved 3 min bursts at more than 14 borg scale alternated with 2 min rest periods. The Vo<sub>2</sub>max, AT (anaerobic threshold), 2 min walk test (2MWT), 10-m walk test (10MWT), Berg balance score (BBS), Motricity Index-Lower (MI-L), Korean version of the Fugle Meyer Assessment Scale (K-FMA), Modified Barthel Index (MBI), Muscle Strength test, Inbody, blood test were measured at baseline and after 8 weeks.

**Results:** Robot assist walking group improved 2MWT, 10MWT, MI-L K-FMA, BBS, non-paretic and paretic knee extensor/flexor strength after 8 weeks. Control group improved BBS. Vo<sub>2</sub>max (2.2 ± 4.4 vs 0.2 ± 0.3, P = 0.001, d = 0.85), MI-L (5.0 ± 6.2 vs 0.4 ± 1.5, p = 0.027, d = 0.66), Knee extensor (paretic) (2.3 ± 2.2 vs 0.9 ± 1.9, P < 0.001, d = 1.56), knee extensor (non-paretic) (2.9 ± 4.2 vs -0.6 ± 2.0 < 0.001, d = 0.90), knee flexor (paretic) (3.0 ± 2.6 vs 1.1 ± 1.6 < 0.001, d = 1.38), knee flexor (non-paretic) (2.3 ± 2.4 vs 0.4 ± 1.7 < 0.001, d = 0.88), K-FMA (2.0 ± 1.4 vs 0.1 ± 0.4, p < 0.001, d = 2.11) improved significantly between the robot assist walking group and control group.

**Conclusions:** High-intensity interval training with robot-assist walking exercise improves cardiopulmonary function and gait ability but improved blood result is not a prerequisite for improvements in geriatric patients with chronic stroke.

**P-550****A study of development of a new assistive device to support older people maintain their posture during horse assisted therapy**

Maho KAWABE (1), Aiko KOJIMA (1), Naomi ESASHI (1), Atsushi MITANI (2), Norio KATO (3), Takahiro MIURA (4), Toshiaki TANAKA (5)

(1) Horse assisted therapy, Non-Profit Organization Piskari, Japan., (2) School of Design, Graduate School of Design, Sapporo City University, Japan., (3) Physical Therapy Faculty of Health Sciences, Hokkaido University of Science, Japan., (4) National Institute of Advanced Industrial Science and Technology, Japan, (5) Physical Therapy Faculty of Health Sciences, Hokkaido University of Science, Japan. Institute of Gerontology, The University of Tokyo, Japan

**Background:** Horse assisted therapy has beneficial physical and emotional effects. The aim of the present study was to develop a new assistive device to encourage posture correction in older people when horse riding, and to evaluate the effectiveness of the device in both experienced and beginner riders.

**Methods:** The healthy subjects were four experienced older horse riders (mean age: 68.8 years) and four beginner older horse riders (mean age: 81.5 years). A trial wedge-shaped supportive device for horse riding (wedge) was developed, with seating angles of 3°, 5°, and 7°. The motion analysis was to obtain mean peak angles of the neck, spine, and knee seen mainly in the sagittal plane during riding. In addition, a riding therapy instructor carried out qualitative postural analyses of horse-riding posture. This study was approved by the ethics review board of the University of Tokyo (Approval No. 20-209) .

**Results:** A multiple comparison test showed significant differences between experienced riders and beginners, and between wedge angles of 0° and 3°, 0° and 5°, and 0° and 7°. In the posture qualitative evaluation scores, horse riding skill and wedge angle were found to have significant main effects.

**Conclusions:** The results of the quantitative motion analysis and the qualitative postural evaluation suggest that use of the wedge developed for the trial may improve or maintain good leg position in horse riding posture. In future studies, we intend to verify the effects of the wedge by carrying out a more detailed analysis.

**P-551****Rehabilitation nurses' knowledge about pain in older adults in Malta**

Michela Maria Calleja (1)

(1) University College of Cork

**Purpose:** Rehabilitation nurses require adequate knowledge about pain to improve patient experience and quality of care. We explored nurses' knowledge and attitudes towards pain in older adults in a large rehabilitation hospital in Malta.

**Design:** A cross-sectional study.

**Methods:** In total, 130 nurses received a short survey, which gathered sociodemographic data, information regarding usual pain management, and prior education on pain. A modified version of the Knowledge and Attitudes Survey Regarding Pain (KASRP) with 18 questions was used, alongside the 24-item Pain in the Older Adults' Knowledge Survey (POAKS). Non-parametric tests identified factors associated with KASRP and POAKS scores.

**Results:** Overall, 89 nurses completed the survey (response rate 68%). The median modified KASRP score was 50% (IQR 3.00), with only two nurses achieving the proposed "adequate" score of > 80%. The median POAKS score was 79% (IQR 4.00). The only determinant of performance was nationality, with Maltese nurses performing better in POAKS than non-Maltese nurses (median 20.00 (3.00) vs 16.50 (5.00); P = 0.003), indicating a possible language-related performance issue. Nurses scored poorly in some questions relating to analgesia administration, particularly opioids, as well as pain indicators and pain assessment.

**Conclusions:** Rehabilitation nurses have fair knowledge of pain management in older people but require further education, particularly in opioid indication for pain management, pain expression and assessment.

**Clinical Implications:** Education for rehabilitation nurses should include pain assessment and management, as pain complicates rehabilitation and diminishes quality of life. These results can inform education and quality improvement efforts.

**P-552****Early Supported Discharge for Older Adults Admitted to Hospital with Medical Complaints: A Qualitative Study Exploring the Views of Stakeholders**

Susan Williams (1), Clóna O’Riordan (1), Fiona Steed (2), Aoife Leahy (3), Elaine Shanahan (4), Catherine Peters (5), Margaret O’Connor (6), Rose Galvin (7), Ann-Marie Morrissey (8)

(1) University of Limerick, (2) Fiona.Steed@hse.ie, (3) Aoife.Leahy@ul.ie, (4) shanahan\_elaine@hotmail.com, (5) Catherine.Peters1@hse.ie, (6) oconmargaret@gmail.com, (7) Rose.Galvin@ul.ie, (8) AnnMarie.Morrissey@ul.ie

**Introduction:** Early supported discharge (ESD) is well established as a model of health service delivery for people with stroke. Emerging evidence indicates that ESD reduces length of stay for older medical inpatients. There is a dearth of evidence exploring the views of stakeholders on ESD as a model of care for older medical inpatients. The overall aim of this study is to explore the views and perceptions of older adults, family carers and healthcare professionals on the potential role of ESD for older adults admitted to hospital with medical complaints.

**Methods:** We conducted a qualitative interview and focus group study at University Hospital Limerick (UHL) from November 2021 to January 2022. Purposeful sampling was used to recruit older adults and family carers for interview. For Healthcare Professionals (HCPs), snowball purposeful sampling was used for focus groups. Braun and Clarke’s approach to thematic analysis was used. Ethical approval was granted by the HSE Mid-Western Area Regional Ethics Committee in November 2021 (REC Ref. 096/2021).

**Results:** Fifteen HCPs took part across three focus groups, with six older adults and two family members participating in one-to-one interviews. Three themes were identified: 1. Pre-ESD experiences of providing and receiving older adult inpatient care, 2. Navigating discharge procedures from acute hospital services, 3. A vision for more integrated model of care and a medical ESD team.

**Conclusions:** This qualitative study was the first to explore the views and perceptions of older adults and healthcare professionals on the potential role of ESD for older adults admitted to hospital with medical complaints. The current experiences and barriers to efficient and safe discharge home from hospital were highlighted by stakeholders. The potential role for ESD in this population group was discussed, as well as the key factors to be considered in running an ESD service for medical older adults.

**P-553****The Effects of Neuromuscular Electrical Stimulation (NMES) on acutely hospitalised adults: Systematic Review and Meta Analysis of Randomised Controlled Trials**

Helal Alqurashi (1), Katie Robinson (2), Dominic O’Connor (2), Mathew Piasecki (2), Tahir Masud (3), Adam L Gordon (2), John Gladman (2)

(1) University of Nottingham, UK; Taif University, KSA, (2) University of Nottingham, UK, (3) Nottingham University Hospitals NHS Trust, UK

**Introduction:** Neuromuscular electrical stimulation (NMES) is a treatment to prevent or reverse acquired disability in acutely hospitalised adults. We conducted a systematic review and meta-analysis of its effectiveness. Method We searched MEDLINE, EMBASE, Cumulative Index to Nursing & Allied Health (CINAHL) and the

Cochrane library. Inclusion criteria: randomized controlled trials (RCTs) of hospitalised adult patients comparing NMES to control or usual care. The primary outcome was muscle strength. Secondary outcomes included: muscle mass, function, hospital length of stay, molecular and cellular biomarkers, and adverse effects. We assessed risk of bias using the Cochrane risk of bias tool. We used Review Manager (RevMan) software for data extraction, critical appraisal and synthesis. We assessed certainty using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) tool.

**Results:** Thirty-six studies were included involving 1376 participants. Most studies had unclear or high risk of bias. NMES had a small effect on muscle strength (moderate certainty) (SMD = 0.40;  $p < 0.001$ ), a large effect on muscle mass (high certainty) (SMD = 0.94;  $p < 0.001$ ), a moderate effect on walking performance (moderate certainty) (SMD = 0.56;  $p < 0.001$ ), and a small effect on functional mobility (low certainty) (SMD = 0.36;  $p < 0.05$ ). There was a small and non-significant effect on health-related quality of life (HRQoL) (very low certainty) (SMD = 0.48;  $p > 0.05$ ). 5% of participants reported undesirable experiences. The effects of NMES on length of hospital stay, and molecular and cellular biomarkers were unclear.

**Conclusions:** NMES is a promising intervention component that might reduce or prevent hospital-acquired disability.

**P-554****The design elements of outpatient geriatric rehabilitation from patient, healthcare professional and organisational perspective; a qualitative study**

Astrid Preitschopf (1), Margriet Pol (2), Andrea Ligthart (3), Marije Holstege (4), Bianca Buurman (5)

(1) Amsterdam UMC, location Vrije Universiteit Amsterdam, Department of Medicine for Older People, Amsterdam, The Netherlands (2) Amsterdam Public Health, Aging & Later Life, Amsterdam, The Netherlands (3) GRZPLUS; Omring and Zorgcirkel, Department of Research GRZPLUS, Hoorn, The Netherlands. (2) (1) Amsterdam UMC, location Vrije Universiteit Amsterdam, Department of Medicine for Older People, Amsterdam, The Netherlands (2) Amsterdam Public Health, Aging & Later Life, Amsterdam, The Netherlands (5) Amsterdam University of Applied Sciences, Research group occupational therapy: Technology and Participation, Faculty of Health, Centre of Expertise Urban Vitality, Amsterdam, The Netherlands, (3) (3) GRZPLUS; Omring and Zorgcirkel, Department of Research GRZPLUS, Hoorn, The Netherlands (4) (3) GRZPLUS; Omring and Zorgcirkel, Department of Research GRZPLUS, Hoorn, The Netherlands (4) Omring, Department of Research Omring, Hoorn, The Netherlands (6) Inholland University of Applied Sciences, Research group geriatric rehabilitation, Faculty of Health, Sports and Social work, Amsterdam, Netherlands, (5) (1) Amsterdam UMC, location Vrije Universiteit Amsterdam, Department of Medicine for Older People, Amsterdam, The Netherlands (2) Amsterdam Public Health, Aging & Later Life, Amsterdam, The Netherlands

**Background:** The added value of outpatient geriatric rehabilitation (OGR) elements has been demonstrated, however, little can be found about how OGR trajectories are designed.

**Objective:** To gain a rich understanding of experiences and opinions of patients, healthcare professionals and policymakers regarding the design of OGR with structure, process, environmental and outcome components.

**Design:** Qualitative research based on the constructive grounded theory approach.

**Setting:** Four skilled nursing facilities.

**Methods:** Semi-structured interviews were conducted with 13 patients who received OGR, two focus groups with healthcare professionals (n = 13) and one focus group with policymakers (n = 4). The Post-acute Care Rehabilitation quality framework was applied as theoretical background in all research steps.

**Results:** The data analysis resulted in seven themes: OGR's outcome is focused on the patients' independence and that they can regain control over their own functioning at home. Essential process elements to reach this are a patient-oriented multidisciplinary network, a well-coordinated dedicated multidisciplinary team at home, and patient-oriented eHealth applications delivered as blended care. Additionally, closer cooperation in the integrated care and further development regarding financial, time-management and technological challenges is needed as a permanent structure. All steps will be influenced by the stimulating aspect of the physical and social rehabilitation environment.

**Conclusion:** The three perspectives generally complement each other aiming at regaining patients' quality of life and autonomy. This study demonstrates an overview of the building blocks on structure, process, environmental and outcome components which can be used in developing and designing an OGR trajectory.

## P-555

### Describe yourself in one word

Sona Jiroutova (1), Olugbendro Akintade (2), Steven Fountain (1), Rachel Gavin (1), Eladia Ruiz-Mendoza (2)

(1) Cambridgeshire and Peterborough NHS Foundation Trust, (2) North West Anglia NHS Foundation Trust

**Introduction:** Positive self-expression (thoughts, feelings, needs) is considered a positive prognostic indicator in the physical rehabilitation outcome. Self-expression assessments are complex for the non-mental health specialist teams. This project aims to incorporate a simple self-expression question in conjunction with a systematic mood evaluation on admission on patients admitted in a general physical rehabilitation unit and to determine if positive or negative self-expression had an impact on physical outcomes.

**Method:** Patients admitted for rehabilitation to the Intermediate Care Unit at Peterborough after acute hospital admission from January 2003 to March 2023. Anxiety and depression were assessed by GAD-7 and HDRS questionnaires respectively. Self-expression was assessed with a simple question "Describe yourself in one word". Patients were divided in "positive self-expression" (PSE) or "negative-self-expression" (NSE) based in the patient's chosen word. Length of stay (LOS) and change of Barthel Index score on discharge ( $\Delta$  BI) were used to monitor outcomes.

**Results:** Total of 41 assessments were completed. Age average was 83 with 27% NSE vs 70% PSE. The LOS of NSE was 30 days vs 23 in PSE ( $p = 0.40$ ). Anxiety questionnaire average score was 4.81 and 4.45 for NSE vs PSE ( $p = 0.82$ ). HRDS average score was 6.54 and 5 for NSE and PSE respectively ( $p = 0.51$ ).  $\Delta$  BI in NSE was 30 vs 25.5 in PSE ( $p = 0.59$ ).

**Conclusion:** Surprisingly, our population self-expressed positively regardless the functional deconditioning suffered after acute hospital admission. However, the self-expression did not impact on LOS or  $\Delta$  BI on discharge and anxiety and depression score were similar in both groups. Even though no statistically significance differences were found in either group, initiating self-expression conversations did help to tailor our rehabilitation intervention more accurately to achieve the similar outcomes. Further studies will be needed to determine how these assessments should be implemented in the individual rehabilitation programme.

## P-556

### The importance of nature and views of nature experiences among older people in assisted living facilities: a survey study

Annika Kolster (1), Laura Rautiainen (2), Anu Jansson (3), Ulla Aalto (4), Timo Partonen (5), Kaisu Pitkälä (6)

(1) <sup>1</sup>University of Helsinki, <sup>2</sup> Western Uusimaa Wellbeing Services County., (2) University of Helsinki, The Finnish Association for the Welfare of Older Adults, (3) The Finnish Association for the Welfare of Older Adults, University of Helsinki, (4) Hospital District of Helsinki and Uusimaa (HUS), University of Helsinki, (5) Finnish Institute for Health and Welfare (THL), (6) University of Helsinki

**Introduction:** Vicinity to greenspace is associated with reduced mortality among older people [1]. Contact with nature promotes health by a) reducing harm (air pollution and noise), b) enhancing healthy behaviour, and c) activating human restorative capacities [2]. Nature-based interventions are a potential way to improve health.

**Methods:** Residents (n = 569, age 82.3 years on average, 72% women) in assisted care facilities in the Helsinki region with MMSE  $\geq 15$  were interviewed with a structured survey. We aim to explore the meaning of nature in their current life and to recruit participants to a future intervention trial.

**Results:** Nature was important to 95%. Charlson comorbidity index was 2.0 on average, dementia (59%), diabetes (24%) and stroke (23%) being the most frequent diagnoses. Of the participants, 82% slept enough, 29% suffered from daily pain, and 81% felt satisfied with life. 50% felt that the importance of nature had changed with age, and of them, 51% reporting increased importance while 33% feeling nature was more distant, mostly due to loss of functional ability. Participants appreciated fresh air (98%), nature views through the window (91%), nature's sounds (87%), being outside (86%), TV programs with nature themes (74%), animal contacts (72%), and gardening (52%). 50% had a fear of falling outdoors. 50% felt they could go outdoors when desired, whereas 80% were willing to participate in nature-based interventions.

**Conclusions:** Nature remains important and has a potential to improve health and wellbeing in late life.

#### References:

- [1] Y. Yuan, F. Huang, F. Lin, P. Zhu, and P. Zhu, "Green space exposure on mortality and cardiovascular outcomes in older adults: a systematic review and meta-analysis of observational studies," *Aging Clin Exp Res*, vol. 33, no. 7, pp. 1783–1797, Jul 2021, <https://doi.org/10.1007/s40520-020-01710-0>.
- [2] T. Hartig, R. Mitchell, S. de Vries, and H. Frumkin, "Nature and health," *Annu Rev Public Health*, vol. 35, pp. 207–28, 2014, <https://doi.org/10.1146/annurev-publhealth-032013-182443>.

## P-557

### Interest of an early rehabilitation program (Mobagile program) in older patients (> 75 years) hospitalized in an acute geriatric unit

AMIOTTE SUCHET Fannie (1), TROCHET Claire (2), MITHA Nathalie (3), DREVET Sabine (3), GAVAZZI Gaetan (3)

(1) Court Séjour Gériatrique, CHMS Chambéry, (2) Unité de soins gériatriques, CHU Grenoble-Alpes, (3) Service Gériatrie Clinique, Centre Hospitalo-Universitaire Grenoble-Alpes

**Introduction:** Hospitalization-related disability is a major public health problem that affects 30 to 60% of the population aged over 70 at discharge from hospital. Many interrelated factors are associated to

disability, but the restriction of mobilization is one of the major determinants in the management of this physical decline. The aim of “Mobagile” study is to show the effectiveness of the adapted MATCH program (“Maintenance of Autonomy Through exercise Care during Hospitalization”) recently assessed in CANADA on recovery and functional decline of elderly patients during hospitalization.

**Materials and Methods:** Mobagile is a retrospective “before and after”, descriptive, monocentric, study, conducted between November 2021 and July 2022 at the Geriatric Care Unit of the CHU Grenoble-Alpes. The primary endpoint was to compare changes in the ADL (Activity of Daily Living) score between home, entry and discharge, before and after the introduction of the program. We also looked at the program compliance. Socio-demographic and intra-hospital medical characteristics were collected and compared.

**Results:** 211 patients were included (96 in the “Mobagile” intervention group and 115 in the control group). Both populations were similar on socio-demographic and functional characteristics (ADL score and baseline IADL) but the control group had more comorbidities (median CIRS-G 18 [15–22] vs 13 [10–16] in the Mobagile group,  $p < 0.01$ ). The ADL score during hospitalization improved significantly more in the Mobagile group (ADL + 1 point (IQR [0–1.5],  $p = 0.03$ ) versus + 0 point (IQR [0–1],  $p = 0.03$ ) in the control group). However, there was no significant difference in the prevalence of total and partial recovery in the two groups, with respectively 49% in the Mobagile group versus 42.8% in the control group ( $p = 0.36$ ) for total recovery and 45.8% in the Mobagile group versus 47.8% in the control group ( $p = 0.57$ ) for partial recovery. Regarding iatrogenic intra-hospital functional decline, there was 5.2% in the Mobagile group versus 9.6% in the control group ( $p = 0.23$ ). Out of 96 patients, 10% of the patients in the Mobagile group reached the target of 2 sessions per day.

**Conclusion:** Despite some differences between the 2 groups on baseline characteristics, and limited compliance, the adapted-MATCH program results in a significant improvement in ADL score at discharge. It also appears to show a trend towards prevention of iatrogenic decline in the inpatient setting. A cluster-randomized study should be conducted to confirm these initial results and solutions have to be found to improve compliance with the program.

## P-558

### The quality of geriatric rehabilitation from the patient’s perspective: a longitudinal interview study

Anne Lubbe (1), Julia Schellekens (2), Margriet Pol (3), Wim Groen (4), Bianca Buurman (4), Cees Hertogh (4), Marjon van Rijn (5)

(1) Amsterdam UMC, Vrije Universiteit Amsterdam, Department of Medicine for Older People, de Boelelaan 1117, Amsterdam, The Netherlands <https://unoamsterdam.nl/> (2) Amsterdam Public Health, Aging & Later Life, Amsterdam, The Netherlands (3) Vivium Zorg groep Naarden, The Netherlands, (2) Amsterdam UMC, Vrije Universiteit Amsterdam, student, de Boelelaan 1117, Amsterdam, The Netherlands, (3) (1) Amsterdam UMC, Vrije Universiteit Amsterdam, Department of Medicine for Older People, de Boelelaan 1117, Amsterdam, The Netherlands <https://unoamsterdam.nl/> (2) Amsterdam Public Health, Aging & Later Life, Amsterdam, The Netherlands (3) Amsterdam University of Applied Sciences, Research group occupational therapy: Participation and Environment, Faculty of Health, Center of Expertise Urban Vitality, Tafelbergweg 51, 1105 BD, Amsterdam, The Netherlands <https://www.hva.nl/>, (4) (1) Amsterdam UMC, Vrije Universiteit Amsterdam, Department of Medicine for Older People, de Boelelaan 1117, Amsterdam, The Netherlands <https://unoamsterdam.nl/> (2) Amsterdam Public Health,

Aging & Later Life, Amsterdam, The Netherlands, (5) (1) Amsterdam UMC, Vrije Universiteit Amsterdam, Department of Medicine for Older People, de Boelelaan 1117, Amsterdam, The Netherlands <https://unoamsterdam.nl/> (2) Amsterdam Public Health, Aging & Later Life, Amsterdam, The Netherlands (3) Amsterdam University of Applied Sciences, Faculty of Health, Center of Expertise Urban Vitality, Tafelbergweg 51, 1105 BD, Amsterdam, The Netherlands <https://www.hva.nl/>

**Introduction:** Defining and assessing quality of care (QoC) is a complex process, especially because of the multiple perspectives from health care professionals and patients and the potential changes during the care process. The aim of this study was to gain more insight into the patients’ perspectives on the quality of geriatric rehabilitation (GR) at various moments in the care process.

**Methods:** We conducted a longitudinal qualitative study, which included eighteen patients. Patients were interviewed three times; at the start of rehabilitation, around discharge and six weeks after discharge. The data has been analyzed with thematic analysis.

**Results:** The following themes emerge: (1) Patient as a person, (2) Personalized rehabilitation (the way they treat me, the same persons around me, (3) Shared decision making (being involved in the placement of the rehabilitation, be involved in the rehabilitation plan, decide together on a discharge date), (4) Autonomy (handing over control vs taking control as a participant, communication with or about the patients), (5) Recognition of the workload of the staff and the consequences: staff time, accessibility, keeping promises, completing tasks, (6) an appropriate rehabilitation environment (social, organizational, physically).

**Conclusions:** A personal approach was considered important for the quality of GR in all phases. During rehabilitation, the wishes of the patient change and there are various factors that influence the quality of GR from the patient’s perspective. Seeing the whole person in the GR can make an important contribution to improving the quality of GR as experienced by the patient.

## P-559

### Step length during Timed up-and-go performance—preliminary results of a cross-sectional cohort study

Johanna Rosberg Petersson (1), Lars Berglund (1), Vilmantas Giedraitis (1), Kjartan Halvorsen (2), Erik Rosendahl (3), Kevin McKee (2), Anna Cristina Åberg (1)

(1) School of health and welfare, Dalarna University, Sweden; Department of public health and caring sciences, Geriatrics, Uppsala University, Sweden, (2) School of health and welfare, Dalarna University, Sweden, (3) Department of community medicine and rehabilitation, Physiotherapy, Umeå University, Sweden

**Introduction:** Early identification of dementia disorder (DD) is important to enable health promotion interventions [1]. A framework of the spectrum of cognitive and mobility decline shows that these impairments are interrelated [2]. The aim was to explore step length (SL) during Timed Up-and Go-performance, to discriminate between patients with a diagnosis of DD, Mild Cognitive Impairment (MCI), Subjective Cognitive Impairment (SCI) or cognitively unimpaired (CU) individuals.

**Methods:** A total of 287 participants (50 DD, 120 MCI, 67 SCI, and 50 CU) were recruited from the Uppsala Dalarna Dementia and Gait project (UDDGait™) data-set [3]. Their mean age was 73 years and 45% were women. Data collection consisted of videorecordings of performances of the Timed Up-and Go test (TUG) [4] in accordance with the UDDGait™-protocol [5]. The SL during the TUG-test was extracted from the video recordings using a deep learning system

[6,7]. Logistic regression was used for pairwise examinations concerning SL can discriminate between the involved groups: DD vs. MCI, MCI vs. SCI, and SCI vs. CU.

**Results:** Pairwise analyses showed that SL worked as a discriminator in all involved comparisons. The standardized odds ratios (sOR) for SL in TUG between DD vs MCI was 0.473 with 95% Confidence Interval (0.296–0.758), between MCI vs. SCI the sOR was 0.651 (0.427–0.992) and between SCI vs. CU the sOR was 0.556 (0.310–0.994), after adjustment for age, gender and education.

**Key Conclusions:** The SL during performance of the simply administrated TUG, discriminates between adjacent groups according to cognitive level of functioning.

#### References:

- Laske C, Sohrabi HR, Frost SM, López-de-Ipiña K, Garrard P, Buscema M, et al.: Innovative diagnostic tool for early detection of Alzheimer's disease. *Alzheimer's & Dementia* 2015 11: 561–578. <http://dx.doi.org/10.1016/j.jalz.2014.06.004>.
- Montero-Odasso M, Almeida QJ, Bherer L, Burhan, AM, Camicioli R, Doyon J, et al.: Consensus on Shared Measures of Mobility and Cognition: From the Canadian Consortium on neurodegeneration in Aging (CCNA). *J Gerontol A Biol Sci Med*. 2019 74 (6) :897–909.
- Åhman HB, Cedervall Y, Kilander L, Giedraitis V, Berglund L, McKee K, et al.: Dual-task tests discriminate between dementia, mild cognitive impairment, subjective cognitive impairment, and healthy controls—a cross-sectional cohort study. *BMC Geriatrics* 2020, 20:258. <https://doi.org/10.1186/s12877-020-01645-1>.
- Podsiadlo D, Richardson S: The Timed “Up & Go”: A Test of Basic Functional Mobility for Frail Elderly Persons. *J Am Geriatr Soc*. 1991, 39 (2) :142–148.
- Cedervall Y, Stenberg AM, Åhman HB, Giedraitis V, Tinmark F, Berglund L, et al.: Timed Up-and Go Dual-Task Testing in the Assessment of Cognitive Function: A Mixed methods Observational Study for Development of the UDDGait Protocol. *Int J Environ Res Public Health* 2020, 17 (5) 0.
- Åberg AC, Olsson F, Åhman HB, Tarassova O, Arndt A, Giedraitis V, et al.: Extraction of gait parameters from Marker-Free Video Recordings of Timed Up-and Go Tests: Validity, Inter-and Intra-Rater Reliability. *Gait & Posture*. 2021, 90, 489–495. <https://doi.org/10.1016/j.gaitpost.2021.08.004>.
- Åberg AC, Olsson F, Åhman HB, Tarassova O, Arndt A, Giedraitis V, et al.: Corrigendum to “Extraction of gait parameters from Marker-Free Video Recordings of Timed Up-and Go Tests: Validity, Inter-and Intra-Rater Reliability” [*Gait & Posture*. 2021, 90, 489–495]. *Gait & Posture*. 2022, 94, 195–197. <https://doi.org/10.1016/j.gaitpost.2022.03.015>.

## P-560

### How can inpatient short-term care be improved? Results from the REKUP study

Anne Keilhauer (1), Norbert Specht-Leible (1), Christian Werner (1), Pauline zur Nieden (2), Sandra Diekmann (2), Kathrin Pahmeier (2), Anja Neumann (2), Anke Walendzik (3), Theresa Hüer (3), Pascal Raszke (3), Julia Frankenhauser-Mannuß (4), Jürgen M. Ba

(1) Center for Geriatric Medicine at Heidelberg University Hospital; Agaplesion Bethanien Hospital Heidelberg, Germany, (2) Essener Forschungsinstitut für Medizinmanagement GmbH (EsFoMed), Essen, Germany, (3) University of Duisburg-Essen, Institute of Healthcare Management, Duisburg-Essen, Germany, (4) AOK Baden-

Württemberg (statutory health insurance), Unternehmensbereich Versorgungsgestaltung, Stuttgart, Germany

**Introduction:** This study aimed to evaluate rehabilitative inpatient short-term care (REKUP) as a new concept for post-acute geriatric patients in need of rehabilitation but not (yet) capable of rehabilitation.

**Methods:** In this controlled, non-randomized prospective intervention study, REKUP was implemented in two geriatric rehabilitation clinics and included rehabilitative therapies, psychosocial and medical care. Over seven months, health outcomes were compared among geriatric patients who were discharged to REKUP (n = 49) or usual short-term care (STC, n = 57). Additionally, comparative analyzes with matched secondary health insurance data were conducted (S-KG: n = 86). Main outcomes were: transition to rehabilitation and LTC, negative change in care setting, rehospitalization, and mortality. Interviews about the acceptance and feasibility of REKUP were performed.

**Results:** Higher transition rates to rehabilitation and home, a lower transition rate to LTC, and a less frequent negative change in the care setting (all p < 0.05) were found for REKUP compared to STC. No differences were observed for rehospitalization and mortality. Comparisons with S-KG confirmed the positive outcomes of REKUP regarding the transition rates to rehabilitation, LTC and home, and the less frequent negative change in care setting (all p < 0.001). REKUP also showed lower rates of rehospitalization and mortality than S-KG (both p < 0.05). Interviews revealed high acceptance and good feasibility of REKUP.

**Key Conclusion:** Integrating rehabilitative therapies into STC reduces care needs, increases the use of inpatient rehabilitation and the chances of returning home. Withholding rehabilitative therapies, increases the risk of LTC. Findings indicate that STC should be improved by conceptual developments integrating rehabilitative elements.

## P-561

### The impact of delirium on trajectories of Activities of Daily Living recovery and Quality of Life in COVID-19 patients in geriatric rehabilitation

Julia Minnema (1), Harmke A. Polinder-Bos (1), Matteo Cesari (2), Frances Dockery (3), Irma H.J. Everink (4), Bahaa N. Francis (5), Adam L. Gordon (6), Stefan Grund (7), Laura M. Perez Bazan (8), Olga N. Tkacheva (9), Eva Topinková (10), Mark A. Vassallo

(1) Section Geriatric Medicine, Department of Internal Medicine, Erasmus MC, University Medical Centre Rotterdam, The Netherlands, (2) IRCCS Istituti Clinici Maugeri, University of Milan, Milan, Italy, (3) Beaumont Hospital, Dublin and Royal College of Surgeons in Ireland, (4) Department of Health Services Research, Maastricht University, Maastricht, The Netherlands, (5) Fliman Geriatric Rehabilitation Center, Haifa, Israel, (6) Academic Unit of Injury, Recovery and Inflammation Sciences (IRIS), School of Medicine, University of Nottingham, United Kingdom, (7) Center for Geriatric Medicine, Agaplesion Bethanien Hospital Heidelberg, Geriatric Center at the Heidelberg University, Heidelberg, Germany, (8) RE-FiT Barcelona Research Group, Parc Sanitari Pere Virgili Hospital and Vall d'Hebron Institut de Recerca (VHIR), Barcelona, Spain, (9) Russian Clinical and Research Center of Gerontology, Moscow, Russia, (10) Department of Geriatrics, 1st Faculty of Medicine, Charles University and General Faculty Hospital, Prague, Czech Republic, (11) Karin Grech Hospital, Pieta, Malta, (12)

Department of Public Health and Primary Care, Leiden University Medical Center, Leiden, The Netherlands

**Introduction:** After COVID-19 infection older people may benefit from geriatric rehabilitation (GR). Whether delirium affects GR outcomes in COVID-19 is unknown. We evaluated whether delirium was associated with Activities of Daily Living (ADL) and Quality of Life (QoL) recovery after COVID-19.

**Methods:** The EU-COGER study was a multicentre cohort study in 59 health centres across 10 European countries, conducted between October 2020 and August 2022. Patients' characteristics, functional status (Barthel Index; BI), QoL (EQ-5D-5L), and clinical characteristics, e.g. delirium, were collected from medical records at GR admission, discharge, 6 weeks and 6 months follow-up. We used linear mixed models to examine the relationship between delirium and course of functional recovery and QoL.

**Results:** 723 patients (mean age  $75.5 \pm 9.9$  years; 52.4% male) were included, 28.9% had delirium during the acute phase of COVID-19 infection or during GR stay. At GR admission, BI was 0.3 points (SE 0.2,  $p = 0.163$ ) lower and EQ-5D-5L score was 0.005 points higher (SE 0.03,  $p = 0.869$ ) in patients with delirium compared to without. After 6 months, BI increased from 10.9 to 16.9 points, and EQ-5D-5L from 0.51 to 0.77. The slope of ADL recovery (linear slope  $-0.1$  (SE 0.2),  $p = 0.427$ ) and QoL (linear slope  $-0.02$  (SE 0.01),  $p = 0.248$ ) was similar for patients with and without delirium.

**Conclusion:** Trajectories of ADL and QoL recovery were similar for patients with and without delirium following GR after COVID-19. The personalized approach of GR might explain why older patients with and without delirium returned to pre-morbid level of ADL function and QoL.

## P-562

### Intermediate Care-Bridging Primary and Secondary Care in Liverpool

Aaseem Farid (1)

(1) Merseycare NHS Trust

Intermediate Care which is defined by NICE as "Services that provide support for a short time to help you recover and increase your independence." The main aim is to reduce unnecessary hospital admissions and to promote early discharge from Hospitals. There are three different models of Intermediate care in Liverpool undertaken by Community Trust. First is Hospital based Intermediate Care. In this model there are nurses 24/7 and patients who have higher needs than what could be done in the community hubs. Examples include continuing IV antibiotics and monitoring. Doctors are based in the unit. Care home based Intermediate Care: In this type there are no nurses based in the unit but visited by district nurse and Community matrons on need based basis. Doctors visit weekly but are available over the phone at other times. Home based Intermediate Care In Home based Intermediate care patients receive care at their place of residence. It involves therapists visiting the patients but also nurse monitoring and visits. Advanced nurse practitioners also visit the patients. Virtual ward rounds undertaken daily. All these services have Physiotherapists, Occupational Therapists, Pharmacists, Nurses among others and could refer to dietician and Podiatrist. Different models are needed to care for differing needs of the patient and also patients could move between these teams. This is very important as there is increasing pressure on the Acute Hospital beds especially after Covid.

## P-563

### Nurses perceptions of OuluGNC® GeroNurse Hospital online course of restorative care

Sinikka Lotvonen (1), Kaisa-Mari Saarela (2), Maria Korvola (2), Maria Kääriäinen (2), Heidi Siira (2)

(1) GeroNursing Centre Research Unit of Health Sciences and Technology, University of Oulu, (2) GeroNursing Centre, Research Unit of Health Sciences and Technology, University of Oulu

**Introduction:** Elderly are highly sedentary in hospital settings with low activity. Sedentary behavior is associated with physical and cognitive decline and unplanned hospital readmissions. Restorative care promotes elderly's ability to function and perform daily activities and the need for services and hospital stays can be reduced. Positive effects on the well-being of nurses, work commitment and professional self-esteem of nurses have been demonstrated. Continuing education for nurses is an essential part of effective restorative care. Aim of the study was to describe nurses' perceptions of a new restorative care online course.

**Methods:** OuluGNC® has developed GeroNurse Hospital online course of restorative care. It is based on scientific knowledge, available in web-based learning environment and not place or time bound. The aim of the course is to promote evidence based practices and increase nurses' competence about restorative care to reduce sedentary behavior of elderly in hospitals. OuluGNC® implemented a pilot course in four hospitals in Finland. The data was collected through Webropol survey between 11/2022–01/2023.

**Results:** Nurses ( $n = 95$ ) reported that online course was inspirational, motivating and strengthened their professional skills of restorative care. Nurses experienced that they learned new practices and were willing to recommend online course to other nurses.

**Conclusion:** OuluGNC® GeroNurse online course was useful in supporting restorative care practices and competence of nurses. In the future training and practices of restorative care should further be strengthened. Nurse leaders must be active in implementing effective restorative care models in hospitals, support nursing professionals and increase continuing educations for nurses.

## P-564

### Validity and Reliability of the Pain Observational Scale Pain Assessment in Impaired Cognition 15 (PAIC15) in Patients with Aphasia

N.J. de Vries, MA (1), H.J.A. Smaling, PhD (1), J.T. van der Steen, PhD (1), W.P. Achterberg, MD, PhD (1)

(1) Leiden University Medical Center

**Introduction:** Self-reporting pain is difficult for patients with aphasia. We examined if an observational pain scale can support pain assessment.

**Methods:** Two researchers observed 75 patients with aphasia (mean 74.7 years, SD 11.2) during rest and transfer using the Pain Observational Scale Pain Assessment in Impaired Cognition 15 (PAIC15). Patients were asked to complete the self-report Faces Pain Scale (FPS), Numeric Rating Scale (NRS), Visual Analogue Scale (VAS) and a combined scale. The procedure was repeated within one week. Convergent validity was computed with correlations between PAIC15 and the self-report scales. Discriminative validity was examined by testing a-priori defined hypotheses regarding pain medication, transfer versus rest observation, and arthrosis. Reliability assessment included



internal consistency, test–retest reliability and inter-rater reliability (Intraclass Correlation Coefficient [ICC]).

**Results:** There was a weak positive correlation between PAIC15 and the combination pain scale (0.37) and, a moderate positive correlation between PAIC15 and VAS (0.50) during rest. During transfer, moderate positive correlations were reported between PAIC15 and FPS (0.51) and the combination pain scale (0.52). The results for the discriminative validity were inconclusive. Test–retest reliability was moderate during rest (ICC = 0.55) and good during transfer (ICC = 0.75). The inter-rater reliability was good (ICC rest = 0.80; ICC transfer = 0.85). Cronbach’s alpha was 0.47 (rest) and 0.49 (transfer).

**Key Conclusions:** Psychometric properties of PAIC15 in patients with aphasia were better during transfer compared to rest. The PAIC15 may be a helpful alternative to measure pain during transfer.

## P-565

### Development of a Pain Protocol for Patients Aphasia with input of Patients, Family and Professional Caregivers

N.J. de Vries, MA (1), H.J.A. Smaling, PhD (1), J.T. van der Steen, PhD (1), W.P. Achterberg, MD, PhD1 (1)

(1) Leiden University Medical Center

**Introduction:** Healthcare professionals are struggling to assess and evaluate pain in older stroke patients with aphasia. Pain management is therefore suboptimal and negatively impacts quality of life of patients with aphasia. To improve care, a pain protocol for aphasia was developed.

**Methods:** In a step-wise approach, first, semi-structured interviews were conducted with four patients with aphasia and a family caregiver, and we conducted two focus groups with five healthcare professionals. The qualitative data, a literature study and research into the use of a pain observation instrument in patients with aphasia provided the input for drafting three versions of a pain protocol by the research team. Next, the versions were discussed and the preferred protocol was refined by seven clinical experts during two expert meetings.

**Results:** The pain protocol for patients with aphasia comprises seven steps. Step 1 is to determine how the patient communicates and how he previously expressed pain. In addition, the patient’s capability to rate themselves with a pain score 0–10 (A) and, the use of a self-report pain scale (e.g. Faces Pain Scale (FPS); Numeric Rating Scale (NRS)) is assessed and which one is preferred (B) and which pain observation instrument could be used (C). The plan is followed by 2: recognizing situations, 3: verify basic needs or possible causes of pain, 4: assessment, 5: treatment, 6: monitor plan, 7: evaluation plan.

**Key Conclusions:** The next step is to implement the protocol in practice. Therefore, a pilot implementation and process evaluation are planned later this year.

## P-566

### Sexual dysfunction disorders in elderly male patients after severe spine injuries

Nikolaos Symros (1)

(1) Aristotle University of Thessaloniki

**Introduction:** -Sexual dysfunction disorders are serious post traumatic conditions.

**Material and Methods:** 10 cases of sexual dysfunction disorders in elderly male (65 to 75 years old) patients after severe spine injuries

are presented and discussed 0.5 cases (50%) reported physiological difficulties influencing their energy for sex, sex drive, ability to initiate sexual activities and achieve orgasm, 3 cases (30%) reported physical difficulties influencing body positioning, body movement and sensation, 2 cases (20%) reported body image difficulties influencing feelings of attractive and comfort with having a partner view one’s body during sexual activity.

**Results:** We perform appropriate neurosurgical, neurological, psychiatric and radiological evaluation with ct and mri studies in all 10 patients. Psychological support was performed also in all 10 patients (100%). In 3 cases (30%) we observe amelioration through 24 months period.

**Conclusions:** Collaboration with other medical disciplines is necessary in order to achieve optimal results in order to ameliorate the quality of life.

## P-567

### Sleep disorders in elderly age male patients after severe cervical spine injuries

Nikolaos Symros (1)

(1) Aristotle University of Thessaloniki

**Introduction:** Sleep disorders are serious post traumatic conditions. The signs and symptoms of sleep may include excessive daytime sleepiness, irregular breathing, increased movement during sleep, irregular sleep, abnormal wake cycle, difficulty falling asleep and also others situations.

**Material and Methods:** 10 cases of sleep disorders in elderly age male (65–75 years old) patients after severe cervical spine injuries are presented and discussed 0.4 cases of insomnia (40%), 4 cases of sleep apnea (40%), 1 case of restless legs syndrome (RLS) (10%), 1 case of narcolepsy (10%).

**Results:** We perform appropriate neurological, psychiatric and radiological evaluation with ct and mri studies in all 10 patients. In 4 cases we observe amelioration through 24 months period.

**Conclusions:** Disordered sleep is a common phenomenon after severe injuries. Sleep disruption contributes to morbidity, development of neurocognitive—neurobehavioral deficits, and prolongs the recovery phase after the initial traumatic situation. Appropriate recognition and correction of these problems may limit the secondary effects of such injuries and improve neuro recovery/patient outcomes. Collaboration with other medical disciplines is necessary in order to achieve optimal results in order to ameliorate the quality of life.

## P-568

### Patients admitted to the geriatric acute care unit evaluated by occupational therapy: characteristics and reason for consultation

Yanira Aranda Rubio (1), Ana María Fernández (2), Mónica Merino (2), Antonia Valle (2), Milagros García (2), Javier Gómez Pavón (1), Elena Cano Esteban (3)

(1) Geriatrician (hospital Cruz Roja), (2) social work (hospital Cruz Roja), (3) occupational therapy (hospital Cruz Roja)

**Introduction:** he profile of the elderly multipathological patient is becoming more and more common, constituting a greater complexity and requiring a multidisciplinary team to meet all their needs in a holistic manner. In a geriatric hospitalization ward, the physician must offer coverage to the patient’s requirements and must have an

occupational therapy team to support the rest of the medical care and complement the action during admission, whether for preventive or curative action. The aim of this study is to analyze the main reasons for consulting the occupational therapist in an acute care unit, giving visibility to the importance of her activity.

**Methods:** Retrospective descriptive observational study carried out in the acute geriatric hospitalization ward using a random sample of 140 patients assessed by occupational therapy between February and April 2022, analyzing reasons for consultation, demographic data, affiliation and origin (residence or private home), baseline situation.

**Results:** 140 patients (62.9% women); physical red cross scale 2–3 (68.5%), 66.4% from home and 33.6% from nursing home. Reason for admission: urinary tract infection (29.3%) respiratory infection (35.7) pressure ulcers (8.6%) decompensated heart failure (38.6%). Reasons for occupational therapy consultation: to prevent functional deterioration (95.7%), functional improvement (29.3%), technical adaptations for ambulation (5.7%). 6.7% of patients returned home after discharge from the hospital; 31.4% died within 12 months of discharge.

**Key Conclusions:** Occupational therapy is essential to maintain the functionality of the elderly patient and to avoid physical deterioration during hospitalization.

## P-569

### Improving the quality of life of older people suffering from acquired deforming hypertonia: the contribution of botulinum toxin

Mechighel-Collot Aurore (1), Minouflet Alexis (1), Hamouchi Khelifa (1), Attier Jadwiga (1)

(1) Geriatric, Hospital Centre, Saint-Quentin, France

Acquired deforming hypertonia (ADH) detrimentally impacts older people's lives, with causes including immobilization due to various damages and intrinsic factors like genetics and depression. Existing treatments like oral antispastic medications have limitations, especially with multiple pathologies and polypharmacy, hence the need for alternative therapies. ADH can degrade quality of life, making daily activities challenging for both patients and caregivers. For example, personal hygiene, beyond body care, could be a pain and anxiety source, due to the need to maneuver around retracted limbs. This strain may evoke fear, rejection, or aggression from patients, and caregivers may fear causing harm, potentially misconstrued as maltreatment by external observers. Botulinum toxin (BT), locally injected into the retracted muscle, blocks nerve impulses controlling muscle contraction, effectively relaxing it. It is an easy-to-implement, minimally invasive treatment with few side effects. Studies show it enhances patients' quality of life, functional status, and eases personal hygiene practices. However, BT usage in older people has limitations. Physiological aging variations, underlying pathologies, and specific considerations like sarcopenia, malnutrition, and kidney failure, require individual therapeutic management. Determining an effective BT dose that improves quality of life without hampering rehabilitation is crucial, and early treatment commencement is key. Furthermore, accessibility challenges like cost, trained health professionals, and regular consultations for injections should be addressed. To conclude, ADH treatment in older people necessitates an individualized approach. BT offers potential, but further research and specific recommendations are needed to optimize its use.

## P-570

### The development of a cognitive communication programme for older adults in the early stages of reduced cognitive function

Elaine Cannon (1), Claire McCusker (2), Tara Garvin (1), Clare Cullen (1)

(1) Health Service Executive HSE, (2) Health Service Executive HSE

**Introduction:** Research indicates that cognitive and language stimulation activities can promote maintenance of skill set (Spector, Yates, Orrell and Orgeta, 2015). The Speech and Language and Occupational Therapy Service on the Integrated Care and Reablement Teams in the counties Sligo and Leitrim (Ireland) developed and implemented a six week cognitive communication stimulation programme aimed at targeting cognitive and communication functions in older people in the early stages of cognitive decline. The programme targeted the following domains: Memory, Attention, Language and Problem Solving. These areas have been identified as imperative skills for successful engagement and communication in everyday tasks (Bayles, McCullough & Tomoeda, 2018). It was developed during the Covid period with an awareness of the social isolation and reduction in outlets for engaging with cognitive and language activities for older persons locally.

**Method:** The programme was targeted within the person's home in order to ensure best outcomes for generalisation of skills. The impact of the project was measured by the Mini-Cog© and a 10 point scale targeting the older person's perceived skills in each cognitive domain pre and post programme implementation.

**Results:** Preliminary results from 20 participants demonstrated positive outcomes for older persons who engaged in the programme. Older Person's reported feeling more confident in managing the skills required to maintain cognitive functions.

**Conclusion:** Cognitive and language stimulation activities can support the maintenance of cognitive skills when targeted in the early stages of cognitive decline. There is a greater likelihood of skill maintenance when targeted within the person's home context.

## P-571

### The influence of the social determinants of health on a Intermediate care geriatric unit

Ruth Paz Maya (1), Eva María Nieves Pérez (2), René De Lamar Gálvez (3), Xoel Agrafojo Fabeiro (3), Iago González Ferrero (3), Ana Melián Grillo (3), Miriam Megías Jiménez (3), Orzi Barrasa Bermejo (4), Dácil Cabezas Jaén (4), Blanca Torres Moreno (4)

(1) Geriatricians, (2) Social Worker, (3) Geriatrician in training, (4) Geriatrician

**Background:** The intermediate care medical units are essential for medium-term rehabilitation treatment of geriatric patients. Our objective is to describe the social resources available to patient admitted to a mid-stay unit of a monographic geriatric hospital.

**Methods:** A data analysis of the social resources of the patients admitted to our mid-stay unit was carried out from January 2021 to September 2022. The variables collected were: age, sex, housing characteristics (home ownership, favorable and unfavorable conditions), socioeconomic status, social capital/social support and behavioral factors that can influence in social situation.

**Results:** Patients have a mean age of 80 years old, the most of them are male (68%). The 68% have their own home, of these 54% had

housing with unfavorable living conditions. 53% of the patients had economic benefits higher than the minimum income, 14% they have no income. Of the total number of patients 61% have some type of economic social assistance. Half of the patients had no social support network. 55% of them have negative behavioral factors as malnutrition, alcohol, tobacco or drug use, physical inactivity....

**Conclusions:** Social determinants of health are the axes of social inequalities in health. The greater the social disadvantage in any of the social determinants of health, the worse the health results. For patients with social problems, the rehabilitation process and discharge programming from mid-stay units at home is more complex, requiring multidisciplinary teams and a multidimensional approach.

## P-572

### Agility Training Enhances Cognitive and Physical Function in Elder Adults

Yanci Liu (1), Yiting Hung (1), Mingjiang Chiu (2)

(1) National Taiwan University, (2) National Taiwan University Hospital

**Introduction:** Agility training, commonly used in athlete training, has the potential to improve cognitive and motor functions. Aging, however, declines both cognitive and motor functions. This study aimed to examine the effects of agility training on cognitive and motor function in older adults.

**Methods:** Twenty-five healthy older adults participated and underwent pre- and post-tests assessing agility, motor function, cognition, brain activation, and falls risk using the Falls Efficacy Scale International (FES-I). Participants were randomly assigned to control or agility training groups. The agility group received eight weeks of twice-weekly, 60-min sessions incorporating stop-and-go, direction changing, velocity changing, and acceleration & deceleration training. The control group received health education guidelines, with compliance monitored through regular telephone interviews. Post-tests were conducted within one week after 8 weeks.

**Results:** The agility group showed significant improvements in agility performance and strength of dorsiflexor muscle compared to the control group. In the agility group, significant intra-group improvements were observed in reaction time of cognitive test, walking cadence, strength of plantar-flexor, and lower limb flexibility. Both groups exhibited significant increases in perceived fall risk scores on the FES-I. And both groups also demonstrated significant intra-group increases in brain activation during agility tests.

**Key Conclusions:** Agility training positively impacted agility performance, muscle strength, cognitive function, and flexibility in older adults. These findings suggest the potential clinical application of agility training for enhancing physical and cognitive abilities in elderly people.

## P-573

### A participatory arts programme—enhancing sense of togetherness for family caregivers and care recipients

Tarja Välimäki (1), Anne Vaajoki (2), Riitta Turjamaa (3), Timo Lakka (4), Eeva Mäkinen (5)

(1) Department of Nursing Science, University of Eastern Finland, (2) Wellbeing services county of Savo, Kuopio University Hospital, (3), Manager in Master School, Savonia University of Applied Sciences, (4) School of Medicine, Institute of Biomedicine, University of Eastern Finland, Research Institute of Exercise Medicine, Department of Clinical Physiology and Nuclear Medicine, (5) Director, NewWinds

**Introduction:** Participatory arts in community settings can promote health and well-being in older adults. Various arts programmes have shown promising results in health promotion across individual lifespans, especially among community-dwelling older people, by fostering social participation, independence, and cognitive stimulation. The arts intersect with health in participatory arts programmes to support good life in old age. Individual and group arts activities can attain and maintain health and well-being in the community or health and social care settings. This study aimed to describe family caregivers' experiences of participatory art interventions that included music, dance, and visual arts.

**Methods:** The Joy of Arts intervention was carried out as 12 weekly sessions for caregivers and care recipients in Finland. Thematic interviews were conducted with 12 family caregivers and analysed with inductive content analysis.

**Results:** The results illustrated the meaning of art groups, which included a shared feeling of togetherness, empowering and activating peer support, and a sense of communality. Through art groups, they embraced new, positive aspects of their identity and life role. Art groups also represented a hobby, which enhanced caregivers' social and mental well-being. The art groups could be described as an art-driven, participatory, shared experience.

**Conclusions:** Maintaining a longitudinal commitment to the intervention among families was challenging. Therefore, caregivers need more support on how to use art interventions at home. Participatory arts are noteworthy contributors to the well-being of family caregivers and care recipients, especially from peer support and communality. Further research is needed to discover participants' preferred art-based activities and their impact on their well-being.

## P-574

### Evolution of the Clinical Profile of Patients Admitted to an Intermediate Care Rehabilitation Unit

Marc Donaldson Quintana (1), Marie Christine Pereira (1), Alicia Cambra Lopez (1), Benito Fontecha Lopez (1)

(1) Consorci Sanitari Integral. Barcelona. Spain

**Introduction:** The aging of the population in the last decades has increased the number of patients suffering from chronic and complex conditions which require a specialized continuity of care.

**Methods:** Description of the evolution of clinical profiles of patients admitted to an intermediate care rehabilitation unit (ICRU), during the first four-month period of 2021, 2022 and 2023. A retrospective cross-sectional analysis of discharge report information system data was performed for a total of 395 admissions, comparing results between the three years. Variables registered: sex, age, admission's diagnostic, therapeutic intensity level profile (TIL-P) I-V, discharge destination and mortality rate.

**Results:** No significant changes were found in sex and average mean age of the patients throughout the study period. Traumatologic rehabilitation procedures were the most frequent primary diagnosis being stable through the years, dementia and acute cerebrovascular

disease steadily declined over time while post-surgery and medical rehabilitation increased without reaching significant values. TILP-P I, II, III (groups candidates for higher therapeutic intensity) showed an increase from 54.3% in 2021 to over 90% in following years, while TIL-P IV (conservative management) decreased from 44.3% to less than 10% and TIL-P V (palliative) remained stable ( $p < 0.05$ ). No differences were found with discharge destinations and overall mortality rates.

**Key Conclusion:** Preliminary results show an increase in the group of patients admitted to the ICRU who were candidates for a higher therapeutic intensity. Further analysis is needed to assess the change in clinical complexity and the specific management needs of these patients.

## P-575

### Prevalence, severity and impact of visuospatial neglect in geriatric stroke rehabilitation

Bosma Martine S. (1), Caljouw Monique A.A. (2), Achterberg Wilco P. (2), Nijboer Tanja C.W. (3)

(1) Department of Public Health and Primary Care, Leiden University Medical Center, Post zone V0-P, PO Box 9600, 2300 RC Leiden, the Netherlands and Zorggroep Florence, Laan van Vredenoord 1 2289 DA Rijswijk, the Netherlands, (2) Department of Public Health and Primary Care, Leiden University Medical Center, Post zone V0-P, PO Box 9600, 2300 RC Leiden, the Netherlands and University Network for the Care sector Zuid-Holland, Leiden University Medical Center, Leiden, the Netherlands, (3) Center of Excellence for Rehabilitation Medicine, UMC Utrecht Brain Center, University Medical Center Utrecht, and De Hoogstraat Rehabilitation, Utrecht, the Netherlands and Utrecht University, Department of Experimental Psychology, Heidelberglaan 1, 3584 CS Utrecht, the Netherlands

**Introduction:** Visuospatial neglect (VSN) is a common cognitive deficit of lateralized attention after stroke. VSN prevalence has been investigated in several mixed-age populations, but rarely in a unique older population. As the population in geriatric rehabilitation (GR) is understudied and VSN may influence rehabilitation goals in GR, we examined the prevalence of VSN as well as associations between VSN (severity) and population characteristics, and the impact of VSN on functioning, length of stay and discharge home after GR.

**Methods:** Three VSN tests (Star cancellation task, Line bisection task and Catherine Bergego scale) were administered during GR (multi-center cross-sectional study). To examine VSN severity, a composite score was calculated based on scores of the three tests.

**Results:** 114 stroke patients were included (55.3% female; mean age 80.2 (SD 8.0)). VSN prevalence was 47.4%, in which allocentric and egocentric neglect were more prevalent than VSN during ADL. Participants with VSN spent more days in GR compared to participants without VSN (median 68.5 vs. 35.5 days) and had less home returns. VSN participants showed less mobility, lower cognitive functioning and less independence during selfcare compared to participants without VSN. Mobility, selfcare, cognition, duration of rehabilitation and home return were negatively associated with VSN severity.

**Key Conclusions:** VSN is very prevalent in GR stroke population and seriously hampers older people during activities and their rehabilitation process, and therefore has a major personal and societal impact. Accordingly, systematic assessment of VSN in the early phase of GR with multiple VSN screening tests is recommended.

## P-576

### Myoworx physiotherapy increases strength and balance in older adults with low back pain

Terry Moore (1), Caitlin McArthur (2), Sara Scharoun-Benson (3), Bert Oucharek (1), David Gonzalez (2)

(1) Myoworx Physiotherapy Clinic, (2) Dalhousie University, (3) University of Windsor

**Introduction:** Low back pain and impaired strength and standing balance are significant problems for older adults. We tested two different rehabilitation programs to determine their effect on strength and balance for older adults experiencing back pain.

**Methods:** This is a quasi-experimental study, recruiting adults aged 65 years or older via physician referral for low back pain. The traditional intervention included use of hot packs/modalities (TENS/ultrasound) to the back and 30 min of active exercise with manual therapy as needed. The Myoworx treatment consisted of a proprietary process of electrotherapy applied to the paraspinal muscles for 30 min; followed by 5- 10 min of trigger point release and 30 min of stretching and strengthening exercises for the paraspinal and abdominal muscles. Both groups received treatment twice per week for 8 weeks. Two outcomes were measured pre- and immediately post-treatment: core strength (summated time to hold quarter crunch, supine leg raise, and prone trunk raises postures) and balance (Berg Balance Scale).

**Results:** We included 17 older adults (8 in traditional group, average age = 83.8 ± 6.4 yrs; 9 in Myoworx group, average age = 81.6 ± 8.9 yrs). The Myoworx group had greater improvement in core strength (44.6s, ± 34s) and balance (10.7, ± 14.6) compared to the traditional group who had a decrease in strength (-12s, ± 21.5s) and balance (-1.6, ± 4.1).

**Key Conclusions:** The Myoworx treatment focusing on paraspinal muscle strengthening and relaxation may be effective at improving core strength and standing balance for older adults with back pain.

## P-577

### Disability, physical activity and mental health in the elderly with chronic low back pain: a pilot study

Evrin GOZ (1), Abdulkadir GOZ (2)

(1) Tarsus University, Faculty of Health Sciences, Department of Physiotherapy and Rehabilitation, (2) Tarsus State Hospital

**Introduction:** Chronic low back pain (CLBP) is a musculoskeletal problem that the elderly often experience and can lead to disability. Age, psychological distress, inactivity, comorbidity and gender are the main risk factors. This study aims to compare low back pain, disability, depression, anxiety, stress and physical activity levels of elderly and young individuals with chronic low back pain.

**Methods:** 22 patients with CLBP participated in the study. Disability was assessed with The Oswestry Disability Index; depression, anxiety and stress with DASS 21 scale; physical activity with the International Physical Activity Questionnaire—Short Form. The comparison of the demographic and clinical values between the groups (young and elderly) were done with the Mann Whitney U test.

**Results:** Twelve elderly (age = 69.0 ± 6.02), 10 young (age = 43.83 ± 10.06) individuals with CLBP participated in the study. The number of comorbid diseases and drugs in the elderly group were significantly higher than those in the younger group and the duration of low back pain was longer in the elderly group ( $p < 0.05$ ). In addition, the stress level was significantly higher in the elderly group

compared to the younger group ( $p < 0.05$ ). There was no significant difference between the groups in terms of physical activity and disability levels ( $p > 0.05$ ).

**Key Conclusions:** In this study, it has been shown that drug use, number of comorbid diseases, duration of pain and stress level are higher in patients with CLBP. We think that physical activity levels don't change with age, since the groups are similar in terms of disability and the patients in both groups are minimally active.

## P-578

### Disability, physical activity and mental health in the elderly with chronic neck pain: a pilot study

Abdulkadir GOZ (1), Evrim GOZ (2)

(1) Tarsus State Hospital, (2) Tarsus University, Faculty of Health Sciences, Department of Physiotherapy and Rehabilitation

**Introduction:** Chronic neck pain is an important public health problem that negatively affects both the physical and mental health of the elderly. In this study, we examined the relationship between neck pain, neck disability, depression, anxiety, stress and physical activity levels in the elderly with chronic neck pain.

**Methods:** Demographic and clinical characteristics of 12 elderly individuals (mean age =  $60.33 \pm 7.63$ ) were questioned. Neck disability was assessed with the Neck disability Index; depression, anxiety and stress with DASS 21 scale; physical activity with the International Physical Activity Questionnaire—Short Form. The correlation coefficients and their significance were calculated using Spearman Test.

**Results:** In the elderly with chronic neck pain, it was determined that vigorous physical activity decreased significantly as age increased ( $r = 0.603$ ,  $p = 0.006$ ). A high and moderate negatively correlation was found between the total amount of physical activity, the duration of pain and the number of comorbid diseases ( $r = -0.797$ ,  $p = 0.003$ ;  $r = -0.687$ ,  $p = 0.041$ , respectively). In addition, it was observed that neck disability and depression level were moderate and positively correlated ( $r = 0.693$ ,  $p = 0.013$ ).

**Key Conclusions:** In this study, it was shown that as age, number of comorbid diseases and duration of pain increase in individuals with neck pain, participation in physical activity decreases. In addition, it was observed that the increase in neck disability also causes people to feel more depressed. We think that, both neck disability and depression level can be reduced by applying physiotherapy approaches suitable for the elderly with chronic neck pain and encouraging individuals to participate in physical activity.

## P-579

### Elixhauser comorbidity index and functional recovery in patients with femur fracture

Sergio Ariño-Blasco (1), María Victoria Farré-Mercade (1), María Armillas-Olius (1), Daniela Esparza (1), Nuria Pérez-Muñoz (1)

(1) Hospital General Universitario de Granollers

The Charlson (CI) and Elixhauser (EI) comorbidity indices have been associated with various care outcomes, such as in-hospital mortality, post-discharge mortality, length of stay, and health expenditure. Recently, the EI has been proposed for routine incorporation in orthogeriatric units.

**Objective:** To assess the effectiveness of rehabilitation in patients with femur fracture admitted to a post-acute care unit (PAC) and

evaluate the predictive value of EI and modified Elixhauser index (mEI) in functional prognosis at discharge.

**Method:** Observational, descriptive, and comparative study of a retrospective cohort of consecutively admitted patients from 2009 to 2021. Primary outcome was functional improvement. The association between EI, mEI, and functional gain at discharge is analyzed.

**Results:** A total of 671 care episodes of patients with femur fracture in our PAC were analyzed. The median age was 86 years (IQR 81–89), the functional index at admission was 14 (IQR 12–17), and 12 (IQR 8–15) at discharge. The average length of stay was 28 days (IQR 20–38), with a mean functional gain of 2 points and an overall improvement rate of 64.8% among patients. Home was the discharge destination for 549 (82%) cases. The EI was 4 (IQR 3–5), and the mEI was 11 (IQR 7–16). However, no statistically significant association was observed between the comorbidity indices and functional gain.

**Conclusions:** The study demonstrates a 64.8% improvement rate in femur fracture patients in our PAC, consistent with findings from other studies. While the EI can predict intrahospital mortality, it does not predict functional improvement in our study.

## P-580

### Trunk and upper limb suspension exercises in Stroke Rehabilitation Unit

Laura López López (1), José María Santiago Bautista (2), Josefa Ayuso Torrijos (3), Benito Fontecha Gómez (2), Jesús Tinoco González (4)

(1) Occupational Therapist, Consorci Sanitari Integral, (2) Geriatrician, Consorci Sanitari Integral, (3) Physiotherapist, Consorci Sanitari Integral, (4) Rehabilitation, Consorci Sanitari Integral

In our Geriatric Rehabilitation Unit we offer an Intensive Stroke Rehabilitation therapy, individualized, early, high-intensity (5 h a day). We engaged use of suspensión exercise in post-acute stroke.

**Objective:** Results of using non-elastic band upper trunk mobilisation therapy (TRX) .

**Material and Methods:** Patients admitted with stroke (NIHSS 6–13), trunk control preserved, grip capacity in at least one upper limb, and are able to follow therapy, from January to December, 2022. Material: non-elastic bands in suspension (TRX). Therapist specialized in TRX therapy, initially in seated station. Clinical and function data collected at admission and discharge: comorbidities, functional status (Rankin, Barthel) and stroke impairment (NIHSS scale).

**Results:** 56 admitted, Mean age 68.1%. TRX therapy, N = 8, 88% men. Charlson mean 2, home discharge 73%, Barthel gain > 20 points 50%. Significant differences in TRX group at Baseline Rankin scale ( $p = 0.03$ , 95% CI 0.05–1.11) and admission Barthel index ( $p = 0.076$ ; 95% CI 1.3–24). Non-significative tendency to better NIHSS value at acute admission in TRX group. No differences between sex, comorbidities, stroke type or cause, discharge destination. Barthel gain > 20 higher in non-TRX group (75% vs 50%).

**Conclusions:** Patients TRX have better baseline functional and Barthel at admission.. Lower Barthel gain, perhaps by better initial value. Well accepted and motivating especially in not very elderly patients. It does not require infrastructure and allows to enhance upper limb. No side effects found. Study limited by the low number and the need of isolation periods due to SARS-CoV2.

**P-581****Decreased stiffness in muscles and tendons of lower extremity is associated with fall risk in the elderly**

Fatma Kübra ÇEKOK (1), Serkan TAŞ (2), Arda AKTAŞ (3)

(1) Tarsus University, Faculty of Health Science, Department of Physical Therapy and Rehabilitation, 33140, Mersin, Turkey, (2) Toros University, Faculty of Health Science, Department of Physical Therapy and Rehabilitation, 33140, Mersin, Turkey, (3) Balıkesir University, Faculty of Health Science, Department of Physical Therapy and Rehabilitation, 10145, Balıkesir, Turkey

**Introduction:** Changes in stiffness of muscles and tendons may be an important factor which contributes to falls in the elderly considering its effects on joint stability and muscle function. The aim of the study was to investigate the changes in stiffness in the lower extremity muscles and tendons in the elderly with a fall history.

**Methods:** The present study was conducted with 25 elderly individuals with fall history in the previous year and 26 elderly individuals without a fall history. The stiffness of the lower extremity muscles (rectus femoris, tibialis anterior, medial gastrocnemius, and biceps femoris) and tendons (Achilles and patellar) was measured using a myotonometer. The balance and functional ability of the participants were assessed by Berg Balance Scale (BBS), Timed-Up Go test (TUG), Fall Efficiency Scale (FES), 30-s chair stand test (30SCST), and Rapid Assessment of Physical Activity (RAPA).

**Result:** The stiffness of all the selected muscles and tendon was lower in the elderly with a history of fall compared to controls. Achilles tendon stiffness was positively correlated with the 30SCST, BBS, and RAPA scores; however, Achilles tendon and tibialis anterior stiffness was negatively correlated with the TUG, and FES scores. Furthermore, patellar tendon stiffness was negatively correlated to the FES score, and it was positively correlated with the RAPA score.

**Conclusion:** The obtained results suggest the decrease in the stiffness of the lower extremity muscles and tendon may negatively affect muscle function and the joint stability or control, and it may increase the predisposition to falling in the elderly.

**P-582****Discharge Destinations from Integrated Care unit**

Aaseem Farid (1)

(1) MerseyCare NHS Trust, UK

Intermediate care ward aims to reduce acute hospital stay with more focus on well being and rehabilitation. The Aim of the review is to look at the different discharge destinations where patients go on discharge. NICE defines Intermediate care and reablement services can help people, particularly older people, remain independent by: providing support and rehabilitation to people at risk of admission to, or who have been in, hospital helping make their transfer out of hospital as smooth as possible ensuring they don't have to move into residential care until they really need to offering short-term support to people living at home who find daily activities difficult (NICE,2019). The review was conducted for all the patients discharged from two wards in the month of April. The total number of patients discharged were 23. There were 10 male and 23 female patients. The age ranged from 65 with the oldest patient being 97. The maximum number of patients were in the age group in their eighties with 11, followed by those in nineties with 5, There were four patients in the seventies and three in 60s. The average length of stay was 5 weeks and 5 days. Among them 73.91 stayed successfully out of hospital. 6 patients had

to be readmitted in Hospital. 47.8 patients went to their own places of residence. five patients were admitted in the care homes and and one patient went to Assisted living accommodation. Overall majority of the patient successfully managed to remain out of hospital.

**Reference:**

Intermediate care including reablement (2019) NICE. Available at: <https://www.nice.org.uk/about/what-we-do/into-practice/measuring-the-use-of-nice-guidance/impact-of-guidance/nice-impact-adult-social-care/intermediate-care-including-reablement#:~:text=Intermediate%20care%20and%20reablement%20services,hospital%20as%20smooth%20as%20possible> (Accessed: 09 June 2023).

**P-583****Rehabilitation after hip fracture: the value of Geriatric Rehabilitation Units**

M. Almudena Areosa Sastre (1), Myriam Valdés Aragonés (2), Jose Antonio Carnicero Carreño (3), Cristina Claudia Aragón Hernandez (1), Lucía Valor Nieto (1), Leocadio Rodríguez Mañas (4)

(1) Getafe University Hospital, (2) Getafe University Hospital, Madrid, (3) Foundation of the university hospital of Getafe, (4) Getafe University Hospital, Madrid, Spain

**Background:** Hip fracture is a major cause of disability in older people and rehabilitation is needed after surgery to recover function. There is a debate about where to continue recovery: at home with early supported discharge or move the patient to a Geriatric rehabilitation Unit. **Objective:** The objective of the study was to evaluate the effect on function of being referred to a geriatric rehabilitation unit after discharge in older people with good basal situation.

**Method:** We use a prospective database which includes all patients admitted with hip fracture to the Getafe University Hospital since 2017. The outcome was incident catastrophic deterioration measured by the pre-fracture mobility scale according to the National Fragility Hip Fracture Registry. The effect was assessed using multivariate logistic regression using hip fracture type, age, gender and basal functional status as confounders.

**Results:** 333 patients with pre-fracture autonomous mobility were included in the analysis. The mean (SD) age was 84.2 (6.48) and 93 (27.93%) were males. Patients who were referred to the geriatric rehabilitation unit (n = 81, 24,3%) had a 69.7% reduced risk of transitioning to a “catastrophic” state compared to non-referred patients (OR: 0,303). Factors associated to increase the risk were basal functional status (OR = 1.38, p = 0.0062) and subtrocanteric fracture (OR:3,53, p:0,03). Age and gender did not show statistical significance.

**Conclusion:** (1) Our data support the effect of Geriatric rehabilitation Units. (2) We should improve the selection of the patients to get the highest effectiveness.

**Reference:**

1. Sáez-López P, Ojeda-Thies C, Alarcón T, Muñoz Pascual A, Mora-Fernández J, González de Villaumbrosia C, et al. Spanish National Hip Fracture Registry (RNFC) : First-year results and comparison with other registries and prospective multi-centric studies from Spain. *Rev Esp Salud Publica.* 2019;93.

## P-584

**Does nature make physical exercise more feasible in individuals with dementia?**

Tine Plattiau (1), Lousin Moundjian (2), Joke Spildooren (3)

(1) REVAL–Rehabilitation Research Center, Faculty of Rehabilitation Sciences, Hasselt University, Diepenbeek, Belgium, (2) REVAL-Rehabilitation Research Center, Faculty of Rehabilitation Sciences, Hasselt University, Diepenbeek, Belgium–IPEM, Institute for Psychoacoustics and Electronic Music, Department of Art History, Musicology and Theater Studies, Faculty of Arts and Philosophy, Ghent University, Ghent, Belgium, (3) REVAL-Rehabilitation Research Center, Faculty of Rehabilitation Sciences, Hasselt University, Diepenbeek, Belgium

**Introduction:** ursing home residents with dementia are very inactive throughout the day. [1][2] There are many barriers to exercise.[3] However, the use of small groups, music and video images can increase exercise enjoyment. [4][5][6][7] For this reason, a new music and video-based group exercise therapy (AMUSED) was developed. The aim of this study was to assess if implementing a nature background into the AMUSED-program would increase motivation and performance accuracy in this population.

**Methods:** 10 participants with moderate dementia were recruited from a nursing home. During a cross-over study, they followed at random the AMUSED-program twice with a neutral and twice with a nature background. Both sessions were recorded and motivation (observed emotion rating scale and intrinsic motivation inventory) and performance accuracy (quality and quantity of the exercises) were assessed by two independent raters. Secondarily, the influence of exercise difficulty and timing on these outcome measures was evaluated.

**Results:** There was no difference in motivation and performance accuracy scores between the nature and the neutral condition ( $p > 0.05$ ). Exercise difficulty and timing did not influence the results ( $p > 0.05$ ). The overall quantity of the performance scored above the cut-off score in both conditions ( $p < 0.05$ ). The overall quality of the performance scored below the cut-off score in the nature condition ( $p < 0.001$ ).

**Conclusion:** Instead of being more motivating, a nature background can distract the participants from performing the exercises correctly.

**References:**

- [1] Fang, H., Jing, Y., Chen, J., Wu, Y., & Wan, Y. (2021, July). Recent trends in sedentary time: a systematic literature review. In *Healthcare* (Vol. 9, No. 8, p. 969). MDPI.
- [2] Parry, S., Chow, M., Batchelor, F., & Fary, R. E. (2019). Physical activity and sedentary behaviour in a residential aged care facility. *Australasian journal on ageing*, 38 (1), E12–E18. <https://doi.org/10.1111/ajag.12589>.
- [3] Hobson, N., Dupuis, S. L., Giangregorio, L. M., & Middleton, L. E. (2020). Perceived Facilitators and Barriers to Exercise Among Older Adults With Mild Cognitive Impairment and Early Dementia. *Journal of aging and physical activity*, 28 (2), 208–218. <https://doi.org/10.1123/japa.2019-0010>.
- [4] Ries, J. D., Hutson, J., Maralit, L. A., & Brown, M. B. (2015). Group Balance Training Specifically Designed for Individuals With Alzheimer Disease: Impact on Berg Balance Scale, Timed Up and Go, Gait Speed, and Mini-Mental Status Examination. *Journal of*

geriatric physical therapy (2001), 38 (4), 183–193. <https://doi.org/10.1519/JPT.000000000000030>.

[5] Mehra, S., Dadema, T., Kröse, B. J., Visser, B., Engelbert, R. H., Van Den Helder, J., & Weijs, P. J. (2016). Attitudes of Older Adults in a Group-Based Exercise Program Toward a Blended Intervention; A Focus-Group Study. *Frontiers in psychology*, 7, 1827. <https://doi.org/10.3389/fpsyg.2016.01827>.

[6] Mathews RM, Clair AA, Kosloski K. Keeping the beat: Use of rhythmic music during exercise activities for the elderly with dementia. *American Journal of Alzheimer's Disease & Other Dementias*®. 2001;16 (6) :377–380. <https://doi.org/10.1177/153331750101600608>.

[7] Hutchinson, J. C., Karageorghis, C. I., & Black, J. D. (2017). The Diabates Project: Perceptual, Affective and Psychophysiological Effects of Music and Music-Video in a Clinical Exercise Setting. *Canadian journal of diabetes*, 41 (1), 90–96. <https://doi.org/10.1016/j.jcjd.2016.07.009>.

## P-585

**Quality of care in PD: lessons from a national audit**

Zahra Azizi (1), Emma O'Shea (1), Graham Hughes (2), David Bradley (3), Orla Hardiman (4), Tony Wilkinson (5), Patrick Browne (6), Ken Mulpeter (7), Suzanne Timmons (1)

(1) University College Cork, Cork, Ireland, (2) St Vincent's University Hospital, Dublin, Ireland, (3) St. James's Hospital, Dublin, Ireland, (4) Trinity College Dublin, Dublin, Ireland, (5) Cork Parkinson's Association, Cork, Ireland, (6) Saolta University Health Care Group, Ireland, (7) Letterkenny General Hospital, Ireland

**Introduction:** It is recommended that people with Parkinson's disease (PD) are treated within specialised services. Audit and feedback are an important part of improving the quality of such services. As part of a research project mapping and evaluating PD services nationally, the first audit of PD services in the Republic of Ireland was conducted.

**Methods:** A de novo audit tool was developed by an expert group, based on a rigorous review of existing international standards, guidelines and audit tools, with extensive stakeholder (including people with PD) input. All 14 specialist PD services were eligible; 30 case-notes were randomly selected, looking at the most recent 2 visits (new patient) or 3 visits (established patient) .

**Results:** In total, 241 case-notes were included, from 10 specialist PD services, led by a geriatrician ( $n = 4$ ) or neurologist ( $n = 6$ ). Overall, 13.5% of patients were seen less often than annually. Motor and mobility assessments were well performed ( $> 75%$ ); but cognition (71%) and pain assessments (62%), saliva management (47%), and bone density determination (19%) were inadequate. Access to PD nurses (71%), physiotherapy (66%), speech and language therapy (49%), and occupational therapy (47%) was inadequate; PD nurses were mainly in the capital city. Providing written information following diagnosis (24%), and communication with the carer (14%), were infrequently documented. Gerontology-led services more often screened for malnutrition (99% v 78%) or orthostatic hypotension (93% v 52%).

**Conclusions:** Overall, PD care relating to assessment, multidisciplinary involvement, and information sharing was apparently sub-

optimal, with the caveat that documentation may not reflect actual practice.

## P-586

### Exploring Perceptions and Understandings of the Role of Physical Activity and Exercise in the Management of Parkinson's: A Qualitative Study

Leanne Ahern (1), Dr. Ruth McCullagh (1), Prof Suzanne Timmons (1), Prof Sarah E. Lamb (2)

(1) University College Cork, (2) University of Exeter

**Design:** Qualitative Exploratory Study.

**Objective:** To explore the knowledge, beliefs about exercise and strategies to improve exercise accessibility and adherence in people with Parkinson's (PwP), their family-members/carers, and physiotherapists' working with PwP.

**Methods:** Between November 2022 and January 2023, semi-structured interviews with PwP (n = 12), one focus group (n = 4) with family-member/carers and one focus group (n = 5) with physiotherapists working with PwP were conducted. The interview guides were informed with patient and public involvement input and our recent systematic review and structured using the Theoretical Domains Framework. Interviews were video recorded, transcribed verbatim and analysed using thematic analysis.

**Results:** Four themes emerged: 1) The meaning of exercise; individuals who embedded exercise into their daily routine (rather than viewing it as an adjunct task) had better long-term compliance. 2) Considerations for exercise; exercise preferences differed among gender. High-functioning individuals felt excluded as community exercise groups were tailored to less mobile individuals. 3) The role of the physiotherapist; PwP communicated a need for a tailored and personalized approach. Overall PwP expressed a desire for more control and ownership in the progression of their exercise programs. 4) Barriers/motivators to exercise; PwP conveyed a strong frustration towards the barriers they faced regarding the stigma associated with Parkinson's.

**Conclusion:** Overall PwP find exercise to be an important aspect in the management of their condition providing physical, emotional, psychological, and social rewards. PwP feel exercise intensity is often under prescribed within a group setting and physiotherapists should not be afraid to challenged individuals with exercise.

Keywords: Parkinson's, exercise, physiotherapists, patient experience, qualitative research.

## P-587

### Feasibility of the Geriatric Activation Program Pellenberg with the Caregiver as an Exercise Partner (GAPP + Care)

Margreet van Dijk (1), Jos Tournoy (1), Geert Verheyden (2), Johan Flamaing (1), Patsy Allegaert (3)

(1) UZ Leuven KU Leuven, (2) KU Leuven, (3) UZ Leuven

**Introduction:** In order to adhere to the World Health Organization's recommendations for daily activity among older adults, innovative approaches are needed to activate hospitalized geriatric rehabilitation patients outside of therapy. To address this need, the Geriatric

Activation Program Pellenberg (GAPP), a standard physiotherapy program, was expanded to include three additional 30-min exercise sessions per week, led by an informal caregiver (+ Care). Of these three weekly sessions, one is conducted in partnership with a physiotherapist. The + Care practice sessions continue for the initial six weeks following discharge, taking place in the patient's home.

**Methods:** This observational study aimed to assess feasibility of the GAPP + Care program by examining three main aspects: 1) the proportion of eligible individuals and their participation rate over a one-year period, 2) fidelity to the program, and 3) the opinions of participants regarding the feasibility of GAPP + Care.

**Results:** Out of the 281 patients admitted, 89 were eligible for the study and 13 patient-caregiver dyads participated. Fidelity to the program during the hospitalization was high among all participants. At home, fidelity varied, with approximately one-third high, one-third moderate, and one-third low fidelity. Overall, participating patients and caregivers expressed enthusiasm for GAPP + Care. The exercise sessions conducted with the physiotherapist were highly appreciated, as they instilled a sense of safety and provided clear guidance.

**Key Conclusions:** Within a geriatric rehabilitation population, the availability of caregivers willing to participate three times per week is limited. The GAPP + Care program appears to be feasible during the hospitalization but faces challenges in the home setting.

## P-588

### The Impact of an 'End PJ Paralysis' Audit in a Rehabilitation Unit

Naomi Davey (1), Georgia Merron (1), Anitta George (1), Anna McDonough (1), Aoife Fallon (1)

(1) Tallaght University Hospital

**Introduction:** Richard Asher's influential essay, 'The Dangers of Going to Bed' underscored the risks of bed rest for inpatients, including deconditioning and pressure areas. This audit assesses patient positioning and attire at mealtimes on our rehabilitation unit. **Methods:** The 'End PJ Paralysis' campaign, adapted in our hospital was the audit standard used. A single-day audit surveyed inpatients during breakfast and lunchtime. Interventions included staff education, promoting day room use, communication with patients and relatives, and organising a clothing donation drive. A re-audit occurred after one month.

**Results:** The initial audit included 39 patients (mean age: 81.8 years). At breakfast, 38.5% were sitting out, with 25.6% in their own clothes, 69.2% in pyjamas, and 5.1% in hospital gowns. At lunch, 84.2% were sitting out, with 78.9% in their own clothes, 25% in pyjamas, and 2.6% in a gown. In the re-audit with 44 patients, 56.8% sat out at breakfast, mostly in pyjamas (81.8%). For lunch, 81.8% sat out, with 75% in their own clothes. No patients wore hospital gowns.

**Key Conclusions:** The re-audit showed improvement with 56.8% of patients sitting out at breakfast. Most patients chose pyjamas during breakfast (69.2% initial, 81.8% re-audit) and their own clothes at lunchtime (78.9% initial, 75% re-audit). Hospital gown usage was eliminated. These findings demonstrate the effectiveness of the campaign. Future plans include educational sessions for the broader multidisciplinary team, displaying informative posters, creating patient information leaflets, and conducting a re-audit in three months to assess the sustained impact.



**P-589****Abstract: Prevalence of Patients with Parkinson's Disease in Clontarf Hospital—2-year Retrospective Study**

Sanja Malosevac (1)

(1) Incorporated Orthopaedic Hospital of Ireland

**Introduction:** Parkinson's Disease (PD) is a complex neurological disorder—characterised by death of dopaminergic neurons in the brain. This deficiency leads to motor symptoms—bradykinesia with rest tremor, rigidity, or both. Optimal management starts at diagnosis and involves a multidisciplinary approach. Incidence of PD in Ireland is 1:100 people over 80 years old. Appropriate interventions are crucial for improving quality of life for PD patients. There is lack of data regarding the prevalence & standard of adjusted care for patients with PD in a rehabilitation setting.

**Method:** Retrospective analysis of patient data from start of 2021 to end of 2022, collating details of PD patients that were admitted to Clontarf Rehabilitation Hospital during this period. In total, 452 documents were reviewed—including medications and patient admission data.

**Results:** 13 patients with PD were admitted to CH for rehab during this time period. This is a total of 2.88% (13/452) of the population admitted to CH over 2 years. Of these patients, 53.8% were female and 46.15% were male. The average age of the PD patients was 81.7 years old. The average length of stay of PD patients was 37 days—ranging from 18 to 120 days.

**Conclusion:** There is space for improving management of patients with PD in the rehab setting, especially given the higher prevalence of PD in Clontarf Hospital than the national average. Specialised treatment with rehabilitation pathways, working with MDT colleagues, may lead to significant improvement in quality of life for PD patients.

**P-590****Multidisciplinary inpatient rehabilitation for older adults with COVID-19: a systematic review and meta-analysis of clinical and process outcomes**

Aoife McCarthy (1), Rose Galvin (1), Frances Dockery (2), Kara McLoughlin (2), Margaret O'Connor (3), Gillian Corey (4), Aoife Whiston (1), Leonora Carey (3), Fiona Steed (4), Audrey Tierney (5), Katie Robinson (1)

(1) University of Limerick, Ireland., (2) Beaumont Hospital, Ireland., (3) University Hospital Limerick, Ireland., (4) University Hospital Limerick, (5) University of Limerick, Ireland

**Introduction:** In March 2020, a global pandemic was declared with the emergence of COVID-19. Older adults are at increased risk for disease severity and poorer prognosis following COVID-19 infection. This systematic review and meta-analysis aims to explore the impact of multidisciplinary rehabilitation in the acute or post-acute hospital setting for older adults with COVID-19.

**Methods:** A systematic search of the Cochrane library, EMBASE, Cinahl and Medline (via EBSCO), PubMed, and Web of Science was carried out in June 2022 and repeated in March 2023. Studies were included if they reported older adult outcomes following rehabilitation from two or more health and social care professionals. The primary outcome of interest was functional ability. The secondary outcomes of interest were discharge disposition, acute hospital and rehabilitation unit length of stay, mortality, primary and secondary healthcare utilisation, and long-term effects of COVID-19.

**Results:** Twelve studies were included in the systematic review and meta-analysis, totalling 570 older adults. Older adults stayed in the acute hospital (mean of 18 days, 95% CI 13.35–23.13 days) and rehabilitation unit for similar durations (mean of 19 days, 95% CI 15.88–21.79 days). There was a significant improvement in functional ability among older adults with COVID-19 who received multidisciplinary rehabilitation (REM, SMD = 1.46, 95% CI 0.94 to 1.98). Meta-regression showed age, gender and number of disciplines did not moderate functional outcome following rehabilitation. Between 62 and 97% of older adults were discharged directly home. When reported, incidence of mortality was low (2%). Studies did not follow up patients after the point of discharge therefore the long term effects of COVID-19 could not be reported.

**Conclusions:** Multidisciplinary rehabilitation may result in improved functional outcomes on discharge from rehabilitation units/centres for older adults with COVID-19. Future research should explore the long-term effect of multidisciplinary rehabilitation for older adults. Future research should comprehensively describe a defined and reproducible multidisciplinary rehabilitation.

**P-591****FUN RUN MAP (FUNCTIONAL Recovery UNITS MAP) Study**

Ainhoa Esteve Arrien (1), Elena Romero Pisonero (2), On Behalf of Intermediate Care Work Group (3)

(1) University of Castilla La Mancha, (2) Hospital de la Fuenfría, (3) Spanish Geriatrics And Gerontology Society (SEGG)

**Introduction:** Functional-Recovery-Units (FRU) in Spain have similarities to Geriatric-Rehabilitation-Wards and Intermediate-Care-Units. They are doctor-led, inpatient-units, frequently placed in secondary hospitals, with heterogeneous development. Processes attended are functional impairment due to stroke, hip-fracture/orhogeriatrics, medical illness. 17 standards of care were settled, such as 19,3 beds-per-doctor, 13,5 beds-per-nurse, average length-of-stay (LOS) 18,6days, 1 weekly interdisciplinary-meeting, 17,4% institutionalization rates, 9,7% transitions to Acute Care and 6,8% mortality. The Intermediate-Care-Work-Group of Spanish-Geriatrics&Gerontology-Society (SEGG) aims to study distribution, structure, process and outcomes standards of care of FRU in Spain, and a Delphi Study among their clinical coordinators to establish an expert-consensus where evidence-based literature is scarce.

**Methods:** FRU (inclusion-criteria: public reimbursement FRU, doctor-led, informed consent/exclusion-criteria: nurse-led, private, no informed consent) will be offered to participate via clinical coordinator. A digital survey will be conducted, from November to December 2023. In 1st round evaluations, years functioning, staff rates, admissions and per-process-LOS will be studied. Outcomes relating 2022 admissions will be studied. Structure, process, outcomes of processes will be compared among units, establishing benchmarking processes and standards of care among units with best outcomes. A Delphi 1st-round will be conducted for agreements where evidence-based is scarce or not applicable to Spanish Health Systems. A Delphi 2nd-round agreements will be pursued.

**Results:** This study will provide recent&real data of FRU in Spain, with priceless information in real standards of care and outcomes of patients.

**Conclusions:** Patients and Unit registers offer an opportunity for benchmarking and care-standards homogeneity for older adults suffering from functional impairment across Spain and its heterogeneous health systems.

**P-592****Enhancing Transfer Information: Assessing the Effectiveness of a Checklist in Improving Completeness of Discharge Summaries from an Acute to a Rehabilitation Hospital in Geriatric Care**

Filipa Aguiar Reis (1), Fatima Haider (2), Ahmed Ibrahim (2), Carmel Curran (1), Wilby Williamson (1)

(1) Beaumont Hospital, (2) Incorporated Orthopaedic Hospital of Clontarf

**Introduction:** Ensuring effective transfer of care between hospitals requires access to comprehensive medical information. Checklists have demonstrated their effectiveness in enhancing safety across various contexts, including healthcare. In this study we aim to 1) Evaluate the level of completeness in medical discharge summaries from an acute hospital to a post-acute rehabilitation centre in Dublin, based on the 2009 Transition of Care Consensus Policy Statement, and 2) Investigate the impact of implementing a discharge summary checklist on the completeness of transfer letters.

**Methods:** This retrospective quantitative intervention study involved the analysis of two groups of patients' discharge summaries, the first without intervention, while the second had a transfer letter checklist added to their medical notes. Sampling was conducted based on admission dates, and a comparison of prevalence between the two groups was performed using Fisher's exact test. The study protocol received approval from the hospital's ethics committee.

**Results:** 153 patients were included (65 control, 88 intervention), 4 discharge letters were missing. Average age 77 years old (control) VS 76,3 years old (intervention). Percentage of male patients 49,2% (control), 39,7% (intervention). The discharge summaries' completeness was suboptimal in various items. After the checklist implementation was completed, a trend towards improvement was noted in two items, however, it wasn't statistically significant.

**Key Conclusions:** In order to improve the completeness of discharge letters, measures other than a checklist should be considered, such as regular education, audits, feedback, and senior involvement in summary review.

**P-593****Assessing Documentation of Continence and Incontinence Wear in Inpatients: Insights from a Rehabilitation Facility Audit**

Georgia Merron (1), Naomi Davey (1), Noha El Eraky (1), Aoife Fallon (1), Anna Mc Donough (1)

(1) Tallaght University Hospital

**Introduction:** Urinary incontinence, an underreported condition, is not an inevitable consequence of aging and can be reversible. This audit aimed to evaluate documentation regarding continence and incontinence wear among inpatients in a rehabilitation facility.

**Methods:** The Royal College of Physicians (RCP) National Audit of Continence Care (NACC) standard assessed continence care quality. A prospective audit documented continence wear and urinary continence using a five-day continence sheet. Two interventions were implemented prior to re-auditing: including continence as a teaching topic on the non-consultant hospital doctor (NCHD) teaching schedule and incorporating continence into the multi-disciplinary team (MDT) proforma. A snapshot re-audit was conducted three months later.

**Results:** In the initial audit, 31 patients were included. Among them, 26 (83.9%) wore incontinence wear, with 21 (80.8%) choosing it.

Urinary incontinence was documented in 13 patients (41.9%). In the re-audit, 40 patients were included. Among them, 27 (67.5%) wore incontinence wear, with 19 (70%) desiring it. Urinary incontinence was documented in 18 patients (45.7%).

**Key Conclusions:** The re-audit revealed a slight decrease in incontinence wear usage (67.5% compared to 83.9% initially), but many patients wearing it expressed a preference for it in both audit cycles. The prevalence of urinary incontinence remained similar between audits (41.9% and 45.7% respectively). These findings highlight the importance of acknowledging patient preferences in incontinence care. Future initiatives could delve into patients' preferences for incontinence wear, assess the impact of incontinence on outcomes, and develop a comprehensive understanding of patients' perspectives regarding incontinence.

**P-594****Nutritional care training contributes to enhanced diagnosis and treatment of malnutrition, sarcopenia and frailty among professionals in European Geriatric Rehabilitation settings**

Everink Irma (1), van Wijngaarden Janneke P (2), Schols Jos MGA (3)

(1) Department of Health Services Research and Care and Public Health Research Institute (CAPHRI), Maastricht University, Maastricht, the Netherlands, (2) Danone Nutricia Research, Utrecht, the Netherlands, (3) Department of Family Medicine and Care and Public Health Research Institute (CAPHRI), Maastricht University, Maastricht, the Netherlands

**Background:** Malnutrition, frailty and sarcopenia are closely related and are risk factors for poor outcomes in Geriatric Rehabilitation (GR). The aim of this study is to explore the impact of dedicated nutritional care training on the diagnosis and treatment of these conditions.

**Methods:** An online survey on malnutrition in GR was distributed in two waves from 07/2020 to 05/2021 across GR experts in European countries. The participants were asked if they received specific training on malnutrition. Subanalyses were performed for the groups with and without nutritional care training. The nominal scaled parameters were tested for independence with the Chi-Square test and ordinally scaled measurements with the Mann-Whitney U-test, using SPSS Statistics.

**Results:** In total, 110 people participated from 25 countries results showed similar screening rates for malnutrition in both groups (74,4% vs. 73,1% screen all patients) while the group who received dedicated nutritional training more often used international guidelines (76,7% vs. 62,7%;  $p = 0,112$ ), especially the GLIM criteria (34,9% vs. 17,9%;  $p = 0,044$ ) and a more detailed assessment to diagnose malnutrition (51,2% vs. 37,8%;  $p = 0,111$ ). When malnutrition is diagnosed this group performed more often additional screening and/or treatment of sarcopenia and frailty (72,1% vs. 52,2%;  $p = 0,047$ ). For treatment of (risk of) malnutrition, the increase of calories and proteins was applied by > 80% of respondents in both groups, without a difference between groups. However, nutritional intervention (eg use of oral nutritional supplements (ONS) ) in sarcopenia (62,7% vs. 87,8%,  $p = 0,008$ ) and frailty (55,2% vs. 74,4%,  $p = 0,08$ ) was more often applied by the group who was trained.

**Conclusion:** GR professionals across Europe who received additional nutritional training perform a more detailed assessment to diagnose malnutrition, using international guidelines. They also perform more often screening and treatment of sarcopenia and frailty in malnourished patients. As malnutrition, sarcopenia and frailty are closely

related, training on nutritional care in GR settings should be expanded and focused on an integrated treatment/care approach.

## P-595

### Effects of immersive virtual reality on cognition and mood in hospitalized geriatric patients with dependence: a randomized clinical trial-study protocol

Fabricio Zambom-Ferraresi (1), Antón de La Casa Marín (2), Iranzu Ollo-Martínez (3), Fabiola Zambom-Ferraresi (4), Marisa Fernández González de la Riva (3), Itxaso Marín-Epelde (5), Nicolás Martínez-Velilla (6)

(1) Navarrabiomed, UPNA. IdiSNA, Hospital Universitario de Navarra, TDN Clínica, (2) Navarrabiomed, (3) Navarrabiomed, (4) IdiSNA, (5) Department of Geriatric Medicine, Complejo Hospitalario de Navarra, (6) Department of Geriatric Medicine, Complejo Hospitalario de Navarra, IdiSNA, Navarrabiomed, UPNA

**Objectives:** To analyze the effects of a cognitive stimulation intervention through virtual reality (VR) in hospitalized patients > 74 years old with Barthel Index < 60.

**Methods:** This is a randomized clinical trial carried out in the geriatrics department of the Hospital Universitario de Navarra. The estimated sample is 254 patients, divided between control group (CG) and intervention group (IG). The intervention will last 3 consecutive days, in which each day the IG will watch two immersive VR videos of about 4 min each (the first will be a sequence of different videos of the Irati Forest and the Bardenas Reales of Navarra; the second a tour of different squares of villages and landscapes of Navarra). Inclusion criteria: Barthel Index < 60 points, able to communicate and collaborative. Exclusion criteria: severe dementia, unstable and/or terminal illness. Scales for cognition, mood and assessment and acceptance of VR use will be administered to the indicated patients.

**Results:** The patient is expected to improve cognitive ability and mood, reduce stress and depression levels, no adverse events, and VR is well received by hospitalized older adults.

**Conclusions:** This is a novel intervention and without the need to move from the room. It aims to accommodate patients who have traditionally been excluded from research projects because of limited functional capacity. Likewise, after reviewing the bibliography, it has been seen that patient users missed the visualization of nature and urban environments, so it has been decided to introduce them in the reproduction of the videos to be carried out.

## P-596

### Assessing Anticoagulant Prescribing in a Gerontological Rehabilitation Setting

Georgia Merron (1), Emily Killeen (1), Naomi Davey (1), Britto Pereppadan (1), Aoife Fallon (1), Anna Mc Donough (1)

(1) Tallaght University Hospital

**Introduction:** Anticoagulants are frequently used in the older population, most commonly for prevention of venous thromboembolism (VTE) or stroke. Our audit aimed to review anticoagulation prescribing practices and identify areas for improvement in a gerontological rehabilitation ward.

**Methods:** Initial retrospective audit occurred on 15/11/2022–30/12/22. Data collected included age, sex, weight and renal profile, anticoagulation type, dose and indication. Information obtained from medication records and clinical notes. Interventions included multiple

education sessions with medical staff. Re-audit occurred from 05/04/2023–25/04/2023. Guidelines used were national 'Prescribing Tips for Anticoagulation' and local guidelines on VTE prophylaxis.

**Results:** Initial audit of 73 patients showed 15% (11) rate of prescribing error with 7 subtherapeutic and 4 supratherapeutic doses. Of these 11 errors, 4 doses were corrected recently prior to audit. Average age was 82.6 (64–100) and 55% (40) were female. Re-audit of 51 patients showed the error rate improved to 7.84% (4) with 4 supratherapeutic doses. 1 dose was corrected on admission and 5.88% (3) required adjustment due to fluctuations in weight and renal function throughout admission. Average age was 83.1 (66–103) and 69% (35) were female.

**Key Conclusions:** This re-audit demonstrated ongoing education sessions reduces prescribing error with 48% reduction. However ongoing monitoring during admission is necessary to account for fluctuations in weight and renal function. Suggestions for further improvements including regular education sessions with the wider multidisciplinary team members to highlight importance of monitoring weight and medication dosages. This reinforces the importance of the pharmacist in the multidisciplinary team in Rehabilitation Units and would support input on a regular basis.

## P-597

### Effect of a Multicomponent Virtual Reality Exercise Program on Functional and Cognitive Capacity in Hospitalized Elderly. Study Protocol for a Randomized Controlled Trial

Iranzu Ollo-Martínez (1), Fabiola Zambom-Ferraresi (2), Marisa Fernández González de la Riva (1), Antón de La Casa Marín (3), Itxaso Marín-Epelde (4), Fabricio Zambom-Ferraresi (Tito Fabri) (5), Nicolás Martínez-Velilla (6)

(1) Navarrabiomed, (2) IdiSNA, (3) Navarrabiomed, (4) Department of Geriatric Medicine, Complejo Hospitalario de Navarra, (5) Navarrabiomed, UPNA. IdiSNA, Hospital Universitario de Navarra, TDN Clínica, (6) Department of Geriatric Medicine, Complejo Hospitalario de Navarra, IdiSNA, Navarrabiomed, UPNA

**Introduction:** Hospital associated functional and cognitive impairment is very common in older adults, and determinates the functional independence prognosis of themselves once discharged. This entails that they will require more health attention and resources. Motivation and adherence are crucial for the success of exercise programmes designed for elderly. We propose a Virtual Reality (VR) intervention which is an emerging tool and can be powerful to promote and engagement. This novel protocol for a randomized clinical trial parallel group 1:1:1 allocation, pretends to compare which one is more beneficial to use in hospitalized older adults in terms of function, cognition, mood and wheatear virtual reality is safe and provides more motivation and willingness.

**Methods:** This study will be a three-armed randomized clinical trial. The patients will be randomly assigned to one of the three groups: control (usual care) group, the intervention 1, multicomponent exercise programme or; intervention 2, a multicomponent exercise programme with VR. The exercise multicomponent It will be based on ViviFrail programme and will be composed of 3 consecutive days of supervised training in daily sessions of aerobic training, progressive resistance (50–70%) and balance (40 min/session). The protocol employs relevant standard protocol items for clinical trials according to the SPIRIT 2013 statement and follows the CONSORT statement. The trial is registered at ClinicalTrials.gov and was approved by the Navarra Clinical Research Ethics Committee (PI\_2021/94). The primary outcome is the change in functional and cognitive capacity during the study period and the sample size will be 255.

**Expected Results:** If our hypothesis is correct, it opens the way to the modification of the hospitalization system. The relevance of this project is that and individualized, multicomponent and progressive program is a potential intervention to revert this functional decline in acute hospitalized elderly patients. Moreover, the incorporation of innovative ad hoc technology such as immersive VR in older adults can complement the program, facilitate the adherence and will allow us to further individualize the programs we offer. This study open path of investigation of VR in a different patient profile, this tool is going to be a technology that will be widely developed in the coming years, so it is necessary to assess its implementation, not only for clinical, but also economic and quality of life aspects.

## P-598

### Treadmill Training in Frail Older Adults–Which Gait Parameters Should Be Improved?

Sandra Lau (1), Jessica Koschate (1), Michel Hackbarth (1), Tania Zieschang (1)

(1) Geriatric Medicine, Department for Health Services Research, Carl von Ossietzky University Oldenburg

**Introduction:** Treadmill walking is an important training option as it increases the amount of gait cycles, improves muscle strength and aerobic fitness. However, treadmill training is usually not offered to frail older people. The broader aim of this study is to assess feasibility of treadmill and perturbation training in frail older adults. As part of this study, we compare the differences in gait parameters in persons with and without gait disorders and regular rollator use.

**Methods:** Seventy-three participants ( $79.0 \pm 5.6$  years, 70% women) were stratified into three groups (1) ‘GRoll’: frequent rollator users ( $n = 21$ ), (2) ‘GUsi’: perceived gait insecurities ( $n = 24$ ), and (3) ‘GNorm’: without any gait disorders ( $n = 28$ ). Participants performed a one-minute gait analysis on a perturbation treadmill (Motek) after 6 min of familiarization. Twelve participants declined walking without support. Gait parameters of the remaining 61 participants were recorded by accelerometry (APDM Opal) and analyzed via ANOVA (post hoc Bonferroni test  $p \leq 0.05$ ) for group differences. Perturbation data will be provided in September.

**Results:** GNorm showed less double support time compared to GRoll and GUsi ( $23.3 \pm 4.1\%$  vs  $34.8 \pm 5.4\%$  vs  $30.8 \pm 9.0\%$ ,  $p = 0.001$ ). Reduced gait speed was detected for GRoll and GUsi compared to GNorm ( $0.4 \pm 0.1\text{m/s}$  vs  $0.6 \pm 0.2\text{m/s}$  vs  $0.8 \pm 0.1\text{m/s}$ ,  $p = 0.002$ ), as well as for stride length ( $0.4 \pm 0.2\text{m}$  vs  $0.7 \pm 0.2\text{m}$  vs  $0.9 \pm 0.1\text{m}$ ,  $p = 0.006$ ). No significant group differences were found for cadence, foot clearance, and lateral step variability.

**Key Conclusion:** Targeted treadmill training is a promising approach even for persons with gait instability who are at high risk of functional decline and fall to improve gait symmetry, gait speed and step length.

## P-599

### Models of Transitional Care, comparison of a new innovative consultant geriatrician lead service to current practice

Claire O’Donovan (1), Karen Dennehy (1), Rachel Fitzgerald (1), Rory Plant (1), Roisin Rynne (1), Iman Faez (1), Emma Jennings (1)

(1) Cork University Hospital

In Ireland, hospital inpatients can avail of ‘transitional care funding’, which supports patients awaiting long-term care placement or who require a convalescent period up to six weeks prior to discharge home.

There is wide variability of services offered. Many sites have no clear structure of governance. This project aimed to compare the existing model of transitional care with that of newly-trialled model of care with geriatrician-coordinated patient care. This new model aims for best practice by synchronising patient care through assessment, care planning, treatment (with access to allied healthcare staff), discharge planning and education. A two-part quality improvement project was completed with retrospective (January–September 2022) and prospective (September–December 2022) data. Length of stay (LOS), designation as a delayed transfer of care patient, and planned versus actual discharge destination were compared between the two groups. 64 patients were discharged with transitional care funding in the current practice model. 60 patients were eligible to be included in data analysis. Average LOS at tertiary hospital 29.9 days, median LOS 22 days. 11 (18%) patients were on the delayed transfer of care list. Planned = actual discharge destination in 49 cases (82%). The introduction of a new model of care has led to a significant reduction in LOS in our TCU facility. An opportunity to improve and influence patient outcomes to establish best practice has been identified. Our new model of care incorporates interdisciplinary teams and proactively target the complex patient’s care needs, reducing adverse outcomes and increasing discharge rates to home.

## P-600

### Hip Fractures in Geriatric Day Hospital: What? How? And Why?

Natalia Rodríguez Osto (1), Guillermo Menéndez Fermín (1), Beatriz Borao Laguna (1), Romik Leticia Méndez Baldeón (1), Juan Millán Moreno Martínez (1), Ana Cristina Sanjoaquin Romero (1), María Pilar Mesa Lampré (1)

(1) Hospital Nuestra Señora de Gracia

**Introduction:** Patients undergoing hip fracture surgery loss functional capacity dramatically, thus, the Geriatric Day Hospital (GDH) could be an important resource to retrieve it.

**Methodology:** Prospective descriptive study. Variables: sociodemographic, nutritional (miniMNA), functional assessment (Barthel Index), cognitive assessment, geriatric syndromes, comorbidity (Charlson Index), hospital stay, functional gain, Time Up and Go, Frail-VIG, Tinetti.

**Results:** 468 patients, mean age  $86.72 \pm 6.055$ , 76.4% female. 75 patients are discharged to GDH, mean age  $84.63 \pm 5.99$  (Mann–Whitney U test 0.001), 77.3% female. Previous MiniMNA ( $\chi^2$  0.001) : no risk 69%, at risk 29.6%, malnourished 1.4%. Barthel Index at discharge ( $\chi^2$  0) : mild dependence 35.1%, moderate dependence 49.1%. Pfeiffer ( $\chi^2$  0) : intact 69.3%, mild impairment 17.3%. Geriatric syndromes: Previous delirium ( $\chi^2$  0) 0%, delirium during hospitalization ( $\chi^2$  0) 13.3%; polypharmacy ( $\chi^2$  0.024) 86.7%. Charlson Index ( $\chi^2 > 0.05$ ). Hospital stay ( $\chi^2 > 0.05$ ). Functional gain ( $\chi^2$  0) : 93.2% improvement in Barthel Index  $> 20$ . Time Up and Go at 3 months ( $\chi^2$  0.007), at 6 months ( $\chi^2$  0.03), at one year ( $\chi^2 > 0.05$ ). Frail-VIG ( $\chi^2$  0) : non-frail 24.3%, mild frailty 56.8%, moderate frailty 17.6%, severe frailty 1.4%. Tinetti assessment ( $\chi^2 > 0.05$ ).

**Conclusions:** Patients with pre-existing functional dependence, intact or mild cognitive impairment, and not malnourished are the candidates to be included in a functional recovery program at a GDH following a hip fracture. Non-frail or mildly frail patients with greater functional improvement during hospitalization are referred to the day hospital after discharge. Patients attending GDH maintain a reduced risk of falls at 3 and 6 months after discharge.

**P-601****Experience in the early rehabilitation of proximal hip fractures**

Marija Markovski (1), Prof Hristijan Kostov (2), Ilija Zdravkov (3), Nerhim Tufekcioski (3), Bozidar Blazhevski (3)

(1) GH 8 th september, Skopje Macedonia, (2) GH 8 th september, (3) GH 8th September, Skopje

**Introduction:** Geriatric hip fractures are public important health problem. Early rehabilitation is necessary because it is expected to lead to better functional capacity and less post-operative complications.

**Materials and Methods:** A retrospective study of patients operated at the Department for orthopedics and traumatology at GH 8 September in one year period. The main inclusion criteria were: age of 65 years or older and surgery for proximal hip fracture. Total number of 211 patients were included. We analyzed the differences between two groups of patients according to the duration of the early rehabilitation and the results of the early rehabilitation: The first group of patients with neurological and psychiatric disorders (extrapyramidal syndrome, psycho organic syndrome, and the second group other diseases (cardiological diseases, hypoglycemia, undernourishment) .

**Results:** Females 160 patients, males 51 patients. Femoral neck fracture (52.1%), trochanter region fractures 47.9%. Patients from the first group were 35.5%, and from the second group (64.5%). We used validated clinical scores and clinical judgment for assessment of the functional status before discharge. Patients from the first group were hospitalized in average for 6.8 days and patients from the second group were hospitalized for in average for 10.2 days. Patients from the first group had worse functional status at the discharge.

**Conclusion:** Elderly patients with neurological and psychiatric disorders are very complex patients who require multidisciplinary approach and national strategy.

**Gerodontology****P-602****A qualitative analysis of supervisor nurses' views about oral hygiene practices in nursing homes**

Hannaleena Jämsä (1), Marja-Liisa Laitala (2), Pirjo Kaakinen (3), Anna-Maija Syrjälä (4)

(1) Research Unit of Population Health, University of Oulu, Finland, (2) Research Unit of Population Health, Dept of Cariology, Endodontology and Pedodontics, University of Oulu, Finland, Oulu University Hospital and Medical Research Center, Oulu Finland, (3) Research Unit of Health Sciences and Technology, University of Oulu, Finland, (4) Institute of Dentistry, Dept of Periodontology and geriatric dentistry, University of Oulu, Finland

**Objectives:** The number of older people in the developing countries is increasing all the time, and more and more older people are retaining their own teeth. In our previous questionnaire-based study, we found out how oral care practices have been implemented in private enhanced service housing units and nursing homes in Finland from the perspective of the supervisor nurse. The aim of the qualitative study was to broaden the view of the role of the supervisor nurse's in the organizing oral care in the units.

**Methods:** Between June and November 2021, 19 supervisor nurses were interviewed face-to-face in the six largest cities in Finland. Interviews were recorded and transcribed afterwards. There were five semistructured questions concerning awareness, values and attitude

towards oral care and how supervisor nurses are supporting nursing staff in oral care in the units. Sociodemographic, occupational and oral health-related data were also asked.

**Results:** Supervisor nurses play an important role in organizing oral care in the units. Both supervisor nurses and nursing staff know that oral health affects general health and quality of life. The units talk about oral health issues and wish for more education on oral care. As a general rule, it can be said that the attitude towards oral health care is good and it is considered important.

**Conclusions:** The attitude towards oral care is generally good in the units among supervisor nurses and nursing staff and the nursing staff is aware of the impact of oral health on general health. Supervisor nurses felt their own responsibility in organizing oral care. More oral health related education is wanted and needed.

**References:**

Kassebaum NJ, Bernabé E, Dahiya M et al. Global Burden of Severe Tooth Loss: A Systematic Review and Meta-analysis. *J Dent Res*. 2014;93:20S-28S.

Jämsä H, Laitala ML, Vähänikkilä H Syrjälä AM: Implementation of oral hygiene practices in nursing homes—the view of supervisor nurses. *Acta Odontol. Scand*. 2021 Nov 26:1–7.

**P-603****Predictors of 8-year survival in nursing homes: results from the SENIOR cohort**

Céline Demonceau (1), Fanny Buckinx (1), Jean-Yves Reingster (1), Olivier Bruyère (1)

(1) WHO Collaborating Center for Epidemiologic aspects of musculo-skeletal health and ageing, Division of Public Health, Epidemiology and Health Economics, University of Liège, Belgium

**Introduction:** Although some studies have investigated risk factors for death in nursing homes, they have tended to be limited to short-term observations and focused on a few risk factors. The aim of this study is to identify factors which are predictive of 8-year survival in nursing homes.

**Methods:** The study used the baseline measurements from the SENIOR (Sample of Elderly Nursing home Individuals: An Observational Research) cohort collected in 2013–2014, which included clinical assessments (i.e., body composition, nutritional status, physical performance, level of dependence and cognition, frailty status). Demographic information, number of medications and medical history were collected from the patients' medical records. Mortality data were collected annually for 8 years, with a final collection in 2022. Potential predictive factors for survival were first assessed in univariate analyses and significant variables were then entered into a stepwise proportional hazards regression model.

**Results:** Of the 662 participants enrolled in the cohort, 58 (8.8%) were lost to follow-up due to the withdrawal of 2 nursing homes and 71 (10.7%) had no mortality data available (i.e., relocation, refusal to continue the study). Among the 533 patients included in the study, 422 (79.2%) died and 111 (20.8%) were still alive in 2022. Median survival time from enrolment in the cohort was 4 years (1.93–6.94). Multivariate regression showed that younger age (HR = 1.04 (1.03–1.06) ), higher BMI (HR = 0.96 (0.94–0.98) ), higher MMSE score (HR = 0.97 (0.94–0.99) ) and higher SPPB score (HR = 0.93 (0.90–0.97) ) were protective factors against mortality.

**Conclusion:** In addition to age, which is a non-modifiable risk factor, our study shows that certain modifiable factors related to physical or mental health contribute to increased survival in nursing homes. Acting on these factors therefore appears to be a public health priority.

**P-604****Development and implementation of a gerodontology course for practicing healthcare providers**

Anastassia Kossioni (1)

(1) Dental School, National and Kapodistrian University of Athens, Greece

**Introduction:** One of the barriers to good oral health in old age is the limited gerodontology knowledge among healthcare providers (HCP). The aim of this study was to describe the development and implementation of a gerodontology course for practicing HCP.

**Methods:** The course was developed for the postgraduate course “Physiology of ageing and geriatric syndromes” at the Medical Faculty of the National and Kapodistrian University of Athens, Greece. The participants are HCP from various disciplines (physicians, nurses, dentists, pharmacists, physiotherapists etc.). The content was based on the gerodontology competences recommended by the European College of Gerodontology and the European Geriatric Medicine Society [1,2,3].

**Results:** The duration of the course is 3 h. The main topics include oral disease and function in older adults, the association between oral and general health, polypharmacy and oral health, patient/carer oral health interview, oral screening and dental referral needs, and oral health promotion measures for older adults. The theoretical part includes short lectures, questions and answers and discussion, and the practical part case vignettes with common oral conditions in older patients and demonstration of oral hygiene measures. Before the beginning of the course a short questionnaire is distributed to identify areas that need special attention. The educational material includes a textbook, publications, and recommended websites. The course has been delivered for the past 3 years and received high evaluation scores (4.9/5).

**Key Conclusions:** A gerodontology course for practicing HCP was developed based on existing European recommendations and received very positive evaluation from the participants.

**References:**

1. Kossioni AE, Hajto-Bryk J, Maggi S, et al. An Expert Opinion from the European College of Gerodontology and the European Geriatric Medicine Society: European Policy Recommendations on Oral Health in Older Adults. *J Am Geriatr Soc* 2018;66 (3) :609–613.
2. Kossioni AE, Hajto-Bryk J, Janssens B, et al. Practical guidelines for physicians in promoting oral health in frail older adults. *J Am Med Dir Assoc* 2018;19 (12) :1039–1046.
3. Kossioni AE, Maggi S, Müller F, Petrovic M. Oral health in older people: time for action. *Eur Geriatr Med* 2018; 9:3–4.

**P-605****The relationship between depressive tendency and oral health-related quality of life among community-dwelling elderly during the COVID-19 pandemic**

Miku Izutsu (1), Natsuka Ogawa (2), Shan Yun (3), Michiko Yuki (3)

(1) Graduate School of Health Sciences, Hokkaido University, Japan, (2) Emergency and Critical Care Center, Tohoku University Hospital, Japan, (3) Faculty of Health Sciences, Hokkaido University, Japan

The prolonged restrictions on activities due to the coronavirus disease 19 (COVID-19) pandemic may have a detrimental impact on the mental health of older adults. The objective of this study was to investigate the relationship between depressive tendency and oral health-related quality of life among older adults during the COVID-

19 pandemic. The participants were elderly attending the elderly welfare center in Japan. Of those who completed both the baseline and follow-up surveys in April 2022 and February 2023, respectively, participants aged  $\geq 65$  years without depressive tendency at baseline were included in the analysis. Depressive tendency were measured using the Geriatric Depression Scale-15 (GDS-15). The study protocol was approved by the Research Ethics Committee of Faculty of Health Sciences, Hokkaido University. Ultimately, 81 elderly were analyzed. The mean age of the participants was  $77.7 \pm 5.8$  and 85.2% were women. During the follow-up period, 28 (34.6%) participants developed depressive tendency. The multivariable logistic regression analysis indicated a significant association between depression tendency and a reduction in the Geriatric Oral Health Assessment Index (GOHAI), which is a measure of oral health-related quality of life, when comparing the group with depression tendency to the group without depression tendency [odds ratio (OR) = 0.88, 95% confidence interval (CI) = 0.80–0.96]. During the COVID-19 pandemic, GOHAI was found to be significantly associated with depressive tendency in the elderly. Paying attention to oral health during the COVID-19 pandemic may be important to protect the mental health of the elderly.

**P-606****Association between oral function parameters and handgrip strength in adult greek population**

Natalia Falidea (1), Kalliopi Konstantopoulou (2), Marina Kotsani (3), Georges Soulis (4), Martin Schimmel (5), AnSastassia Kossioni (2)

(1) Postgraduate student in Geriatric Syndromes and Physiology of Aging, School of Medicine, National and Kapodistrian University of Athens, Athens, Greece, (2) Division of Gerodontology, Department of Prosthodontics, Dental School, National and Kapodistrian University of Athens, Athens, Greece, (3) Nursing Home LNA santé, Cagnes-sur-Mer, France, (4) Outpatient Geriatric Assessment Unit, Henry Dunant Hospital Center, Athens, Greece, (5) Department of Reconstructive Dentistry and Gerodontology, School of Dental Medicine, University of Bern, Bern, Switzerland and Division of Gerodontology and Removable Prosthodontics, University Clinics of Dental Medicine, University of Geneva, Geneva, Switzerland

**Introduction:** Handgrip strength (HGS) is a measure of muscle strength and a component of physical frailty. Oral function has also been investigated in association with frailty. This study aimed to explore the association between oral function parameters and HGS.

**Methods:** The study participants were community-dwelling dentate individuals ( $\geq 20$  years), who were patients, staff and students at the Dental School of the National and Kapodistrian University of Athens, Greece. They underwent interviews and clinical examinations. Age, gender, medical history, number of drugs, alcohol consumption, smoking habits, HGS, maximum bite force (MBF), mixing ability test after 20 cycles (MA-20), maximum tongue pressure (MTP), repetitive saliva swallowing test (RSST), maximum mouth opening (MMO) and Xerostomia Index (XI) were recorded. Statistical analysis included descriptive statistics, Mann–Whitney U tests, Kruskal Wallis tests and Spearman’s rank correlations ( $P \leq 0.05$ ). Factors with statistically significant associations ( $P < 0.10$ ) were included in a Backward Stepwise Regression analysis.

**Results:** 60 individuals were recorded (19 men and 41 women), aged  $52.8 \pm 17.7$  (range: 20–84 years). The bivariate analysis revealed statistically significant associations between HGS and gender ( $P < 0.001$ ), endocrine, nutritional or metabolic diseases (ICD-11) ( $P = 0.064$ ), alcohol consumption ( $P = 0.035$ ), MMO ( $r_s = 0.257$ ,

$P = 0.047$ ), MA-20 ( $rs = -0.456$ ,  $P < 0.001$ ), MBF ( $rs = 0.420$ ,  $P = 0.001$ ), MTP ( $rs = 0.318$ ,  $P = 0.013$ ), RSST ( $rs = 0.343$ ,  $P = 0.007$ ), number of drugs ( $rs = -0.352$ ,  $P = 0.006$ ) and XI ( $rs = -0.293$ ,  $P = 0.023$ ). The multivariate analysis showed that HGS had a statistically significant association with gender ( $P < 0.001$ ), MBF ( $P = 0.001$ ), MTP ( $P = 0.022$ ) and XI ( $P = 0.01$ ).

**Key Conclusions:** The study findings demonstrated significant associations between MBF, MTP, XI and HGS in a Caucasian community-dwelling adult population.

## P-607

### Association Between Tongue Strength and Handgrip Strength in a Greek Nursing Home Population—Preliminary Findings

Kalliopi Konstantopoulou (1), Anastasia Koutsouri (2), George Soulis (2), Anastassia Kossioni (1)

(1) Division of Gerodontology, Department of Prosthodontics, Dental School, National and Kapodistrian University of Athens, Athens, Greece, (2) Center for Geriatric Assessment, Henry Dunant Hospital Center, Athens, Greece

**Introduction:** Hand grip strength (HGS) is a component of physical frailty. Tongue strength, a parameter of oral function, is measured by maximum tongue pressure (MTP) and its association with frailty has been investigated mainly in community-dwelling populations. This study aimed to investigate the effect of tongue strength on relative HGS among nursing home residents.

**Methods:** The study participants were nursing home residents in the region of Athens, Greece. The participants were interviewed and clinically examined (approval by Ethics Committee 502/2022). Age, gender, medical conditions, number of medications, Charlson Comorbidity Index, HGS (kg), number of natural teeth, occlusal contacts using Eichner Index, number of decayed, missing and filled teeth using DMFT Index, presence of retained roots, presence of denture (s) and MTP (kPa) were recorded. Statistical analysis included descriptive statistics, Kolmogorov–Smirnov test, Student's T test, One-way ANOVA, Spearman's rank correlations, and Multiple Linear Regression. Statistical significance was set at  $P \leq 0.05$ .

**Results:** Eighty individuals were participated (24 males and 56 females) aged  $86.3 \pm 6.8$  years with a range of 68–100 years. The bivariate analyses demonstrated statistically significant associations between HGS and gender ( $P < 0.001$ ), mental and behavioral disorders ( $P = 0.049$ ), number of medications ( $P = 0.025$ ,  $rs = -0.251$ ), and MTP ( $P < 0.001$ ,  $rs = 0.633$ ). The multivariate analysis showed that HGS had a statistically significant correlation with gender ( $P < 0.001$ , Beta coefficient =  $-6.5$ ) and MTP ( $P < 0.001$ , Beta coefficient =  $0.4$ ).

**Key Conclusions:** The study findings revealed a statistically significant effect of gender and MTP on HGS in a Caucasian nursing home population. The authors declare no conflict of interest.

## Gero-Oncology

### P-608

#### Immune checkpoint inhibitors treatment in oncology: a worth trade-off for non-frail older patients

Bérengère Beauplet (1), Capucine Baldini (2)

(1) Caen University Hospital, (2) Gustave Roussy Institute, Paris

**Background:** These days, Immune checkpoint blockers (ICB) are one of the cornerstones of cancer treatment. The favorable tolerance profile makes it an interesting option in older patients with cancer. However, few evidence is available whether the tolerance could be related to frailty status in patients aged 70 years and older, as with chemotherapy. We aimed to determine the impact of geriatric syndromes in a real-life population of older patients treated with ICB.

**Methods:** This retrospective French multicentric study enrolled all patients aged 70 years or over who underwent a geriatric assessment before the start of ICB in monotherapy or in combination between January 1st 2016 and December 31st 2021.

**Results:** In total, 224 patients were included in the analysis. Median age was 82 years old (77–87). Patients were mostly men (66%), 40% were treated for a skin cancer (melanoma or squamous), 35% lung and 15% genito-urinary. Median number of comedications was 5 (3–8) and median G8 was 12 (9–14). Median ADL (/6) was 6 and IADL (/4) was 3 (2–4). Most patients were treated with ICB in monotherapy (80%). Altogether, 49% of patients experienced toxicity and 25% had more than 1 adverse event. The prevalence of high-grade toxicity was 14%. The most prevalent types of toxicity were GI (17%), skin (13%), thyroid (9%) and rheumatoid (7%). Male gender ( $p < 0.02$ ), normal IADL ( $p < 0.01$ ), normal Timed up and go test ( $p < 0.02$ ), not having falls in the last 6 months ( $p < 0.001$ ) and visual impairment ( $p = 0.02$ ) were significantly associated with toxicity in univariate analysis. Multiple toxicities were associated with male gender ( $p = 0.03$ ), vision impairment ( $p < 0.001$ ), normal IADL ( $p < 0.05$ ), normal Timed up and go test ( $p < 0.02$ ) not having falls in the last 6 months ( $p < 0.001$ ). There were no association with 4-month hospitalization ( $p = 0.73$ ). Median OS was 16.33 months [95% CI 12.78–20.63] and the 3-month OS rate 84.83% [95% CI 79.26–89.11]. Median PFS was 6.08 [95% CI 5.13–8.71] in the overall population. Median PFS was significantly longer in patients with toxicity 6.14 months [95% CI 5.13–8.94] compared to no toxicity 5.26 months [95% CI 3.25–8.41] ( $p < 0.01$ ). Median PFS for patients with multiple toxicity was longer 9.86 months [95% CI 5.13–23.92] ( $p < 0.01$ ).

**Conclusions:** Older patients without frailty such as IADL or gait speed impairments were at higher risk of irAEs. However, these fit older patients with cancer benefit from a better PFS confirming that the higher risk of irAE is related to treatment duration. Further analysis will be presented at the meeting.

### P-609

#### Evaluation of the quality of life of older patients undergoing radiotherapy

Edna Darlene Rodrigues (1), Maria José Moura (2), Elisabete Soares (3), Paulo Almeida (4), Escarlata López (5), Laetitia Teixeira (1)

(1) Instituto de Ciências Biomédicas Abel Salazar/CINTESIS-AgeingC, Porto, Portugal, (2) Serviço de Radioterapia, Centro Hospitalar Universitário de São João, E.P.E, Porto, (3) Serviço de Radioterapia, Instituto Português de Oncologia do Porto, Francisco Gentil, E.P.E, Porto, (4) Serviço de Medicina Interna, Centro Hospitalar Universitário de São João, E.P.E, Porto, Portugal, (5) Oncologia Radioterápica e Directora Médica GenesisCare, Madrid, Spain

**Introduction:** Cancer affects not only physical health, but also mental health, and a cancer diagnosis has an undeniable impact on quality of life (QoL). The main objective of this study was to evaluate the QoL (EORTC-QLQ-ELD14 questionnaire) of people aged 70 years or more undergoing radiotherapy.

**Methods:** Patients with cognitive impairment identified through the Mini-Mental State were excluded. A descriptive analysis and assessment of the association between variables and QoL was performed. The level of significance considered was 0.05.

**Results:** We included 202 older patients with a median age of 74 years (IQR = 6), 138 men (68.3%). The prostate was the most frequent cancer location (n = 82, 40.6%). The characteristics that had the greatest disease impact on QoL included: caregiver (p = 0.010); ECOG 2/3 (p = 0.005); women (p = 0.005); cancer in the head and neck or lung (p < 0.001); IADL dependence (p = 0.024). Joint complaints impacting QoL were associated with: ECOG 2/3 (p < 0.001); women (p < 0.001) or overweight (p = 0.002). Mobility difficulties were felt by people with IADL dependence (p < 0.001) or with advanced age (p = 0.024). Worries about others were more evident for women (p = 0.007). The perception of family support was reduced for people with ECOG 2/3 (p = 0.039) or with IADL dependence (p = 0.002). A reduced life purpose was associated with: ECOG 2/3 (p = 0.003); women (p = 0.008) or ADL dependence (p = 0.015).

**Conclusions:** In this study it was found that participants with greater functional dependence have lower levels of QoL. The evaluation of QoL allowed the identification of a pattern of difficulties experienced by the older patients with cancer undergoing radiotherapy treatment.

## P-610

### Delivering Comprehensive and Personalised Cancer Treatment in the Older Adult—An Outpatient Geriatric Oncology Service Experience in a Restructured Hospital in Singapore

Nydia Camelia Mohd Rais (1), Meiling Chun (1), Joey Chien (2), Wei Terk Chang (2), Nesaretnam Kumarakulasinghe (3), Sze Ying Chan (4), Yi Lun Teo (4), Jian Rong Tan (4), Sarah Lim (5), Bao Yin Sow (5), Jing En Toh (6), Marian Lee (7), Angela Pang (3)

(1) Division of Geriatric Medicine, Department of Medicine, Ng Teng Fong General Hospital, Singapore, (2) Department of Pharmacy, Ng Teng Fong General Hospital, Singapore, (3) Department of Haematology-Oncology, National University Cancer Institute, Singapore, (4) Department of Physiotherapy, Ng Teng Fong General Hospital, Singapore, (5) Department of Dietetics & Nutrition, Ng Teng Fong General Hospital, Singapore, (6) Department of Occupational Therapy, Ng Teng Fong General Hospital, Singapore, (7) Department of Medical Social Service, Ng Teng Fong General Hospital, Singapore

**Introduction:** Geriatric Oncology is increasingly important as a rapidly aging global population drives the demand for comprehensive, personalized cancer treatment in frail older adults.

**Methods:** Between November 2019 and March 2023, older adults aged  $\geq 65$  attending Ng Teng Fong General Hospital oncology clinics, were screened using Geriatric 8 (G8). Patients with G8  $\leq 14$  were recommended to the Geriatric Oncology Clinic (GOC). Patients underwent comprehensive geriatric assessment, followed by a hybrid clinic consultation with physical review by a Geriatrician and a concurrent video tele-consultation with an Oncologist. Allied health professionals (AHP) reviewed patients at the same clinic visit. We assessed changes in treatment and AHPs interventions based on GOC assessment.

**Results:** Out of 673 patients screened, 520 scored G8  $\leq 14$ . 212 patients were referred to GOC. 51.9% were females, median age was 74. 52.8% were prefrail, 29.2% were frail. 62.7% had impairments in instrumental Activities of Daily Living (ADL), 24.5% in basic ADLs. 50.5% had timed-up-and-go of  $\geq 12$ s, 33.5% had Mini-Cog  $< 4$ , 32.5% had weight loss of  $\geq 10\%$ . 93.9% patients had  $\geq 1$  drug-related problem. 49.5% received a change in chemotherapy regime. Majority of patients received AHPs interventions—pharmacist (100%), medical social worker (51.4%), physiotherapist (46.7%), occupational therapist (24.5%), dietician (47.2%). 84.9% had interventions from  $\geq 2$  AHPs.

**Key Conclusions:** Frailty is a prevalent geriatric syndrome, resulting in half of GOC patients having adjustments to chemotherapy and requiring AHPs interventions. These would have been missed opportunities with conventional cancer care. A hybrid clinic consultation enabled simultaneous access to both a Geriatrician and Oncologist.

## P-611

### The Impact of Complementary Therapies on Sleep Quality in Older Adults with Cancer

Alexandra Mantoudi (1), Marianna Mantzorou (1), Paraskevi Apostolara (1), Theodoula Adamakidou (1), Marianna Drakopoulou (1), Ioanna Tsatsou (1), Dimos Mastrogiannis (2), Aggeliki Stamou (1), Kyriaki Mystakidou (3)

(1) Nursing Department, University of West Attica, Athens, Greece, (2) General department of Lamia, University of Thessaly, Greece, (3) Pain Relief and Palliative Care Unit, Department of Radiology, Areteion Hospital, School of Medicine, National & Kapodistrian University of Athens, Athens, Greece

**Introduction:** Sleep disorders can persist for years after the end of treatment in a significant proportion of older adults with cancer and are often considered a secondary symptom of depression or anxiety. Aim of the study: Investigation of the effects of reflexology on sleep quality of older adults with cancer.

**Material and Methods:** In this randomized study 175 older patients with cancer, equally divided in reflexology, relaxation and control groups completed a sociodemographic and clinical characteristics questionnaire and the Pittsburgh Sleep Quality Index, preintervention, at fourth, sixth week of intervention and eighth week follow up. All groups received usual care, with the reflexology and relaxation groups additionally receiving six weekly corresponding sessions.

**Results:** When comparing the time estimates of the variable sleep quality for each group, it was observed that over time sleep quality improved in all groups (p < 0.0005). In percentage changes from baseline, a statistically significant increase in sleep quality was observed in the reflexology group compared to the relaxation group at 6th and 8th weeks (p = 0.029 and 0.019 respectively). Specifically, at 6th week, pairwise comparisons reveal a difference between the reflexology and relaxation groups (p < 0.05) and similarly for 8th week (p < 0.05).

**Key Conclusions:** Reflexology exhibits better results in treating sleep problems in older adults with cancer compared to relaxation and usual care. Increased randomized trials on complementary therapies and wider access through palliative care structures can contribute in



improving the quality of life and well-being of older adults with cancer.

## P-612

### Frailty profile of very older patients undergoing radiation therapy for oncological pathology

Lucía Corral Sastre (1), Raquel Ramírez Martín (2), Coro Mauleón-Ladrero (2), María Villajos Guijarro (2), Victoria M Deniz-Gonzalez (3), Rosa María Morera López (4), Luis Alberto Glaría (4), Juan Ignacio González Montalvo (5)

(1) Hospital Universitario La Paz, (2) Geriatric Department, Hospital Universitario La Paz, Madrid., (3) Geriatric Department, Hospital Universitario La Paz, Madrid, (4) Radiation Oncology Department, Hospital Universitario La Paz, Madrid, (5) Geriatric Department, Hospital Universitario La Paz, Madrid. Insituto de Investigación Hospital Universitario La Paz, IdiPAZ

**Introduction:** Radiotherapy is a fundamental part of the treatment of elderly patients with cancer. The objective of this study is to know the clinical characteristics of elderly patients who receive radiotherapy.

**Methods:** A prospective observational study was carried out between September 2018 and March 2023 in a third-level hospital. Patients older than 75 years of age with a positive frailty screening ( $G8 \leq 14$ ) who were proposed for radical radiotherapy treatment were included. These patients were assessed by a geriatrician and a specialist nurse performing a comprehensive geriatric assessment (CGA).

**Results:** The study enrolled 117 patients. The most frequent oncological locations were prostate (23.7%), head and neck (21.5%), lung (14.1%). The mean age was  $82.5 \pm 4.9$  years and 61.5% were male. Overall, 71.8% had a score on the Functional ambulation categories (FAC) 4 scale and the mean Barthel Index was  $90.86 \pm 16.57$ . 12.8% had cognitive impairment (GDS-Reisberg scale  $> 3$ ). The mean score in the Mini Nutritional Assessment Short Form (MNA-sf) was  $9.66 \pm 2.77$  and 23.5% had malnutrition (MNA-sf  $\leq 7$ ). The average grip strength in men was  $25.75 \pm 7.41$ kg and  $12.63 \pm 5.40$ kg in women. After CGA, 39.3% of the patients were categorized as fit, 20.5% as mildly frail, 26.5% as frail, and 8.5% as dependent or with a poor prognosis.

**Conclusion:** Older patients undergoing radical radiotherapy treatment are very old patients and half of them are frail. For this reason, these patients are candidates for the collaboration between the geriatrician and the Radiation Oncology team to carry out a multidisciplinary approach.

## P-613

### Differences between frailty assessment tools for older patients undergoing radiation therapy

Lucía Corral Sastre (1), Raquel Ramírez Martín (1), Coro Mauleón-Ladrero (1), María Villajos Guijarro (1), Isabel Martín Maestre (1), Rosa María Morera López (2), Elisabet González del Portillo (2), Juan Ignacio González Montalvo (3)

(1) Geriatric Department, Hospital Universitario La Paz, Madrid., (2) Radiation Oncology Department, Hospital Universitario La Paz,

Madrid., (3) Geriatric Department, Hospital Universitario La Paz, Madrid. Insituto de Investigación Hospital Universitario La Paz, IdiPAZ

**Introduction:** Few studies analyze frailty in radiotherapy treatment patients. The aim of this study is to know the differences in frailty assessment tools in elderly patients receiving radiotherapy.

**Methods:** A prospective observational study was carried out between September 2018 and March 2023 in a third-level hospital. Patients  $> 75$  years of age with a positive frailty screening ( $G8 \leq 14$ ) who were proposed for radical radiotherapy treatment were included. These patients were assessed by a geriatrician and a specialist nurse, performing a comprehensive geriatric assessment (CGA).

**Results:** 117 patients were included. The most frequent oncological locations were prostate (23.7%), head and neck (21.5%), and lung (14.1%). The average grip strength in men was  $25.75 \pm 7.41$ kg and  $12.63 \pm 5.40$ kg in women, presenting low grip strength in 40% of men and 46.7% of women. 55.8% had a gait speed  $< 0.80$ m/sec and 58.4% presented Short Physical Performance Battery (SPPB)  $\leq 9$ . 50.9% presented alteration in the Frail-VIG Index (IF-VIG  $\geq 0.2$ ) and 53.8% presented Clinical Frailty Scale (CFS)  $\geq 3$ . However, only 18.8% presented  $\geq 3$  points in the Frail questionnaire.

**Conclusions:** 50% of older patients proposed for radical radiotherapy treatment are frail measured by hand grip, gait speed, SPPB, Frail-VIG Index and CFS.

## P-614

### Identification of sarcopenia using hand grip strength measurement in an oncogeriatric clinic

Sophie Lightbody (1), Olivia Africa (1), Pascale Ashman (1), Sarah Compton (1), Katie Emblen Jarrett (1), Danielle Harari (1), Sophia Henlon (1), Tania Kalsi (1), Rose Mountcastle-Evans (1), Clare Nottage (1), Prashant Patel (1), Bethany Sellwood (1), Car

(1) Guy's and St Thomas' NHS Foundation Trust

**Introduction:** Sarcopenia is common in older people with cancer. It is associated with a poorer prognosis and increased cancer treatment toxicity. Screening for sarcopenia as part of oncogeriatric assessment may help identify frailty, aid prognostication and target interventions. Dynamometers to measure grip strength are a useful tool for identifying sarcopenia. Objectives To assess the feasibility and utility of measuring grip strength in oncogeriatric clinics to identify patients with sarcopenia.

**Methods:** Prospective observational evaluation in an outpatient-based oncogeriatric service in London. Grip strength was measured using a Jamar dynamometer in individuals attending the clinic as part of their standardised Comprehensive Geriatric Assessment (CGA). Patient characteristics including Clinical Frailty Scale (CFS), comorbidities, physical activity, protein intake and CGA interventions were recorded.

**Results:** 96 patients attended clinic between January and March 2023. 49 (51%) had grip strength evaluation attempted and 100% of these successfully completed the test. Rate of assessment of grip strength improved from 43% of patients in the first week to 75% of patients in the final week of this period. Mean age 77 years, 71% male. Median clinical frailty scale (CFS) score 4 (IQR 3–5). Mean grip strength was 28.7kg (SD 8.8) for males and 17.1kg (SD 4.8) for females. Data

collection is ongoing with an expected cohort of at least 100 patients. Full analysis will be presented.

**Conclusion:** Identifying sarcopenia using a dynamometer in oncogeriatric clinics appears feasible and may be a useful adjunct to the identification of frailty in cancer patients with a view to targeted interventions to preserve muscle and physical function.

## P-615

### Evaluation of the quality of life in older adults with Non-Hodgkin Lymphoma

Estefania Elizabeth Abundis-Márquez (1), Cécilia Raquel González-Galván (2), Christian García-Castro (2), Ana Cecilia Muñoz-Díaz (1), Sergio Treviño-Garza (3), Juan Francisco Barrios-Ruiz (4), Perla Rocío Colunga-Pedraza (4), David Gómez-Almaguer (5), Rica

(1) 1. Geriatric Service, Universidad Autónoma de Nuevo León, Facultad de Medicina y Hospital Universitario “Dr. José Eleuterio González”., (2) 1.Geriatric Service, Universidad Autónoma de Nuevo León, Facultad de Medicina y Hospital Universitario “Dr. José Eleuterio González”., (3) 2. Hematology Department Universidad Autónoma de Nuevo León, Facultad de Medicina y Hospital Universitario “Dr. José Eleuterio González”., (4) 2.Hematology Department Universidad Autónoma de Nuevo León, Facultad de Medicina y Hospital Universitario “Dr. José Eleuterio González”., (5) 2.Hematology Department Universidad Autónoma de Nuevo León, Facultad de Medicina y Hospital Universitario “Dr. José Eleuterio González”

**Introduction:** Non-Hodgkin lymphoma is the most frequent malignant neoplasm worldwide [1,2].

**Material and Methods:** Cross sectional study; older adults aged  $\geq 60$  years hospitalized or who attended the hematology clinic during May 2022–2023 were included. Sociodemographic characteristics and characteristics of the disease as the WHOQOL questionnaire were evaluated (Likert type scale of 24 items, facets: sensory abilities, autonomy, past, present, and future activities, social participation, death, and intimacy); transformed score (0–100) is later expressed as a percentage and demonstrate how subjects perceive their Quality of Life (QoL) [3]. We evaluate the QoL before treatment.

**Results:** Total of 17 older adults were recruited, the majority were men (58.8%), the mean age was  $71.9 \pm 10.1$ . The total average result of the QoL test was 82.2, which is interpreted as “very satisfied”. The highest score occurred in the area of intimacy and the lowest score in the area of sensory skills. The intimacy area achieved a transformed score of  $95.5 \pm 5.8$ , indicating that they were delighted with their ability to maintain personal and intimate relationships. The sensory skills area achieved a transformed score of  $63.53 \pm 25.9$ , demonstrating that they were confident with their sensory functioning.

**Conclusions:** They qualified their QoL globally as very satisfactory, obtaining higher scores in the areas of intimacy, past, present and future activities, and autonomy, which reflects that they feel satisfied with their achievements, capable of making their own decisions, and the possibility of maintaining good interpersonal relationships.

## P-616

### Collision tumor: Synchronous breast cancer with Non-Hodgkin Lymphoma

Héctor Alejandro Rodríguez-Calvillo (1), Estefania Elizabeth Abundis-Márquez (2), Antonio Laviada-Nagel (1), Rocío Morales-Delgado (3), David Hernández-Barajas (4)

(1) 1.Internal Medicine Service, Universidad Autónoma de Nuevo León, Facultad de Medicina y Hospital Universitario “Dr. José Eleuterio González”, Monterrey, Nuevo León, México, (2) 3.Geriatric Service, Universidad Autónoma de Nuevo León, Facultad de Medicina y Hospital Universitario “Dr. José Eleuterio González”, Monterrey, Nuevo León, México, (3) 3. Geriatric Service, Universidad Autónoma de Nuevo León, Facultad de Medicina y Hospital Universitario “Dr. José Eleuterio González”, Monterrey, Nuevo León, México, (4) 2. Oncology Service, Universidad Autónoma de Nuevo León, Facultad de Medicina y Hospital Universitario “Dr. José Eleuterio González”, Monterrey, Nuevo León, México

**Introduction:** The synchronous presentation of two tumors is rare (0.52–11.1%) and advanced age is a risk factor. We present a woman who came for pain in the left armpit associated with a palpable lesion [1,2,3]. Case 86-year-old female with diabetes and unspecified arrhythmia. OB/GYN: Nuligesta, Menarche 14 years, and menopause 48 years. FH: breast and ovarian cancer. She started three weeks before presenting pain in the left armpit associated with a palpable lesion.VS: without alterations. PE: palpable ipsilateral axillary nodule, not painful, hard consistency; rest unaltered. CBC, CMP and ECG without alterations. Breast US and Mammography: solid nodule in the left breast associated with microcalcifications and lymph nodes, both axillary and left posterior cervical, of abnormal morphology. BIRADS 5. Biopsy of a left breast nodule at R12H: unspecified type of breast carcinoma, associated with non-solid type ductal carcinoma in situ, G: 3, with IAL present. Sentinel node: left posterior cervical node positive for metastasis—abdominopelvic CT: lymph nodes at the level of the right common iliac lymphatic chain. The location of lymph node metastases did not correspond to the usually described regions of breast carcinoma. Extension CT: posterior cervical adenopathy. Posterior cervical lymph node biopsy: CD20 + large cell lymphoma. Treatment with 6 Cycles of R-CHOP was started. In addition, Modified Radical Mastectomy + Sentinel node + Edge Enlargement is performed.

**Conclusions:** The initial approach was focused on the usual diagnostic process in breast carcinoma, requiring multidisciplinary support. Synchronous breast cancer with Large Cell Non-Hodgkin Lymphoma is rare [1,2,3].

## P-617

### Neutrophil-to-Lymphocyte Ratio: is it a prognostic indicator in patients aged 75 and over with solid cancers?

Giorgia barcaglioni (1), Simon Valero (1), Yvan Moreno (1), Florent Seite (1), Romuald Bocage (1), Lucie Cathelineau (1), Anna Le Houarno (1), Julie Tisserand (1), Nicolas Isambert (2), Marc Paccalin (1), Evelyne Liuu (1)

(1) CHU Poitiers, Department of Geriatrics, (2) CHU Poitiers, Department of Medical Oncology

**Introduction:** Evaluation of the prognosis in older patients with cancer is necessary to determine the therapeutic strategy, with regard to heterogeneous health states for this population. Among the existing prognostic indicators, the neutrophil-to-lymphocyte ratio (NLR) is validated in the oncological population. However, this biomarker is little studied in older individuals with cancers.

**Main objective:** To study NLR as a prognostic indicator in patients aged  $\geq 75$  years with solid cancers.

**Methods:** Retrospective study of the prospective monocentric cohort ANCRAGE (analyse of Cancer in AGED) including patients  $\geq 75$  years evaluated during a first geriatric oncology consultation at the CHU of Poitiers from 05/10/2016 to 12/22/2021. Variables studied:

Sociodemographic data, tumor site, metastatic status, NLR, geriatric parameters such as autonomy, motor skills, nutrition, mood, cognition, and vital status at the date of 01/22/2023. Statistical survival analyses were determined by Cox proportional hazards regression.

**Results:** 1072 patients were enrolled (mean age = 86.8 years  $\pm$  5 years, 60% male, mean duration of follow-up: 633 days). The most common tumor site was prostate (20%) and 35% of patients had a metastatic disease. Multivariate survival analysis showed that age (HR = 1.026;  $p < 0.001$ ), metastatic status (HR = 1.597;  $p < 0.0001$ ), altered ADL defined  $\leq 5/6$  (HR = 1.813;  $p < 0.0001$ ), risk of malnutrition according to MNA score  $\leq 23.5/30$  (HR = 1.604;  $p < 0.0001$ ) and NLR (HR = 1.080;  $p < 0.0001$ ) were associated with higher rate of mortality.

**Conclusion:** Neutrophil to lymphocyte ratio was independently associated with mortality, as well-known prognostic variables, such as age, metastatic status, functional decline and risk of malnutrition.

## P-618

### Do vascular complications influence cancer-related events in individuals with type 2 diabetes?

Evelyne Liuu (1), Pierre-Jean Saulnier (2), Elise Gand (2), Simon Valéro (1), Yvan Moreno (1), Amélie Jamet (1), Samy Hadjadj (3)

(1) CHU Poitiers, Department of Geriatrics, (2) CHU Poitiers, Clinical Investigation Center, (3) CHU Nantes, institut du Thorax

**Aim:** To investigate whether diabetic micro- and macro-vascular complications (mMVC) influence cancer-related events in individuals with type 2 diabetes.

**Methods:** Patients with type 2 diabetes from the SURDIAGENE cohort were characterized (duration of diabetes, HbA1c, mMVC, history of cancer) and prospectively followed-up for death and cancer-related events (occurrence, node and metastatic dissemination, and cancer-related death).

**Results:** Between 2002 and 2012, 1468 participants (58% men, mean age 64.8  $\pm$  10.7 years, mean duration of diabetes 14.5  $\pm$  9.9 years at baseline) were enrolled. At baseline, 119 (8%) had a personal history of cancer. Incident cancer occurred in 207 (14%) patients during a mean follow-up of 7.3  $\pm$  3.7 years, and was associated with older age, smoking status and personal history of cancer. mMVC were not associated with cancer-related events, considering cancer occurrence, node and metastasis dissemination and cancer-specific death. Risk of all-cause mortality was increased in diabetic patients cumulating cancer history and mMVC (HR 1.73, 95% CI 1.25–2.38) compared to those with neither cancer nor mMVC. In our cohort, cancer-related death was not associated with mMVC (HR 1.05, 95% CI 0.67–1.64), but conversely history of cancer was significantly associated with cardiovascular-related death (HR 2.41, 95% CI 1.36–4.26).

**Conclusion:** In our cohort, mMVC were not associated with cancer-related events, while history of cancer was significantly associated with cardiovascular death.

## P-619

### Gut microbiota and physical function in older women with luminal infiltrating ductal breast cancer A and B. BIOMAFIT study protocol

Cristina Gómez Ballesteros (1), Isabel Huedo Rodenas (1), Gema Paterna Paterna Mellinas (1), Borja Gil García (2), Rita López Bru (2), Victoria Sánchez-Flor Alfaro (1), Encarnación Adrover Cebrián (3), María José Molina Garrido (4), María Esther Sánchez L

(1) MD. Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain., (2) MD. Internal Medicine Department, Hospital General de Hellín, Spain., (3) MD. Oncology Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain, (4) Oncology Department, Hospital General Virgen de la Luz de Cuenca, Cuenca, Spain, (5) General Surgery Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain, (6) MD. Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain, (7) MD. Geriatrics Department, Residencia de Mayores Núñez de Balboa, Albacete, Spain., (8) MD. Geriatrics Department, Residencia de Mayores Paseo de la Cuba, Albacete, Spain., (9) MD. Geriatrics Department, Residencia de Mayores Paseo de la Cuba, Albacete, Spain, (10) RN, PhD. Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. Facultad de Enfermería de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain. CIBERFES, Instituto de Salud Carlos III, Madrid, Spain, (11) MD, PhD. Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. CIBERFES, Instituto de Salud Carlos III, Madrid, Spain. Fundación Hospital Nacional de Paraplégicos, Toledo, Spain, (12) MD, PhD. Head of Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. Facultad de Medicina de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain. CIBERFES, Instituto de Salud Carlos III, Madrid, Spain

**Introduction:** It has been shown that the gut microbiome may be involved in the regulation of the immune system and inflammation, important factors in the development and progression of breast cancer. In addition, gut microbiota may interact with treatments used in cancer, such as chemotherapy and radiotherapy, affecting their efficacy and side effects. Physical function is fundamental to the quality of life of older people and loss of physical function has been shown to be a common problem in older women with breast cancer, especially those who have received aggressive treatments. The main objective is to analyse whether gut microbiota characteristics are associated with loss of physical function in older women with luminal infiltrating ductal breast cancer A and B treated with hormone therapy and/or surgery and/or radiotherapy.

**Methods:** Prospective observational cohort study, with follow-up for 18 months. The study will include 100 women over 70 years of age with luminal infiltrating ductal carcinoma A and B. Densitometry, muscle ultrasound and hand grip strength will be performed to assess nutritional status, sarcopenia and frailty. Gut microbiota, tumour markers and oestrogens will be measured before the start of hormone therapy and at the end of follow-up. At baseline, 6, 12 and 18 months, the Short Physical Performance Battery, the Frailty Trait Scale-5 and the European Quality of Life-5 questionnaire will be assessed as outcome variables.

**Key Conclusions:** The hypothesis of this study is that breast cancer and cancer treatments may have an impact on the microbiota of older women, which may affect their functional reserve and precipitate the development of frailty and disability.

## P-620

### Comparison of Healthcare between Oncology and Non-Oncology Patients in a Medium Stay Palliative Care Unit in the Community of Madrid

Gemma Cuesta1 (1), Saleta María Goñi1 (1), Lucía Gómez (1), Concepción Jiménez2 (2), Javier Gómez Pavón3 (3)

(1) Geriatric Service. Hospital Universitario Central de la Cruz Roja1, (2) Palliative Care Unit. Hospital Universitario Central de la Cruz

Roja2, (3) Head of the Geriatric Service. Hospital Universitario Central de la Cruz Roja3

**Objectives:** To analyse the differences between oncology patients (OP) and non-oncology patients (NOP) from the total sample of 400 patients admitted to our Medium Stay Palliative Care Unit (MSPCU) from December 2019 to June 2022, in terms of characteristics, treatment, and progression.

**Materials and Methods:** Retrospective observational study. Epidemiological, clinical, therapeutic, and evolutionary variables.

**Results:** The study analysed 400 patients: 295 oncology (73.85%) and 105 non-oncology (26.3%). Age > 85: 40.3% oncology, 68.6% non-oncology. Hospital mortality: no difference (87.5%), but higher in first 3 days for non-oncology (38.1% vs 29.5%). Non-oncology admissions: cardiac (22.9%), dementia (36.2%), respiratory failure (12.4%), renal failure (6.7%), hepatic failure (2.9%), degenerative diseases (10.5%). Symptomatic control: non-oncology required fewer IV infusions (31% vs 50.8%) and more subcutaneous infusion pumps (68.5%). Palliative sedation: 58.6% non-oncology (similar to 43% oncology). Patient-controlled analgesia (PCA) : 97% in both groups, but non-oncology mostly done by family (81.4% vs 49.3%). Continuous family accompaniment: similar (78.3% and 77.1%).

**Conclusions:** NOP admitted to our MSPCU are older and mostly come from hospital units. Their early mortality is higher with very similar symptomatic management and complications. Continuous family presence is very common in both groups, with less direct patient involvement in the patient-controlled analgesia (PCA) process at admission, possibly due to a higher presence of cognitive impairment.

## P-621

**Crunchy-CHIPs (Cardiovascular and haematological survivorship in breast cancer patients at high risk caused by clonal hematopoiesis of indeterminate potential study) : A pilot trial to evaluate the feasibility of implementing CHIP diagnostics into routine**

Neuendorff Nina Rosa (1), Mauer Tessy (1), Hoffmann Oliver (2), von Neuhoff Nils (3), Reinhardt Christian (1), von Tresckow Bastian (4), Bittner Ann-Kathrin (2)

(1) University Hospital Essen, Department for Hematology and Stem Cell Transplantation, (2) University Hospital Essen, Department for Gynaecology and Obstetrics, (3) University Hospital Essen, Department for Pediatrics III, (4) University Hospital Essen, Department for Hematology and Stem Cell Transplantation

**Introduction:** Clonal haematopoiesis of indeterminate potential (CHIP) refers to the presence of a haematopoietic clone with a typical leukemia driver mutation without the presence of an underlying hematopoietic disease. CHIP is associated with rising age, increased risk of cardiovascular diseases (CVD) and (therapy-induced) leukemia. Early-stage breast cancer carries excellent long-term outcomes, thus, treatment-induced toxicities such as CVD are of utmost importance during survivorship care. In this pilot trial, we test the feasibility to integrate pre-treatment CHIP diagnostics into the routine care of breast cancer patients.

**Methods:** Patients with early-stage breast cancer  $\geq 60$  years without known hematological disease will be approached. Study procedures include pre-treatment CHIP diagnostics by targeted next generation sequencing from peripheral blood samples, assessment of CVD, cardio-vascular risk factors, and acceptance of study procedures.

**Results:** The primary outcome measures include the estimation of willingness to participate, secondary outcome measures include evaluation of patient acceptance of the study process, potential fears

in relation to CHIP-positivity, and cardiovascular risk profile of CHIP-positive versus CHIP-negative patients. The study is currently recruiting.

**Key Conclusions:** This pilot trial will assess the feasibility and patient acceptance to integrate CHIP diagnostics into routine patient care. If successful, a larger cohort study that integrates an intensified CHIP-tailored survivorship program is planned in order to minimize late treatment-related toxicities and improve long-term outcomes of older breast-cancer patients.

## P-622

**Persistent thrombocytosis and hyperkalemia as a paraneoplastic syndrome. Case report**

Marc Donaldson Quintana (1), Maria Isabel Larrea Barea (1), Francisco Javier Montenegro (1), Maria Laura Britze (2)

(1) Consorci Sanitari Integral. Barcelona. Spain, (2) Hospital Santa Creu i Sant Pau. Barcelona. Spain

**Introduction:** 87-year-old male, COPD, disease-free colon adenocarcinoma. Under follow-ups from primary care for one-year history of persistent thrombocytosis. Barthel 100, VIG-Frail 3. On admission,  $16 \times 10^9/L$  leukocytes,  $1459 \times 10^9/L$  platelets, hyperkalemia 6.2 mmol/L, myeloproliferative syndrome was suspected. Genetic study JAK2V167F tested positive. Due to persistent thrombocytosis treatment with Hydroxyurea was initiated. Discharged after clinical and analytical resolution. Reconsults for hematuria and fever due to pancytopenia, withholding hydroxyurea and requiring granulocyte-stimulating factor, red blood cells and platelet transfusions suspecting pharmacological etiology. Bone marrow biopsy reported toxic marrow aplasia. Thoracoabdominal scan was performed to rule out causes of reactive thrombocytosis, revealing a mass in the left upper lobe and nodules suggestive of metastasis. Patient refused to expand the study.

**Conclusions:** Primary thrombocytemia is a myeloproliferative syndrome characterized by increased platelets, megakaryocytic hyperplasia, and bleeding tendency. It is an exclusion diagnostic and must be considered after ruling out reactive causes. Thrombocytosis produces pseudohyperkalemia. During blood coagulation process when extracted, platelets release intracellular potassium. It does not reflect an actual increase in potassium levels. As a diagnosis, heparinized plasma and serum samples are compared; if the concentration in serum is higher than that obtained in plasma, is confirmed. Paraneoplastic syndromes arise from inappropriate peptide secretions or immune reactions from the tumor. They are most often associated with lung cancer. There is no relationship between severity and size, and they can manifest before diagnosis. Hypercalcemia and hematological syndromes have a worse prognosis. Thrombocytosis at diagnosis of lung cancer has been observed in up to 32%.

## P-623

**Comparison of the geriatric screening tools G8 and modified G8 in older patients with lung cancer: A validation study**

Danny Bech (1), Lone Winther Lietzen (1), Peter Meldgaard (2), Anne-Kathrine Ryltoft (1), Marianne Ørum (1)

(1) Department of Geriatrics, Aarhus University Hospital, Aarhus, Denmark, (2) Department of Oncology, Aarhus University Hospital, Aarhus, Denmark

**Background:** Integration of Comprehensive Geriatric Assessment (CGA) in the trajectory of older patients with frailty with cancer is

internationally recommended. The G8 screening tool identifies older patients with cancer who may benefit from CGA. However, a modified G8 (mG8) tool is developed and has shown to be even more precise in facilitating selection for full CGA in older patients with cancer.

**Aim:** To identify the accuracy of the G8 and mG8 are to identify the need for intervention in one or more geriatric domains in patients with lung cancer, all stages and advanced disease stage (stage IIIb-IV), after CGA and thereby may benefit from CGA.

**Method:** Predictive validation study. Comparing the diagnostic accuracy of G8 versus mG8 applied in a cohort of 210 patients aged  $\geq 70$  years with lung cancer who underwent CGA. Outcome measures were sensitivity, specificity, and area under the receiver operating characteristic (AUROC) curve.

**Results:** G8 questionnaire sensitivity: 90% (95% Confidence-interval (CI), 86 to 94), specificity: 39% (95% CI 33 to 46), AUROC: 77 (95% CI 69 to 86). mG8 questionnaire sensitivity: 87% (95% CI 82 to 92), specificity of 37% (95% CI 30 to 43), AUROC: 72 (95% CI 64–81). In conclusion, we found no significant difference when comparing the accuracy of G8 and mG8 tools' ability to identify older patients with lung cancer (all stages and advanced disease) who may benefit from CGA. Both tools can be used as screening tools and can provide clinicians with important information about older patients with lung cancer.

## P-624

### Hematological oncology in older adults: Is frailty the only concern?

Sara Martínez Flores (1), Isabel González Gascón y Marín (1), Brian Vasquez Brolen (1), Leire Eguzkiza-Ezponda (1), Julia Castillo García (2), Marta Neira Álvarez (1), Jose Ángel Hernández-Rivas (1), Fátima Brañas Baztán (1)

(1) Hospital Universitario Infanta Leonor, Madrid, Spain, (2) Hospital Real Nuestra Señora de Gracia, Zaragoza, Spain

**Introduction:** The objective of this study is to describe the differences between patients with different types of hematological oncology diseases (myeloid, lymphoid, and plasma cell) in terms of baseline status and progression in older adults.

**Methods:** A prospective observational study was conducted between 2019–2022 on patients with hematological neoplasms who underwent CGA, including frailty assessment (Fried phenotype), cognition (MMSE), and nutritional status (MNA-SF). Geriatric interventions, disease-related variables, and treatment outcomes (toxicity, attenuation, relapse) were evaluated.

**Results:** A total of 89 patients were analyzed. Mean age was 83 and 49% were women. 18 (20.2%) had myeloid neoplasms (My), 41 (46.1%) lymphoid (Lym), and 30 (33.7%) plasma cell neoplasms (PC). Significant differences were found in: frailty (My 44.4% vs Lym 36.3% PC 80%,  $p < 0.001$ ); pre-frailty (My 33.3%, Lym 51.5%, PC 10%,  $p < 0.001$ ), prevalence of cognitive impairment (My 0%, Lym 27%, PC 41.7%,  $p < 0.015$ ) and a risk of malnutrition/undernutrition (My 0%, Lym 20.5%, PC 35.7%  $p < 0.029$ ). Dose attenuation (My 22.2%, Lym 40%, PC 60%,  $p < 0.038$ ). Additionally, within the PC group, a dose reduction was required in 47.9% of cases during treatment, and this group also had the highest percentage of relapse (53.3%). Interventions were conducted in 95.5%, with a higher percentage in the PC and Lym groups (My 83.3%, Lym 97.6%, PC 100%,  $p < 0.03$ ).

**Conclusions:** Improved knowledge of different hematological oncology conditions by geriatric specialists can lead to better evaluation, patient optimization, and targeted interventions based on the specific profiles found related to the hematological disease.

## P-625

### Bilateral Synchronous Primary Testicular Lymphoma in the Elderly

Jose Luis Amorone Leiva (1), Jose Gabriel Alvarez (1), Claudia Caballero Gonzalez (1), Mariana Yasmin Saiz (2), Valentina Faccio (2)

(1) Hospital Mariano y Luciano de la Vega, (2) Universidad de Morón

**Introduction:** Primary testicular lymphoma (PTL) typically occurs in individuals over 60 years of age. It represents 1–9% of testicular tumors and 1–2% of all non-Hodgkin lymphomas. The common histotype of PTL is diffuse large B-cell lymphoma. Synchronous testicular involvement occurs in 3% of PTL cases.

**Clinical Case:** A 67-year-old patient presents with fever, nausea, and pain in the buttocks. He has a history of smoking and cocaine use for 10 years. Leukocytosis with neutrophilia and LDH: 679 U/L. PCR for SARS-CoV-2 is positive. Hard and painful nodules are palpated in both testicles, confirmed by ultrasound. Tumor markers are negative. Normal CT abdomen, pelvis, and chest scan. Drainage of gluteal and perineal abscess is performed due to Fournier's gangrene. Blood cultures and abscess secretion reveal methicillin-resistant *Staphylococcus aureus* sensitive to vancomycin. Bilateral orchiopexy is performed through inguinal access with intraoperative biopsy, which reports morphological findings consistent with a lymphoproliferative process. Immunohistochemical analysis indicates peripheral B-cell non-Hodgkin lymphoma, mature subtype, and diffuse large cell lymphoma of the testicle according to the WHO classification. The patient is referred to an extrahospital Oncohematology service for further chemotherapy treatment.

**Conclusions:** PTL is a rare tumor, and bilateral involvement is extremely rare. It carries a poor prognosis with a tendency for systemic spread. Diagnosis is often delayed due to confusion with chronic orchitis. The treatment of choice is orchiectomy, with or without radiotherapy, and chemotherapy. However, due to its low frequency, there is no standardized treatment protocol for PTL.

## P-626

### The relevance of comprehensive geriatric assessment in oncogeriatrics

Gloria Bravo (1), Pablo Villace (1), Laura Medina (1), Marina Roig (1), Alicia Carrasco (1), Maria Eugenia Zegrí (1)

(1) Parc Tauli Hospital

**Introduction:** Cancer incidence increases with age due to increased susceptibility to carcinogens, immunosenescence and increased cytokine production. Ageing implies reduced life expectancy and limited tolerance to stress. Comprehensive geriatric assessment (CGA) is a tool to help facilitate shared decision-making.

**Methods:** Retrospective observational study of elderly patients diagnosed with solid tumors referred to the Oncogeriatrics unit from

01/01/2017 to 31/12/2022 in which CGA was performed to classify them as fit, vulnerable or fragile according to the Balducci frailty criteria prior to receiving the initially proposed treatment (chemotherapy, radiotherapy or surgery) .

**Results:** A total of 244 patients with a mean age of 82.5 years, mean Barthel Index 84 and a mean of two geriatric syndromes were assessed. According to Lawton & Brody, 72.4% were independent for instrumental activities. Up to 60% were evaluated for complex surgical treatment. After CGA, 53.69% were considered fit; 29.51%, vulnerable, and 16.8%, frail. The concordance between the treatment initially proposed and the one finally carried out was higher in the fit group (70.3%) than in the vulnerable (56.52%) and fragile (12.2%) ones. Severe disease complications were higher in vulnerable patients. Survival in fit patients was higher than in all other patients after follow-up.

**Conclusions:** Most of the patients undergoing CGA were independent for basic and instrumental activities, preserved cognitive functions and low morbidity. In vulnerable and frail patients, CGA had an impact on the treatment decision that was finally made. The results show the relevance of CGA for shared decision-making and facilitate further personalisation in order to provide the best treatment.

## P-627

### Analysis of Ten-Year Colorectal Cancer Screening Positive Cases in a Southern Taiwan

Kun-Ling Wu (1), Xiao-Han Chen (2), Shao-Fan Wei (2), Wei-Ling Jiang (2), Ta-Ming Yang (3)

(1) Department of Family Medicine, Outpatient Department, Cancer Screening Center, Tainan Municipal Hospital (Managed by Show Chwan Medical Care Corporation), Tainan City, Taiwan, (2) Cancer Screening Center, Tainan Municipal Hospital (Managed by Show Chwan Medical Care Corporation), Tainan City, Taiwan, (3) Cancer Screening Center, Division of General Surgery, Superintendent's Office, Tainan Municipal Hospital (Managed by Show Chwan Medical Care Corporation), Tainan City, Taiwan

**Introduction:** In Taiwan, cancer has been the leading cause of death for 40 consecutive years. Since 2010, the Taiwan National Health Insurance Administration has initiated the "Hospital Cancer Care Quality Improvement Program" which provides free cancer screening program. We aim to strengthen the follow-up referral and to improve the diagnosis rate.

**Methods:** We collected relevant data on colorectal cancer screening positive cases from a regional hospital in southern Taiwan from 2010 to 2022. The collected data include age, gender, family history of colorectal or other cancers, presence of gastrointestinal symptoms. The analysis was performed by SPSS version 22 software.

**Results:** From 2010 to 2022, 58,944 individuals age over fifty underwent colorectal cancer screening. 6,671 cases were positive, and 4,687 successfully referred for colonoscopy. Among them, 149 were colorectal cancer. In the single-variable analysis, age above 70, family history of colorectal cancer or other cancer showed statistically significant differences. After controlling for age, gender, and other variables, males, age above 70, and individuals with a family history of colorectal or other cancers had a higher proportion of positive cases diagnosed with colorectal cancer. Further analysis of both male and female population, age above 70 and a family history of colorectal cancer or other cancers still showed a statistically significant difference.

**Conclusions:** This study found that the risk of colorectal cancer among positive cases in colorectal cancer screening is higher in males. Age above 70 and a family history of colorectal or other

cancers were other significant risk factors. These findings can contribute to more effective strategies for colorectal cancer screening and diagnosis.

## P-628

### Postoperative complications in the elderly undergoing elective surgery for colorectal cancer

Konstantinos Paschos (1), Tsopozidis Christos (1), Ioanna Kirkenidou (1), Anestis Chatzigeorgiadis (1)

(1) General Hospital of Drama

Colorectal cancer (CRC) constitutes the third leading cause of cancer worldwide. Almost 60% of new cases are diagnosed in the elderly. Despite the benefits of surgery, the rate of adverse postoperative outcomes increases with advancing age.

**Methods:** This study investigates the nature, incidence, severity and outcomes of in-hospital postoperative complications (POCs) in patients older than 70 years, undergoing elective surgery for CRC in a secondary Greek hospital. Medical and surgical POCs concerning elderly patients were retrieved retrospectively from the medical records (2010–2022), and the severity of the POCs was graded by the Clavien-Dindo (CD) grading system. The length of stay (LOS), transfer to the intensive care unit, 30-day and 1-year mortality were analyzed comparing patients with and without  $CD \geq 2$  and  $CD \geq 3$  POCs.

**Results:** Adequate data were discovered for 254 patients. Medical POCs were more frequent (62%) than surgical ones (19%). The most common medical POCs included infections (32%), transient confusion or altered mental function (29%), renal insufficiency (16%), cardiac arrhythmia (12%), and ileus or gastroparesis (7%). The most common surgical POCs included surgical site infections (11%), wound dehiscence/bleeding (5%) and anastomotic leak (3%). The reoperation rate was 6%.  $CD \geq 2$  POCs led to 23 intensive care unit admissions and increased median postoperative LOS by 124% ( $p < 0.001$ ), and significantly increased 30-day and 1-year mortality ( $p < 0.05$ ).  $CD \geq 3$  POCs increased LOS by 181% ( $p < 0.001$ ), as well as 1-year mortality ( $p < 0.05$ ).

**Conclusion:** The in-hospital medical and surgical complications after elective surgery for CRC in the elderly are frequent and may substantially worsen postoperative outcomes.

## P-629

### Colorectal cancer in older patients: endoscopic diagnosis and surgical treatment

Konstantinos Paschos (1), Anestis Chatzigeorgiadis (1)

(1) General Hospital of Drama

Colorectal cancer (CRC) is the third leading cause of cancer worldwide. The majority of new cases are diagnosed in older patients.

**Methods:** This study investigates the prevalence of CRC in geriatric patients (older than 80 years) undergoing endoscopy and analyzes their outcome in a secondary Greek hospital. Patients were identified from the surgical department-endoscopy laboratory database, undergoing lower gastrointestinal endoscopy between 2018 and 2022. Patients with CRC diagnosis were evaluated with respect to indication, localization and stage of cancer, therapeutic consequences and survival.

**Results:** CRC was diagnosed in 58 patients, 35 women and 23 men (mean age 84.7 years). The most common indications leading to

endoscopy were lower gastrointestinal bleeding (34%), anemia (28%) or sonographic suspicion of tumor (10%). Localization of CRC was the sigmoid colon (29%), the rectum (24%) and the cecum-ascending colon (18%). Stage Dukes A was rare (1.5%), while Dukes D was 29% of cases. Curative surgery was performed in 37 patients (63%). The remaining 21 patients (37%) did not undergo an operation due to distant metastases (11 patients), cardiopulmonary or renal comorbidity (6 patients) or refusal (4 patients). The postoperative in-hospital mortality was 2%. Operated patients had a one-year and three-year survival rate of 82% and 39%, while non-operated patients had 41% and 11% respectively.

**Conclusion:** Gastrointestinal endoscopy appears to be critical for CRC diagnosis in geriatric patients. Although they usually present multiple comorbidities, curative colectomies for CRC may successfully be performed for a significant part (in this study 63%) of this patient population.

## P-630

### Can Complementary Therapies Reduce the Need for Analgesics in Older Adults with Cancer?

Alexandra Mantoudi (1), Marianna Mantzourou (1), Dimos Mastrogiannis (2), Theodoula Adamakidou (1), Paraskevi Apostolara (1), Marianna Drakopoulou (1), Ioanna Tsatsou (1), Afrodit Zartaloudi (1), Maria Nikoloudi (3), Kyriaki Mystakidou (3)

(1) Nursing Department, University of West Attica, Athens, Greece, (2) General Department of Lamia, University of Thessaly, Greece, (3) Pain Relief and Palliative Care Unit, Department of Radiology, Areteion Hospital, School of Medicine, National & Kapodistrian University of Athens, Athens, Greece

**Introduction:** Pain is a very common symptom in older adults with cancer. Analgesic and adjuvant medications, depending on the disease itself and its staging, usually follow an increasing dosage course and are rarely decreased. Aim of the study: To investigate whether Complementary Therapies, reflexology and relaxation in particular, can contribute towards analgesic and adjuvant medication dosage reduction in older adults with cancer.

**Material and Methods:** In a randomized controlled study, 175 older patients with cancer were equally divided in reflexology, relaxation and control groups. The reflexology and relaxation groups received six weekly corresponding sessions and all groups received usual care. Analgesic medication usage was monitored preintervention, at fourth, sixth week of intervention and at eighth week follow-up.

**Results:** In the reflexology, relaxation and control groups 29%, 30% and 36% respectively were receiving radiotherapy, 33%, 29% and 36% chemotherapy and 39%, 32% and 46% had metastases. There was no homogeneity between groups in the dosage change of analgesic and adjuvant medication, where the control group had a statistically significantly higher rate of dose increase from baseline compared to the reflexology and relaxation groups at 4th week (81.7% vs 32.2%—28.6% respectively,  $p$ -value < 0.0005), at 6th week (65% vs 25.4% -14.3% respectively,  $p$ -value < 0.0005) and at 8th week follow-up (45% vs 17%-20% respectively,  $p$ -value 0,001).

**Key Conclusions:** Reflexology and relaxation can reduce analgesic and adjuvant medication usage. Therefore, health professionals should be trained in such Complementary Therapies, as they can contribute towards fewer complications and improved wellbeing of older adults with cancer.

## P-631

### Comparative analysis of oncogeriatric patients with digestive cancers undergoing Comprehensive Geriatric Assessment

Eva Maria Amor Fernández (1), Berta Areny Perelló (1), Jordi Recuero-Borau (2), Adriana Gómez-Alderete (2), Laura Rio-No (3), Marta Guix-Arnau (2), David Conde-Estévez (3), Maria Pi-Figueras Valls (1)

(1) Geriatric department, Hospital del Mar, (2) Medical Oncology department, Hospital del Mar, (3) Pharmacy department, Hospital del Mar

**Introduction:** Frailty is an important prognostic marker in elderly cancer patients. The risk of malnutrition, a domain from Comprehensive Geriatric Assessment (CGA), is known to be associated with frailty in cancer patients. Evidence shows that pancreatic cancer is typically diagnosed at an advanced stage with constitutional syndrome as guiding symptom. In contrast, colorectal cancer tends to be diagnosed in an earlier stage with a better overall patient health condition. Our aim was to analyse oncogeriatric patients with digestive cancer assessed by CGA.

**Methods:** Observational retrospective descriptive study of a cohort of > 70 years old patients diagnosed with biliopancreatic (BpC) and colorectal cancer (CRC) undergoing CGA between 2017 and 2023 at Hospital del Mar, Barcelona. Data collected was: age, gender, malnutrition, cancer type, G8 screening tool and oncogeriatric classification.

**Results:** 86 patients were assessed (39 CRC, 47 BpC). Median age in both groups was 79 years old and almost 50% were males. Malnutrition was present in 63.2% CRC and 87% BpC. G8 screening tool was positive in 92% CRC and 94% BpC. Neither severe dementia nor high dependence was found. Oncogeriatric classification was: group I (fit) CRC 28.2% and BpC 14.9%; group II (pre-frail) CRC 56.4% and BpC 78.7%; group III (frail) CRC 15.4% and BpC 6.4%. No patients were classified in group IV.

**Conclusions:** As reported in the literature, approximately 80% of the patients in both groups were frail or pre-frail, but there was a higher proportion of malnutrition and group III (Frail) in BpC compared to CRC patients.

## P-632

### Incidence of mortality in vulnerable and non-vulnerable older cancer patients

Héctor Alejandro Rodríguez-Calvillo (1), Estefania Elizabeth Abundis-Márquez (2), Elías Román Urdiales-Hidalgo (3), Omar Alejandro Zayas-Villanueva (3), Rocío Morales-Delgado (2), David Hernández-Barajas (3)

(1) Internal Medicine Service, Universidad Autónoma de Nuevo León, Facultad de Medicina y Hospital Universitario “Dr José Eleuterio González”, Monterrey, Nuevo León, México, (2) Geriatric Service, Universidad Autónoma de Nuevo León, Facultad de Medicina y Hospital Universitario “Dr José Eleuterio González”, Monterrey, Nuevo León, México, (3) Oncology Service, Universidad Autónoma de Nuevo León, Facultad de Medicina y Hospital Universitario “Dr José Eleuterio González”, Monterrey, Nuevo León, México

**Introduction:** Cancer most often affects older adults; 56% of all newly diagnosed cancer patients and 71% of deaths belong to this age group. Frail patients are at increased risk of unfavorable outcomes after treatment [1,2,3].

**Material and Methods:** Cross-sectional study; adults older than  $\geq 65$  years who attended the Oncology department were included, with a diagnosis of a solid malignant neoplasm during March 2022–May 2023. Sociodemographic characteristics and characteristics of the disease were evaluated, and the G8 test was applied, a tool that identifies patients at risk of frailty (nutritional status, mobility, age, general health status, neuropsychological status, drugs used); a score  $\leq 14$  indicates that they are vulnerable [4]. They were classified into two groups: group 1 (vulnerable) and group 2 (non-vulnerable). Telephone follow-up was performed at 12 and 24 weeks. We evaluated the incidence of mortality in both groups after oncological medical management.

**Results and Conclusions:** Eighty-eight older adults were recruited, the majority were men (77.3%), and the mean age was  $74.2 \pm 6.71$ . Forty-seven patients (53.4%) were vulnerable (group 1), and 41 patients (46.6%) were non-vulnerable (group 2). Mortality at 12 weeks was evaluated: vulnerable (29.8%) vs. non-vulnerable (0%), and mortality at 24 weeks: vulnerable (46%) vs. non-vulnerable (4.9%). In both follow-ups, statistically significant results were obtained ( $< 0.001$ ). Vulnerable patients have a higher risk of unfavorable outcomes; their detection is essential to perform a comprehensive geriatric assessment and provide multidisciplinary treatment, improving the prognosis of their disease.

### P-633

#### Outcomes of Total Gastrectomy for Gastric Adenocarcinoma in Geriatric Population

Ismail Tirnova (1), Ahmet Serdar Karaca (1), Serap Yücel (1)

(1) Başkent University

**Introduction:** Gastric adenocarcinoma is one of the most aggressive tumors of the gastrointestinal system. Total gastrectomy (TG) have important effects on patients' quality of life. In this study we aimed to compare the effects of TG in geriatric population, in comparison to youngsters.

**Methods:** A total of 50 gastric adenocarcinoma patients who underwent total gastrectomy were included. 20 of them were under 65 years old and evaluated in Group 1. Other 30 patients were  $\geq 65$  years old and evaluated in Group 2.

**Results:** The both groups were similar in terms of preoperative nutritional status as albumin levels and body mass index. CONUT scores and NRS scores were also similar. Length of hospital stay were comparable. Permanent pathological findings were similar in both groups. Clavien Dindo scores were higher in Group 2 ( $p = 0.032$ ).

**Conclusion:** In Conclusion, although the general nutritional and oncological conditions were similar, the incidence of complications was found to be higher in the geriatric group.

### P-634

#### Changes in frailty status in older patients with newly diagnosed multiple myeloma

Belén Escudero-González (1), Paula Sobrini-Morillo (2), Claudia Álvarez-Pinheiro (1), María Jesús Blanchard-Rodríguez (1), Carmen Sánchez-Castellano (1), Alejandro Zurdo-Castronuño (1), A. Rodríguez-Díaz-Pavón (1), C. Corral-Tuesta (1), S. Lippo (1), V. L.

(1) Hospital Universitario Ramón y Cajal, (2) Hospital Universitario Puerta de Hierro

**Introduction:** Frailty may impact prognosis in older patients with newly diagnosed multiple myeloma (MM) and changes after

treatment. We aimed to assess the prognostic impact and changes in time of frailty status in such patients.

**Methods:** Prospective, observational, single-centre study included patients aged  $\geq 65$  years with newly diagnosed MM. Sociodemographic variables, comorbidities (CIRS-G), functional (Barthel, FAC), mental (GDS), nutritional status (MNA-SF) and frailty (GAH and FRAIL) were measured at diagnosis and one year later. Treatment response, adverse effects, compliance with nutritional and physical exercise recommendations and mortality were recorded. All participants received treatment for the MM following standard protocols.

**Results:** At baseline 29 participants (mean age  $80 \pm 6$  years, 75.9% women) had few comorbidities (92% CIRS-G  $< 20$ ), were independent (93% Barthel  $\geq 65$ , 96% FAC  $> 4$ ), had no cognitive impairment (83% GDS 1), but were at risk of malnutrition (55% MNA-SF  $\leq 11$ ), frailty (43% GAH  $\geq 42$ ; 35% FRAIL  $\geq 3$ ) and received polypharmacy (84%). Two died during follow-up. Participants without frailty risk (GAH  $< 42$ ) had a better response to treatment ( $p 0.021$ ), but showed no significant differences in treatment adjustment, reduction or interruption due to adverse effects. After one year of treatment and nutritional (70%) and exercise (48%) recommendations, frailty status was unchanged (GAH  $< 42$  40.7% vs GAH  $\geq 42$  37.0%,  $p 1.00$ , FRAIL  $< 3$  67% vs FRAIL  $\geq 3$  63%,  $p 1.00$ ).

**Conclusions:** frail older patients with MM have an impaired response to treatment. Frailty levels do not improve in the first year of treatment.

### P-635

#### Appropriateness of therapeutic effort in an elderly patient with an advanced neuroendocrine tumor. How far should we go?

Marta Lorente Escudero (1), Itxaso Marín Epelde (1), Karmele Garaioa Aranburu (1), Ángela Zulema Hernández Amador (1), Francesca Soler Parets (1), Beatriz Echarte Archanco (1), Marina Sánchez Latorre (1)

(1) Hospital Universitario de Navarra (Pamplona, Spain)

**Introduction:** Neuroendocrine tumors are a heterogeneous group of neoplasms whose malignancy depends on the presence of metastases, 90% of which are of hepatic origin. Their behavior is often indolent, only 10% of cases beginning with carcinoid syndrome. Some studies aim to determine the suitability of primary tumor resection even in advanced stages, which can increase survival from 14 to 60 months.

**Clinical case:** A 94-year-old woman, living in a nursing home, without cognitive impairment and who needs help with activities of daily living, with advanced heart and kidney failure, was admitted to the Acute Geriatric Unit due to constitutional syndrome and chronic diarrhea that had been developing over the past 7 months. Supplementary tests: An initial abdominal ultrasound revealed multiple focal liver lesions suggestive of metastatic neuroendocrine tumor. To complete the study and ensure adequate symptomatic control, a thoraco-abdomino-pelvic CT was performed, showing numerous bone, liver and lung metastases. Evolution: Based on these results, and taking the patient's baseline condition into account, a joint decision was made to adopt a palliative management approach. Due to the persistence of numerous daily diarrheal episodes, Octreotide treatment was started. Finally, it was decided to transfer her to a medium-stay Palliative Care Unit to continue care and optimize symptomatic control.

**Conclusions:** In situations with a high risk of complications and poor short-to-medium-term prognosis, progressively adjusting the therapeutic effort is essential. A comprehensive geriatric assessment and thorough social approach are essential to promote early diagnosis and



prevent inadequate therapeutic responses in advanced stages of cancer.

### P-636

#### Association between Iron Deficiency, Serum Iron and Mortality in Older Patients with Cancer

Julie Tisserand (1), Marc Paccalin (1), Evelyne Liuu (1)

(1) CHU de Poitiers

**Introduction:** In oncology, ferritin levels are influenced by chronic inflammation and frequent Iron Deficiency (ID). Transferrin saturation (TSAT) completes the assessment of ID. Studies have shown a significant association between serum iron levels and frailty. Primary objective: to assess the association between ID, serum iron, and mortality in patients  $\geq 75$  years old with cancer.

**Methods:** This was a retrospective, observational, single-center study that included patients  $\geq 75$  years old, evaluated through a first geriatric oncology assessment at the University Hospital of Poitiers, France, between 1 January 2009 and 31 December 2018. ID, whether absolute or functional, was defined according to ESMO (European Society for Medical Oncology) criteria: - ESMO: ID if TSAT < 20%, absolute ID (IDA) if ferritin < 100  $\mu\text{g/L}$ ;—Severe ID was defined as ferritin < 30 $\mu\text{g/L}$ . Variables studied: sociodemographic data, oncological data: tumour site, metastases, cancer treatment, biological data: values for ferritin, TSAT, serum iron, haemoglobin and vital status at 21/05/2023. Statistical analyses of survival were performed using the Logrank test with graphical representation according to the Kaplan–Meier method, and the Cox proportional hazards model test.

**Results:** During the nine years of recruitment, 526 patients were included, 45% women ( $n = 235$ ), mean age  $82 \pm 5$  years, most common cancer: colon 18% ( $n = 97$ ), metastatic cancer 40% ( $n = 206$ ). Median follow-up time: 16 months. Mean serum iron 9.8  $\mu\text{mol/l}$ . Majority of patients had anaemia 56% ( $n = 293$ ), frequent ID 66% ( $n = 347$ ), IDA 28% ( $n = 147$ ). In anaemic patients, ID (HR = 1.31, 95% CI [1.23—1.42]  $p = 0.04$ ) according to ESMO criteria, was independently associated with an increased risk of mortality. In non-anaemic patients, serum iron levels were significantly associated with mortality (HR = 1.07, 95% CI [1.02—1.12]  $p = 0.04$ ).

**Conclusion:** In our study, ID and serum iron levels were significantly associated with mortality in older patients with cancer. These results suggest that particular attention should be paid to serum iron and ID in this population.

**Key words:** Gero-Oncology- iron deficiency—serum iron—mortality—cancers.

### P-637

#### Geriatrics and Oncological Radiotherapy in rectal cancer: proposal for improvement from interdisciplinarity

Romik Leticia Méndez Baldeón (1), Natalia Rodríguez Osto (1), Ana Lydia Sánchez Aso (1), Beatriz Gamboa Huarte (1)

(1) Hospital Nuestra Señora de Gracia Zaragoza

Colorectal cancer ranks second in incidence after lung cancer. 60% of patients are over 70 years. Treatment includes surgery, chemotherapy, and radiotherapy. In the rectal location, the objective of treatment includes preserving the function of the anal sphincter. In general, age increases surgical risk, but we cannot rule out these patients from therapies applied to younger patients. Comprehensive geriatric assessment (CGA) provides more accuracy in the diagnosis of frailty

than simple clinical judgment. We base this assessment answering these three questions; Will the patient die with cancer or from cancer? Can he cope with the stress of chemotherapy treatment? And are we going to provide more benefit than harm? In our Geriatrics service, we have incorporated an interdisciplinary improvement project whose objective is to include Geriatric Assessment in therapeutic decision-making in colorectal cancer in elderly patients who are susceptible to radiotherapy. For this purpose, an email will be used to receive the requests sent from the Multihospital Clinical Unit of Radiotherapy Oncology of Aragon. It will be added to the outpatient consultation agenda as a special quota, in said consultation a CGA will be carried out with the corresponding report and a therapeutic intervention plan. Patients will have a clinical follow-up. Other objectives are simplify the polypharmacy, work on secondary prevention of frailty, functional deterioration and malnutrition. Evaluation indicators include coverage, response time, treatment received, follow-up, complications, and mortality.

**Conclusions:** Geriatric assessment is becoming increasingly relevant in therapeutic decision-making over all those of an invasive nature, in the elderly population.

### Gerotechnology

### P-638

#### Effectiveness of a digital health-coaching self-management program for older adults living alone with multiple chronic conditions

Seonghyeon Lee (1), Minhwa Hwang (1), Ga-Eun Park (1)

(1) College of Nursing Seoul National University

**Introduction:** The population is aging, and older adults with multiple chronic conditions are rapidly increasing. After the recent pandemic, various studies on self-management interventions using digital technology have been conducted. Since older adults living alone are susceptible to social isolation and the digital device, special consideration for this population is needed. This study aimed to evaluate the effectiveness of the Digital Health-Coaching Self-Management Program for Multiple Chronic Conditions (DHCSMP-MCC) in older adults living alone.

**Methods:** A single-blinded randomized controlled trial was conducted. Fifty participants were randomized to the intervention or control group. The intervention group received DHCSMP-MCC for 8 weeks, which is a blended intervention delivered face-to-face and non-contact (phone calls and a smartphone app named HABA 2022). The primary outcome was self-management assessed by the Self-care of Chronic Illness Inventory (SCII) and the secondary outcomes were depression (Patient Health Questionnaire; PHQ-8) and health-related quality of life (EQ-VAS). Data were collected before and after the intervention, and analyzed using repeated measure ANOVA and generalized estimated equation.

**Results:** Data from 42 participants in total, 21 participants per group, were included in the analysis. The repeated measure ANOVA demonstrated a significant group  $\times$  time effect in the PHQ-8 score ( $p = 0.04$ ). There was a tendency for improvement in self-care monitoring score and EQ-VAS in the intervention group, but there was no group  $\times$  time effect.

**Key Conclusions:** Participation in an 8-week DHCSMP-MCC improved depressive symptoms in older adults living alone with multiple chronic conditions. Further studies with a larger sample and longer intervention and follow-ups are needed.\* This research was supported by the National Research Foundation of Korea (NRF) grant

funded by the Korean government (MSIT) (No.2021R1A2C2006222).

### P-639

#### Digital solutions for falls assessment and intervention in older adults (GAIT2CARE)

Marta Neira Alvarez (1), Elisabet Huertas-Hoyas (2), Antonio Del-Ama (3), Luisa Ruiz-Ruiz (4), Antonio-Ramon Jimenez-Ruiz (4)

(1) Department of Geriatrics, H.U. Infanta Leonor and Foundation for Research and Biomedical Innovation of the Infanta Leonor University, Madrid, Spain, (2) Physical Therapy, Occupational Therapy, Rehabilitation and Physical Medicine Department, Rey Juan Carlos University, 28,922 Madrid, Spain, (3) School of Experimental Sciences and Technology, Rey Juan Carlos University, Mostoles, 28,933, Spain, (4) Centre for Automation and Robotics, CSIC-UPM, Arganda del Rey, 28,500 Madrid, Spain

**Introduction:** Falls in elderly population are a mayor public health concern. Assessment and intervention are complex due to multiple etiopathogenesis, population heterogeneity, multidimensional evaluation and diversity of interventions. The main objective of this project is to develop a device that allows objective and remote gait assessment in elderly with fall history and to evaluate the evolution after a multicomponent exercise program implemented in fallers.

**Methods:** The project has three phases: 1-Development of a system based on inertial sensors to acquire and assess gait parameters; 2-Development of a processing, communication and visualization system through an App for mobile phones with double use (professionals to check results and participants to be empowered in the training follow-up). 3-To compare the efficacy of three different ways to implement multicomponent exercise programs with a prospective, non-randomized multicenter trial, with 106 subjects recruited in three hospitals (Getafe U.H, Infanta Leonor U.H and Perpetuo Socorro U.H). Effectiveness of the Sensor + App system in improving adherence to the 6-week exercise program will be evaluated.

**Results:** We have developed a foot-mounted inertial sensor that acquire and assess gait parameters, and a mobile-App to be used by professionals and participants. Multicenter clinical trial has been approved by the Ethical Committee of Rey Juan Carlos University and will begin in September 2023 and continue for 12 months.

**Conclusions:** Digital solutions can improve assessment and intervention on elderly falls. Project Funding: Ministerio de Ciencia e Innovación España. Proyectos de Transición Ecológica y Digital 2021.

### P-640

#### Impact of the VeinViewer® Vision2 for performing venipuncture in acute geriatric units: a single-centre, single-blind randomised controlled trial

Guillaume Deschasse (1), Jessy Guerin (1), Ludivine Benedicto Milla (1), Lucie Neslin (1), Julie Vandromme (2), Frederic Bloch (2)

(1) CHU Amiens-Picardie, (2) CHU Amiens-Picardie

**Introduction:** Near-infrared (NIR) device facilitates the vision of veins and could be useful for performing venipunctures in certain clinical situations. Elderly hospitalized patients often have numerous venipunctures with altered skin and/or venous status, which makes venipunctures frequent and difficult. The value of NIR technology has not been extensively studied in acute geriatric units (AGU). We

conducted a single-centre, single-blind, randomised trial to demonstrate the value of NIR for venipuncture in terms of success, speed, and reduced pain.

**Material and method:** All patients aged 75 years or older capable of giving consent and admitted to AGU with a prescribed venipuncture. 1:1 randomisation and single-blinded. Intervention group: the nurse, with the systematic use of a VeinViewer® Vision2, applied an anaesthetic patch and performed the venipuncture one hour later. Control group: the nurse without the use of the VeinViewer® Vision2 applied an anaesthetic patch and performed the venipuncture one hour later.

**Results:** 196 patients were included (98 in each group). No significant difference was found between the groups.- success (maximum 3 attempts) n = 88 (91.67%) vs n = 93 (95.88%) p = 0.250- duration of the procedure (sec) : 11.46 (34.17) vs 8.01 (15.17) p = 0.604—pain felt at the time of the procedure (EN/10) : 1.43 (2.08) vs 1.25 (1.99) p = 0.430.

**Key Conclusion:** this randomised, single-blind trial did not find any argument in favour of the systematic use of NIR in UGA for venipuncture. The place of NIR device in the care process in UGA still needs to be studied.

### P-641

#### Geriatric Telemanagement of HEALTH conditions in nursing home residents recently discharged from the hospital: the GET HEALTH study

Giuseppina Dell'Aquila (1), Barbara Carrieri (1), Luca Paoletti (1), Irene Aguzzi (1), Elisa Zengarini (1), Lorena Rossi (1), Antonio Cherubini (1)

(1) INRCA

**Introduction:** Nursing homes (NH) residents have a high burden of multimorbidity, frailty and disability and undergo frequent hospitalizations (1). Comprehensive geriatric assessment can reduce hospitalization (2). However, NH have few geriatricians. Technology might be used to overcome this problem (3). We hypothesized that a geriatric telemanagement (GTG) model could improve patient outcomes in NH residents recently discharged from the hospital.

**Methods:** A before-after study is being conducted to compare clinical outcomes of NH residents discharged from hospital before and after the implementation of GTG, where the geriatrician will evaluate each patient with NH staff and general practitioner during 6 months. NH residents aged > 70 years re-admitted to NH after hospital discharge in the 3 years prior to the COVID pandemic represent the control group.

**Results:** In the retrospective study 238 NH residents were evaluated, mainly women (74%), aged  $87.8 \pm 5.9$  years, with multimorbidity ( $5.2 \pm 2.2$ ) and polypharmacy ( $8.4 \pm 3.3$ ). The most common diseases were dementia (60%), heart disease (52%), chronic renal failure (25%), diabetes (24%), chronic obstructive pulmonary disease (19%). Discharge diagnoses were infectious diseases (25%), congestive heart failure (11%) and acute respiratory failure (10%). After discharge, dysphagia (34% to 53%) and bedridden condition (56% to 84%) increased. In the following six months, 57% were rehospitalized and 41% died. In multivariate logistic regression analysis, age, male sex, disability, dysphagia, and heart failure are significantly associated with mortality, while pressure sores and urinary tract infections with rehospitalization within six months.

**Key Conclusions:** Hospitalization is associated with negative clinical outcomes of NH residents.

#### References:

1. Cherubini A et al. Predictors of Hospitalization in Italian Nursing Home Residents: The U.L.I.S.S.E. Project. *J Am Med Dir Assoc.* 2012.

2. Cordato NJ et al. Management of Nursing Home Residents Following Acute Hospitalization: Efficacy of the 'Regular Early Assessment Post-Discharge (REAP) ' Intervention. JAMDA 2018.
3. Edirippulige S. et al. QA systematic review of telemedicine services for residents in long term care facilities. Journal of Telemedicine and Telecare 2013.

## P-642

### Iterative Development and Applicability of a Measurement and Training Station for Older Adults to Independently Assess and Improve Nutrition and Mobility

Lisa Happe (1), Mareike Förster (1), Vincent Quinten (1), Rebecca Diekmann (1)

(1) Department of Health Services Research, Junior research group „nutrition and physical function in older adults“, Carl von Ossietzky University Oldenburg

**Introduction:** The incorporation of balanced nutrition and regular physical activity in daily life is essential for maintaining independence and preventing the need for long-term care. For older adults with nutritional or mobility deficits, and those who have undergone inpatient treatment, maintaining recommended nutrition and physical activity practices can be challenging. To address this, our project focuses on developing a measurement and training station with a corresponding app for participants ( $\geq 70$  years) to independently assess and improve their nutrition and mobility. The aim of this sub study is to identify optimisation potentials with the target group through iterative test cycles and to optimise them based on the feedback until good usability is achieved.

**Methods:** The measuring and training station's elements are iteratively tested with at least 10 participants per test phase. After an introduction to the measurement and training station, a structured test session is conducted. During the test, "Thinking aloud" is used to understand the cognitive processes during the execution of tasks and to be able to better identify ambiguities or optimisation potentials. In addition, it is evaluated whether the tasks are solved independently or with assistance and how much time was needed per task. Finally, the usability of the measuring and training station is evaluated with the System Usability Scale (SUS).

**Results:** Data collection is not yet completed. First results can be presented at the EUGMS 2023.

**Key Conclusion:** Based on the study results, the innovative technical assistance system will be optimised considering the preferences of the target group.

## P-643

### Older adults' experiences of in-home monitoring technology: a qualitative study

Megan Parkinson (1), Karen Tanious (2), Francesca Curtis (3), Rebecca Doherty (3), Lorena Colon (2), Lucera Chena (2), Michael Fertleman (1), Melanie Dani (4), David J Sharp (3), Payam Barnaghi (3), Lucia M Li (3)

(1) Imperial College London Department of Bioengineering, (2) University of Notre Dame, (3) Imperial College London Department of Brain Sciences, (4) Imperial College London Department of Bioengineering

**Introduction:** In-home systems using sensors and artificial intelligence can be used to monitor health conditions in patients' own

homes. These systems are attractive tools for providing digitally enhanced healthcare for older adults, promoting healthy ageing in place. Successful adoption requires understanding of the acceptability of these technologies. This study aims to assess the acceptability of in-home monitoring technology among older adults discharged from hospital following traumatic brain injury (TBI) by exploring their perspectives and experiences.

**Methods:** This qualitative study conducted semi-structured interviews, using a predefined topic guide, with adults aged 64–96 with moderate severe TBI and study partners. Interviewees had a network of in-home monitoring sensors installed in their homes for 6 months following discharge from hospital. Interview data were analysed using a thematic framework approach.

**Results:** 12 participants and study partners were interviewed. Framework analysis highlighted six key themes regarding the acceptability of in-home monitoring technology (1) attitudes to technology (2) privacy (3) stigmas (4) intrusiveness (5) ease of use (6) perceived usefulness. Enablers to adopt were the passivity of technology and benefits of real time data sharing with carers and healthcare providers. Barriers were technical issues, technical literacy, and skepticism about the usefulness of technology.

**Conclusions:** In-home monitoring technology has potential as an acceptable care and research tool for older adults. For this technology to be adopted by this demographic it must be designed in conjunction with older adults and carers. Addressing perceived barriers, while providing support can enhance the sustained use of these technologies.

## P-644

### Superiority of Intelligent Video Surveillance + Telealarm Over Telealarm Alone in Elderly People at Risk of Falling: study protocol of a multicentric randomized trial (VIGIALARM)

Guillaume Deschasse (1)

(1) CHU Amiens-Picardie

**Introduction:** Maintaining the elderly at home and preventing them from falling are major public health issues. The vast majority of elderly people wish to remain at home. The fear of a fall with prolonged standing is a frequent reason for institutionalization. There are few procedures that have been shown to be effective in preventing falls and their complications. Prolonged standing on the floor is a major complication that can lead to multiple events, including death. Tele-alarms are widely used in France and in Europe, but their effectiveness in the event of a fall is poor and their use is restrictive (they require physical and mental capacities to activate). However, elderly people at risk of falling are often frail or dependent, suffering from cognitive disorders and sometimes polymorbid, which explains the large number of failures of tele-alarms. There are other alert systems, notably intelligent video surveillance systems such as the VA2CS. This is a video system placed in the home that analyzes the position of subjects in real time using algorithms based on artificial intelligence. The system works continuously without video capture and sends an alert with a photo if a person is lying down after a fall. The alert is confirmed after an operator has checked the photo capture on a dedicated platform. To date, it has a sensitivity and specificity of over 90% (manufacturer's data not published). Its performance is equivalent to other intelligent video surveillance systems published in the literature. This system is autonomous and does not rely on the abilities of the person at risk of falling. Intelligent video surveillance is an innovative technology which has not yet been evaluated in a geriatric care program, nor compared to a reference or analyzed from a quality of life or medico-economic perspective. The hypothesis of

this study is that intelligent video surveillance allows an exhaustive and early detection of the fall with a faster alert enabling to avoid prolonged standing on the ground and its consequences compared to the telealarm alone.

**Methods:** We propose to conduct a multicenter randomized controlled trial with 2 parallel arms: Experimental: Intelligent Video Monitoring + Tele-alarm-Active Comparator: Tele-alarm only Primary Outcome Measure: occurrence of at least one unscheduled rehospitalization within the first 90 days following the return home. Inclusion Criteria: person aged 75 years or more, recent history of fall and monopodal support < 5 s, hospitalized in an acute geriatric ward and ready for discharge to home Exclusion Criteria: confined to bed or chair Enrollment: 395 patients Trial registration: ClinicalTrials.gov ID: NCT05875038 Funding: Ministry of Health France.

## P-645

### Technostress among medical staff and elderly patients

Sorina Aurelian (1), Bogdan Chiper (1), Costina Daniela Gita (1), Monica Gidei (1), Ruxandra Mihalache (1), Andreea Zamfirescu (1), Ana Prada (1), Justin Aurelian (1), Ana Capisizu (1)

(1) University of Medicine and Pharmacy “Carol Davila”, Bucharest Romania

**Introduction:** Healthcare staff, compared to other professions, have an increased probability of experiencing the technostress at work. Knowledge about the causes and severity of technostress and the strategies that healthcare deciders use to manage it is limited.

**Methodology:** Current demographic changes have led to an increase in interest in the development of smart technologies designed to support the current health needs of elderly users, this field being considered of vital importance in the long-term sustainability of national health systems worldwide.

**Results:** With the development of digital means of communication, the introduction of methods of interaction with patients and the efficiency of communication with them was a focus. Through online software platforms, remote consultations with patients can be carried out, with benefits in particular in the requirements to confirm drug therapy according to some measurable parameters. Their intelligent emergence has led to the emergence of a new concept of personalized intelligent environment, capable of securing technologies through sensor networks or continuous remote monitoring. The accelerated growth of medical digitization causes a stress in the medical staff who must rely on these technologies must rely on these for medical decisions.

**Conclusions:** The medicine of the future includes the adaptation of all professional categories as well as patients to the rapid development of digitalization. Future generations will be educated from an early age for this adaptation without adding stress, but there will be fewer and fewer professionals who will rely their decisions based only on their own knowledge and instinct.

## P-646

### Digital skills of the elderly in Greece

Konstantinos Stolakis (1), Georgia Dimakou (2), Christos Mameras (3), Fotis Tatsis (4), Manolis Mentis (2)

(1) 1. University of Patras, School of Medicine, Greece, (2) 2. University of Patras, Department of Educational Sciences & Social Work Sciences, Greece, (3) 3. University General Hospital of Patras, Greece, (4) 4. University of Ioannina, School of Medicine, Greece

**Introduction:** Greece is among the last countries of the European Union regarding the participation of older people in voluntary actions, although active aging is internationally a good practice for good health and quality of life.

**Methods:** The survey was nationwide and took place in October 2023. Its purpose was to investigate the digital skills of people aged 55 + as a prerequisite for the development and use of digital health services. The sample of the study was 379 people from all over Greece and it was obtained by purposive sampling (snowball technique using gatekeeper). The confidence level was 90% with a margin of error of 5%. The research is part of the “AEITHALEIA” program and was financed by the Active citizens fund program.

**Results:** The majority of the sample was female (69.7%), married (58.3%). The mean age was 69 years (SD  $\pm$  7.71). The mean value of the whole sample in terms of Internet skills is characterized as “moderate” (33.02 with excellent 60, SD  $\pm$  16.681). The skills that the sample seemed to know better regarding the use of the Internet were, in order of precedence, the recognition of fake news ( $\bar{x}$  = 3.58, SD  $\pm$  1.703), the use of the Google search engine ( $\bar{x}$  = 3.35, SD  $\pm$  1.690) and sending and receiving electronic messages ( $\bar{x}$  = 3.26, SD  $\pm$  1.747). Conversely, the lowest digital skills were found in the use of health applications ( $\bar{x}$  = 1.94, SD  $\pm$  1.437).

**Conclusions:** There is a great need for training in digital skills of the elderly.

## P-647

### Stabilographic parameters of older adults with balance disturbances

Szczepan Piszczatowski (1), Piotr Prochor (1), Aleksandra Szczerba (1), Michal Lukasz Swietek (2), Lukasz Magnuszewski (3), Marta Swietek (4), Justyna Skubich (5), Paulina Zalewska (1), Zyta Beata Wojszel (6)

(1) Bialystok University of Technology, Institute of Biomedical Engineering, (2) Dpt. of Otholaryngology, University Hospital in Bialystok, Bialystok, Poland, (3) Dpt. of Geriatrics, Medical University of Bialystok, Bialystok, Poland, (4) Dpt. of Geriatrics, Hospital of the Ministry of Interior and Administration in Bialystok, Bialystok, Poland, (5) Afiliacja: Bialystok University of Technology, Institute of Biomedical Engineering, (6) Dpt. of Geriatrics, Medical University of Bialystok, Bialystok, Poland

**Introduction:** Balance disorders significantly limit the mobility of older people. However, sufficient experimental data is lacking to evaluate the problem objectively. Therefore, the study used instrumental techniques to assess the stability parameters of older people with balance disorders.

**Methods:** The study was performed in: a) older adults (55 +) with balance disorders (OBD, n = 23, age = 68  $\pm$  8.5 years), b) older adults (55 +) without balance disorders (OH, n = 20, age = 68  $\pm$  6.8), and c) young healthy (YH, n = 20, age = 25  $\pm$  3.8). A thorough clinical examination was performed on each participant before the instrumental studies proceeded. The stability test was carried out on the Kistler 9260AA6 platform. Three 30-s two-legged standing tests were performed with eyes open and closed. Additionally, isometric and isokinetic evaluation of knee flexors and extensors torques was performed using the Biodex dynamometer.

**Results:** Centre of gravity movement was greater in OBD compared to OH (range 129  $\div$  209%, depending on the movement direction and eyes open/closed) and YH (range 150  $\div$  199%). OBD had a significantly lower knee muscle torque value compared to YH (isokinetic—50%, isometric—53%) and OH (isokinetic—89%, isometric—86%).

**Key Conclusions:** A greater range of body movements was noted in the OBD group in the stability test as well as a reduced value of knee muscles torque. The study was financed by the National Center for Research and Development. Project: 'Mechatronic device to assist in maintaining balance during locomotion with the function of recording gait kinematic parameters', contract no. Rzeczy są dla ludzi/0009/2020...

## P-648

### Benefit and usability of assistive technology for frail older adults—results from an intervention study conducted as part of the "At Home Thanks Digitalization" project

Sarah Mayer (1), Brigitte Kohn (1), Filippo Maria Verri (2), Marina Fotteler (3), Dhayana Dallmeier (4), Michael Denninger (2)

(1) Geriatric Centre at AGAPLESION Bethesda Hospital Ulm, Ulm, Germany, (2) Geriatric Centre at AGAPLESION Bethesda Hospital Ulm, Ulm, Germany; Institute for Geriatric Research, Ulm University Medical Center, Ulm, Germany, (3) Institute for Geriatric Research, Ulm University Medical Center, Ulm, Germany; DigiHealth Institute, Hochschule Neu-Ulm, Neu-Ulm, Germany, (4) Geriatric Centre at AGAPLESION Bethesda Hospital Ulm, Ulm, Germany; Dept. of Epidemiology, Boston University School of Public Health, Boston, USA

**Background:** Assistive technology (AT) can potentially support older people in performing activities of daily living enabling independent living. However, user-related benefits for older adults are not systematically studied. The Daheim Dank Digital (At Home Thanks Digitalization) Project investigates, whether and how ATs can improve autonomy, safety and communication.

**Methods:** A prospective pre-post study was conducted to evaluate benefit and usability of two ATs: a tablet with a simplified interface and a smartwatch with programmable emergency contacts. People over 65, living at home or in independent living facilities were eligible to participate and tested one device for eight weeks. Validated assessments (QUEST—Quebec User Evaluation of Satisfaction with Assistive Technology, COPM—Canadian Occupational Performance Measure, a.o.) for technology affinity, needs-oriented outcomes, user expectations and satisfaction were used.

**Results:** A total of 18 frail older people (mean age = 81 years) and their caregivers participated (smartwatch n = 9, tablet n = 9). User satisfaction correlated positively with device performance. Reliability scored in average 3.75/5 for the smartwatch and 2.75/5 for the tablet in QUEST. COPM showed a 4.2 points improvement in making emergency calls with the smartwatch. Nevertheless, both products showed weaknesses in usability, with an average score in QUEST of 3.12/5 for the tablet and 3.75/5 for the smartwatch.

**Conclusion:** We observed a moderate willingness to participate in a study for evaluation of AT. Highest user's expectations include reliability and usability. To guarantee that ATs work as expected, older adults should be involved in the development and testing phase of AT.

## P-649

### Robotic training focused on balance and core stability in Parkinson's disease: a pilot study

Alberto Cella (1), Alice De Luca (2), Valentina Squeri (2), Giorgia Marchesi (3), Paola Crea (1), Francesco Vallone (1), Alberto Pilotto (4)

(1) Department of Geriatric Care, Orthogeriatrics and Rehabilitation, EO Galliera Hospital, Genova, Italy, (2) Movendo Technology and Italian Institute of Technology, Genoa, Italy, (3) Movendo

Technology, Genoa Italy, (4) Department of Geriatric Care, Orthogeriatrics and Rehabilitation, EO Galliera Hospital, Genoa, Italy and Department of Interdisciplinary Medicine, University of Bari "Aldo Moro", Bari, Italy

**Introduction:** There is a growing evidence on the benefits of physical therapy and exercise to mitigate motor and nonmotor signs in Parkinson's disease (PD). To date, however, there is no agreed-upon physiotherapeutic treatment in PD. Aim of this pilot study: to verify the feasibility and effectiveness of an integrated rehabilitation treatment that combines traditional and robotic approaches.

**Methods:** Subjects with idiopathic PD underwent an integrated rehabilitation program: in the first phase (8 weeks) they were treated with neuromotor rehabilitation (NMR); in the following 10 weeks they alternated a session of NMR with one on the hunova platform, a robotic device for evaluation and training of balance and core stability. Subjects were evaluated at baseline (T0), at the end of the first phase (T1) and at the end of the combined treatment (T2) by means of: Movement Disorder Society-Sponsored Revision of the Unified Parkinson's Disease Rating Scale (MDS-UPDRS), Timed-Up-and-Go-test (TUGT) and robotic parameters. Statistics: Friedman test for repeated measures; Wilcoxon test.

**Results:** Ten subjects with PD (mean age:  $72 \pm 6.84$ SD; 8 males) were enrolled. At T2 a significant improvement in the MDS-UPDRS score was found (T0-T2: mean improvement  $-6.8 \pm 2.12$  SE,  $p = 0.005$ ), especially for the motor component (T0-T2: mean  $-7.1 \pm 1.68$  SE,  $p = 0.002$ ). Additionally, improvements were observed at T2 in the TUGT (Friedman  $p$  value  $< 0.007$ ), in seated limits of stability in forward direction (Friedman  $p$  value  $= 0.002$ ) and in reactive postural responses.

**Key Conclusions:** The rehabilitation treatment with hunova in PD patients seems to offer an innovative and effective therapeutic option to complement traditional rehabilitation to improve both disease-specific scales and motor and balance parameters.

## P-650

### New method of heart rate variability determination in old people

Ana Maria Turcu1,2, Adina Carmen Ilie1,2, Raluca Brodocianu1, Sabinne-Marie Țăranu1,2, Ramona Ștefăniu1,2, Ioana Dana Alexa 1,2 Turcu (1)

(1) 1 CIParhon Hospital Iasi 2 University of Medicine and Pharmacy Iasi

**Introduction:** Heart rate variability (HRV), the result of the succession of the sympathetic and parasympathetic nervous system, represents an important screening biomarker of cardiovascular pathology, up to ventricular tachycardia and sudden cardiac death. It proved to be involved in the guidance of antidepressant treatment, the presence of neurocognitive disorders or frailty. The determination of HRV by modern methods tries to offer an easier, cheaper and adapted alternative for both, young and old patients.

**Methods:** In this study we included patients over 65 years old who gave their consent. We compared a wrist-worn photoplethysmography (WWPPG) device to the classical ECG Holter monitoring. We also wanted to determine the relationship between the presence of geriatric syndromes and HRV and to confirm that HRV can be a prognostic factor in old patients.

**Results:** The data obtained till now confirm the fact that, HRV parameters from the determination of WWPPG can be compared with Holter ECG monitoring. Furthermore, in certain situations, HRV can be considered a prognostic factor in old patients who associate geriatric syndromes.

**Conclusions:** The wrist-worn photoplethysmography can be considered a simple, easy and cheap method, which does not require a trip to

the hospital in old patients with geriatric syndromes. Thus, the determination of HRV can be considered a method of evaluation and prognosis of old patients.

## P-651

### Balance Robotic evaluation in older people: correlation with the level of physical activity

Alberto Cella (1), Camilla Prete (1), Barbara Senesi (1), Ekaterini Zigoura (1), Alice De Luca (2), Valentina Squeri (2), Giorgia Marchesi (3), Alessandra Pirino (1), Francesco Vallone (1), Alberto Pilotto (4)

(1) Department of Geriatric Care, Orthogeriatrics and Rehabilitation, EO Galliera Hospital, Genoa, Italy, (2) Movendo Technology and Italian Institute of Technology, Genoa, Italy, (3) Movendo Technology, Genoa Italy, (4) Department of Geriatric Care, Orthogeriatrics and Rehabilitation, EO Galliera Hospital, Genoa, Italy and Department of Interdisciplinary Medicine, University of Bari “Aldo Moro”, Bari, Italy

**Introduction:** A broad range of risk factors for falls have been documented, many of which affect gait and balance; poor physical activity (PA) was also included among these factors. The aim of this study is to evaluate the relationship between usual PA level in community-dwelling older adults and balance parameters measured using a novel robotic device, hunova: robotic balance assessment is an innovative and promising methodology owing to its accuracy, reproducibility and thoroughness in analysing movement and postural control.

**Methods:** A non-selected sample of over-65 subjects from our geriatric outpatient clinic underwent the following evaluations: measurement of usual PA by means of the PA Scale for the Elderly (PASE) and balance evaluation using the hunova platform, in different conditions (in standing and seated positions; with open and closed eyes, CE) .

**Results:** 96 older subjects (mean age:  $77.2 \pm 6.5$  years; male/female ratio: 0.55) were enrolled. The subjects in the lowest PASE tertile ( $< 99$ ) showed, compared to those in the middle tertile of PASE (99–137) and those in the upper tertile ( $> 137$ ): 1. lower balance control in standing condition with CE [sway area = 5.35 cm<sup>2</sup> (IQR = 2.31–16.20) vs 2.30 cm<sup>2</sup> (IQR = 1.68–7.72) and 2.15 (IQR = 1.19–3.43),  $p = 0.002$ ]; 2. greater trunk oscillation variability both in standing position [0.052 deg/sec<sup>2</sup> (IQR = 0.039–0.064) vs 0.046 (IQR = 0.039–0.056) and 0.035 (IQR = 0.032–0.045),  $p = 0.006$ ] and seated position [0.036 deg/sec<sup>2</sup> (IQR = 0.027–0.046) vs 0.032 (IQR = 0.027–0.042) and 0.030 (IQR = 0.025–0.032),  $p = 0.002$ ].

**Key Conclusions:** Older subjects with lower PA had worse balance control, especially in the most challenging postural conditions. The hunova robotic platform could help identify, among seniors with low PA, those with more evident balance disorders in order to implement personalized activity programs aimed at preventing falls.

## P-652

### The role of sleep disorders in the motoric and cognitive trajectories of older physical frail sarcopenic and healthy active subjects

Marco Salvi (1), Fulvio Lauretani (1), Liborio Parrino (2), Nicola Sverzellati (2), Giampaolo Niccoli (2), Francesca Bozzetti (3), Livia Ruffini (3), Francesca Ferrari Pellegrini (1), Alessandro Vignali (1), Marco Vincenzo Narici (4), Raffaele Federici (1)

(1) Geriatric Clinic Unit, University Hospital of Parma, Parma, Italy, (2) Department of Medicine and Surgery, University of Parma, Parma, Italy, (3) Diagnostic Department, University Hospital of Parma, Parma, Italy, (4) Department of Biomedical Sciences, University of Padova, Padua, Italy

**Introduction:** Sleep physiology, skeletal muscle [1] and bone health [2], body composition [3], cardiovascular system [4], cognitive [5] and motoric functions [6] are strictly interconnected, but how sleep disorders, sarcopenia, impaired bone and systemic metabolism, physical frailty and cognitive decline mutually interact is still far from being clarified.

**Methods:** We will evaluate a well-characterized sex balanced sample of community dwelling physical frail sarcopenic and healthy active elderly people from 70 years of age (sample size = 200), not demented and independent in the Basic Activities of Daily Living. The role of sleep disorders on physical, cognitive function and bone and muscle metabolism will be evaluated through observational and prospective fashion, at baseline, 12 and 24 months by performing: brain MRI/FDG/Amyloid PET; Dual-energy X-ray absorptiometry; Bioimpedance analysis; Cardiac ultrasonography; Sleep analysis through wearable sleep profilers; Serum neurofilament light chain analysis; Muscle ultrasonography; Radiofrequency echographic multi spectrometry (REMS) .

**Results:** Employing some of the most advanced diagnostic and digital health techniques, the purpose of our work is to detect, in a comprehensive and translational way, changes in brain, muscle, hormonal milieu, cardiovascular system, skeletal and body composition. The main goal will be to gain a deeper understanding of the impact of sleep disorders on mild cognitive impairment and cognitive frailty, sarcopenia and physical frailty, dementia and mobility disability.

**Key Conclusions:** The project will allow to analyse relevant outcomes for older population, to compare the ability of current and innovative, digital measurements in predicting trajectories of low physical and cognitive function and quality of life. The expected findings will highlight the importance of sleep as significant determinant of muscle, brain and metabolism health.

#### References:

1. Pourmotabbed A, et al. Sleep duration and sarcopenia risk: a systematic review and dose–response meta-analysis. *Sleep Breath* 2020; 24:1267–1278;.
2. Swanson C. Sleep Disruption and Bone Health. *Curr Osteoporos Rep* 2022; 20:202–212;.
3. Tan X, et al. Association Between Self-Reported Sleep Duration and Body Composition in Middle-Aged and Older Adults. *J Clin Sleep Med* 2019; 15:431–435;.
4. Korostovtseva L, et al. Sleep and Cardiovascular Risk. *Sleep Med Clin* 2021; 16:485–497;.
5. Carnicelli L, et al. A longitudinal study of polysomnographic variables in patients with mild cognitive impairment converting to Alzheimer’s disease. *J Sleep Res* 2019; 28:e12821;.
6. Sejbuk M, et al. Sleep Quality: A Narrative Review on Nutrition, Stimulants, and Physical Activity as Important Factors. *Nutrients* 2022; 14:1912.

## P-653

### Utility of a Standardized Remote Interview on detecting functional decline of older adults with Behavioral and Psychological Symptoms of Dementia: A Multicenter Longitudinal Cohort Study from the Gerocovid study

Okoye Chukwuma (1), Luca Tagliafico (2), Giulia Lucarelli (3), Sara Montali (4), Francesca Maria Nigro (3), Amedeo Zurlo (5), Veronica

Calieri (3), Fabio Monzani (6), Cristina Pais (7), Alessio Greco (8), Valeria Calsolaro (6), Alba Malara (9), Raffaele A

(1) School of Medicine and Surgery, Acute Geriatric Unit, University of Milano-Bicocca, San Gerardo Hospital, Monza, Italy, (2) Geriatrics Clinic, Department of Internal Medicine and Medical Specialties (DIMI), University of Genoa, Genoa, Italy, (3) Geriatrics Clinic, Pistoia, Azienda USL Toscana Centro, (4) Geriatric Intensive Care Unit, Department of Experimental and Clinical Medicine, University of Florence, Italy, (5) Department of Medical Sciences, University of Ferrara, Ferrara, Italy, (6) Geriatrics Unit, Department of Clinical and Experimental Medicine, University of Pisa, Pisa, Italy, (7) Fondazione Policlinico Universitario “Agostino Gemelli” IRCCS, 00168 Rome, Italy, (8) Università di Modena e Reggio Emilia, Azienda Ospedaliero-Universitaria di Modena; Ospedale Civile di Baggiovara, Unità Operativa di Geriatria), (9) Scientific Committee of National Association of Third Age Residences (ANASTE) Calabria, Lamezia Terme (Catanzaro), Italy, (10) Geriatrics Unit, Department of Medicine, Campus Bio-Medico University and Teaching Hospital, Rome, Italy, (11) Geriatric Intensive Care Unit, Department of Experimental and Clinical Medicine, University of Florence, Italy

**Background:** The COVID-19 pandemic has highlighted the importance of utilizing remote monitoring technologies to manage chronic health conditions in older adults. Behavioral and psychological symptoms of dementia (BPSD) constitute a significant health burden, and effective management can be challenging, particularly if in-person access to healthcare is limited. This study aimed at evaluating the utility of a standardized remote assessment in detecting functional trajectories in BPSD patients in the period between the first and second waves of the COVID-19 pandemic.

**Methods:** We included older adults followed by 6 Italian memory clinics during the COVID-19 pandemic using standardized phone assessment within the GeroCovid study (TELEDEM protocol). The baseline assessment was conducted remotely through telehealth interviews with patients and their caregivers, and the follow-up was conducted in person.

**Results:** Overall, 145 patients were included in the analysis (mean age  $84.0 \pm 5.8$  years, 65.5% females). At baseline, 28% of them reported a worsening of symptoms in comparison with previous pre-COVID assessments, 19% displayed an improvement, while 53% remained stable. Correspondingly, antipsychotic therapy was modified or withdrawn in 22% of cases and in 66% of those who reported a worsening of symptoms ( $p < 0.001$ ). The age-sex-adjusted mixed-model regression analysis revealed that worsening BPSD at baseline was significantly associated with functional decline in Activities of Daily Living, with a  $\beta$  value of  $-0.68 \pm 0.26$  per year ( $p = 0.011$ ).

**Conclusions:** Our study indicates that standardized remote caregiver interviews can effectively identify individuals with dementia at greater risk of cognitive and functional decline.

## P-654

### Training acute community nurses in focused lung ultrasound scan: a mixed-method study

Siri Smedemark (1), Jonas Dragsbæk Larsen (2), Sanne Have Beck (3), Dorthe Nielsen (1), Christian B. Laursen (4), Karen Andersen-Ranberg (1)

(1) Geriatric Research Unit, Geriatric Department, Odense University Hospital, Odense, Denmark and Department of Clinical Research, University of Southern Denmark, Odense, Denmark, (2) Research and Innovation Unit of Radiology, University of Southern Denmark, Odense, Denmark, (3) Dept. of Geriatric Medicine, Odense

University Hospital; Dept. of Clinical Research, University of Southern Denmark, (4) Dept. of Respiratory Medicine, Odense University Hospital; Odense Respiratory Research Unit (ODIN), Department of Clinical Research, University of Southern Denmark, Odense, Denmark

**Introduction:** Vague and atypical symptoms challenges diagnosis of acute disease in older adults, but focused lung ultrasound (FLUS) may potentially improve in-home diagnostics. However, training is necessary before implementation of in-home FLUS, as sufficient competencies are essential for a reliable examination. This study aims to investigate whether acute community nurses (ACN) can acquire competencies in FLUS, and to explore facilitators and barriers for learning FLUS.

**Method:** FLUS in-experienced ACNs followed a FLUS training program consisting of an e-learning module, an immersive virtual reality (IVR) FLUS module, and supervised scans during in-home assessment of older adults. To secure sufficient competencies a validated FLUS-competency assessment tool was used. Questionnaires were developed regarding facilitators and barriers to the training program. ACNs written reflections on how they experienced the training program were collected before, during, and after certification.

**Results:** In total, 10 (100%) ACNs completed the training program satisfactorily. ACNs used 4.78 and 4.88 h to complete the e-learn and IVR module, respectively. The combined quantitative and qualitative results showed that motivation for learning new skills increased job satisfaction. Fear of failure was common throughout the training process, and linked to internal fear, technical difficulties, organizational factors, and time.

**Key Conclusion:** ACNs can acquire sufficient competencies in FLUS by using e-learning, IVR, and supervised scans. However, fear of failure needs to be addressed during training to ensure competencies. New technology, such as tele-ultrasound, may support ACNs during and after training by encompassing the negative aspect of fear of failure.

## Long Term Care

### P-655

#### NCP: A Nutritional assessment Audit at Long-Term Care Facility

Alanoud Alfehaidi (1)

(1) HMC

**Introduction:** Malnutrition is associated with increased mortality and morbidity as well as functional decline. Nutritional assessment and management play a crucial role in preventing malnutrition and improving quality of life in long-term care residents. Evaluation ranges from methods such as BMI to validated tools (such as Geriatric Nutritional Index). Management requires multidisciplinary approach which may involve dietary improvements, maintaining hydration, managing multiple co-morbidities, avoiding polypharmacy, using supplements or artificial (tube) feeding appropriately. Dietitians develop, review, monitor & revise the nutritional care plan for each resident throughout the resident's admission to the long-term care facility. The Nutrition Care Process (NCP) is a systematic process contain four-step process to aid the Dietitian in providing individual health care to a patient. All Dietitian will use this systematic approach to Provides a common language for documentation, communication, diagnose, treat, and monitor a patient. Each four-step process is divided into domains based on specific needs of the individual. Using this process in practice will aid the dietitian in providing optimum health care to a patient. The four steps are as following: **Aim:** To

assess compliance with the policy on nutritional evaluation and management of long-term care residents.

**Methods:** It is a retrospective Audit. All new admissions to long-term care facility were identified between Jan 2022 to Jan 2023. 1500 cases were randomly selected and audited. Data was collected on documentation of assessment within five days (as per policy), BMI, hydration status, meal consumption, swallowing or chewing problems, bowel motions, review of medications, appropriate lab tests, vitamin/mineral supplements and if on artificial feeding then document type of feed, regimen and intolerance. Process: Description of selection process of nutritional charts for the audit.

**Results:** It is a retrospective Audit. All new admissions to long-term care facility were identified between Jan 2022 to Jan 2023. 1500 cases were randomly selected and audited. Data was collected on documentation of assessment within five days (This process consists of four steps; nutrition assessment, nutrition diagnosis, nutrition intervention and nutrition monitoring and evaluation as per policy), BMI, hydration status, meal consumption, swallowing or chewing problems, bowel motions, review of medications, appropriate lab tests, vitamin/mineral supplements and if on artificial feeding then document type of feed, regimen and intolerance. All Dietitians at LTC achieved 100% compliance to implement 4 steps of Nutrition Care Process (NCP).

**Conclusion:** Multimodal, multidisciplinary input with timely evaluation and appropriate management as above prevents malnutrition. - The Nutrition Care Process (NCP) is designed to improve the consistency and quality of individualized care for patients and the predictability of the patient outcomes. It is not intended to standardize nutrition care for each patient, but to establish a standardized process for providing care.

## P-656

### Free from tube: Safe transition from Enteral tube feeding to oral intake

Alanoud Alfehaidi (1)

(1) HMC

**Introduction:** Acute geriatric units in Rumailha hospital provide care to unwell older patients with a range of complex medical condition with variable degree of severity of frailty weaning patients from tube feeding to oral nutrition is a primary nutrition goal. Transitional feeding refers to the gradual progression from one mode of nutritional therapy to another while attempting to maintain adequate nutritional intake. In this case, patients are “weaned” from enteral nutrition to oral feeding. The ultimate goal of transitional feeding is that the patient’s full nutritional needs will be met with oral intake alone. Ideally, the transition will be a smooth process, which may take a few days or several weeks.

**Methods:** A multidisciplinary team was formed to conduct a quality improvement project to screen of malnutrition and sarcopenia using “Plan-Do-Study-Act (PDSA) methodology”. All stakeholders were involved, and interventions were carried out in three steps. First step was to create Assessment screening tool which would help identify the risk category of weaning from Tube feeding (1st PDSA). Second step was to develop Multidisciplinary Team interventions of safe transition and management (2nd PDSA). Third step was to developed algorithm comprises the Preparatory Phase (medical and nutritional stability, swallowing assessment and implementation of an intermittent tube feeding schedule) (3rd PDSA). Fourth step was to developed Weaning Phase (covering progress from stimulation feeds through to

full oral nutrition and tube withdrawal) (4th PDSA). Fifth Step was to developed monitoring tool (monitoring for aspiration, aspiration pneumonia, % of food intake, weight, labs and dehydration) (5th PDSA). Sixth step was to developed Feeding and swallowing strategies, dietary modifications and behavioural and cognitive characteristics necessary for oral intake (6 PDSA). Seventh step was to standardize the approach by establishing an intervention guideline (7th PDSA).

**Results:** Following multimodal multifaceted intervention by the interdisciplinary team members (Physicians, Nursing and clinical Dieticians and Speech therapy) showed safe transition from tube feeding to oral intake is enhance quality of life, patient comfort and may maximize options for discharge environments.

**Conclusion:** Implementing safe transition strategy in the acute geriatric care units is really challenging due to the complexity of the medical conditions. However, this project has shown excellent outcome and prevention of nutrition risk factor and malnutrition is possible if early screening and interventions are implemented by multidisciplinary team members. Next steps would be to Establishing Clinical Practice Guidelin (CPG) on safe transition from enteral tube feeding to oral feed in older adult.

## P-657

### The JOIN4JOY co-creation process towards a frame for joyful and inclusive physical activity programmes for community-dwelling and institutionalized older adults

Laura Coll Planas (1), Dhayana Dallmeier (2), Aimar Intxaurreondo (3), Paolo Caserotti (4), Dolores Forgione (5), Ricard Castro (1), Charlotte BASCOMPTE-SOLER (6), Andrea Fuente-Vidal (1), Maria Giné-Garriga (7), Guillaume Lefebvre (6), Giovanna Branca (5)

(1) UVic-UCC, (2) AGAPLESION Bethesda Clinic Ulm, (3) FSIE-UAB, (4) University of Southern Denmark, (5) ISES, (6) Siel Bleu, (7) Fundació Blanquerna

**Introduction:** Current physical activity (PA) programmes for older people are mainly focused on functional and physical health improvements. However, such interventions fail to be maintained and to reach people with more social disadvantages. Therefore, the EU-funded project JOIN4JOY aims to co-create and test a customized PA programme focusing on enjoyment to achieve more meaningful engagement as a way to increase adherence and be more socially inclusive.

**Methods:** A total of 23 end-users, 6 family members, 17 professionals, 2 students and 7 policy makers from nursing homes (NHs) in Spain, France and Germany and 28 end-users, 13 professionals and 3 policy makers from community settings in Spain, Denmark and Italy participated in 13 focus groups and 3 interviews to co-create a frame for joyful and inclusive PA programmes in both settings.

**Results:** In NHs, PA was experienced by end-users as part of self-care to feel more alive and preserve function. Residents with cognitive decline relied more on external prompts to move. In the community, social connectedness was very relevant. In both settings, the key role of the instructor in PA programmes was emphasized. Several motivators for PA were identified, as well as specific joyful activities, and the opportunities and challenges in group dynamics. Life story was mentioned as a determinant for personal preference towards PA and it is, therefore, key to tailor programmes. Involving participants to define the activities is a practice enhancing positive affect.

**Key Conclusions:** 9 JOIN4JOY ground principles were elaborated to characterize joyful and inclusive PA programmes.



## P-658

**Which Nursing Home Residents are Administered Psychological Therapy more often?—Cross-Country Comparison in the ICARE4OLD Study**

Iłona Barańska (1), Natalia Drapała (1), Agata Stodolska (1), Adrianna Ziuziakowska (1), Katarzyna Sekulak (1), Paweł Jagielski (1), Violetta Kijowska (1), Daniela Fialová (2), Jitka Pokladnikova (3), Karlijn J. Joling (4), Emiel O. Hoogendijk (5), Eline

(1) Laboratory for Research on Aging Society, Department of Medical Sociology, The Chair of Epidemiology and Preventive Medicine, Medical Faculty, Jagiellonian University Medical College, Kraków, Poland, (2) Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové and Department of Geriatrics and Gerontology, 1st Faculty of Medicine, Charles University, Prague, The Czech Republic, (3) Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové, Charles University in Prague, The Czech Republic, (4) Department of Medicine for Older People, Location Vrije Universiteit Amsterdam, Amsterdam UMC, Amsterdam, the Netherlands, (5) Department of General Practice, Amsterdam UMC, Location VU University Medical Center, Amsterdam, the Netherlands., (6) Department of General Practice, Amsterdam UMC, Location VU University Medical Center, Amsterdam, the Netherlands, (7) Department of Computer Science, Vrije Universiteit Amsterdam, De Boelelaan 1111, 1081 HV Amsterdam, The Netherlands, (8) Laboratory for Research on Aging Society, Department of Medical Sociology, The Chair of Epidemiology and Preventive Medicine, Medical Faculty and University Hospital, Jagiellonian University Medical College, Kraków, Poland

**Introduction:** Depression and other psychiatric disorders are prevalent conditions in older residents in nursing homes (NHs). Psychological therapy (PsT) is an important intervention, which may substantially improve their quality of life.

**Aim:** To estimate the use of PsT among older NH residents in 9 countries and establish the profiles of the residents who most frequently received this therapy.

**Methods:** We used data collected with the interRAI-LTCF tool in 4156 NH residents in the SHELTER data base (Czech Republic, Germany, United Kingdom, Finland, France, Israel, Italy, the Netherlands) and in 354 NH residents from Poland to estimate the prevalence and factors associated with the use of PsT. The analysis using the chi-square test and decision trees was supported by the I-CARE4OLD project (HORIZON2020–GA965341).

**Results:** The use of PsT was very low in SHELTER countries, ranging from 0% in Germany to 6.2% in Italy. By contrast, in Poland, 67.8% of residents received this therapy. In Czech Republic, Israel, Italy and the Netherlands PsT was more often administered to residents who were aggressive and independent (19.3%) or those who were aggressive and showed impaired daily functioning and social withdrawal (7.8%). In Poland, PsT was the most frequently provided to the residents with mild depressive symptoms and diagnosis of dementia other than Alzheimer's disease (81.1%).

**Conclusions:** PsT in NHs is rarely used in most European countries to target mainly aggressive behavior. The Polish data showed that higher PsT use might address needs of residents even with mild depression. These cross-country differences need explanation.

## P-659

**Signs and symptoms suggestive of psychotropic adverse drug events for routine monitoring in nursing homes—an international consensus**

Brigid E. McInerney (1), J. Simon Bell (1), Amanda J. Cross (1), Justin P. Turner (2)

(1) Centre for Medicine Use and Safety, Faculty of Pharmacy and Pharmaceutical Sciences, Monash University, Melbourne, VIC, Australia, (2) Centre for Medicine Use and Safety, Faculty of Pharmacy and Pharmaceutical Sciences, Monash University, Melbourne, VIC, Australia. Faculty of Pharmacy, University of Montreal, Quebec, Canada

**Introduction:** International guidelines recommend monitoring for adverse drug events (ADEs) in people with dementia who are prescribed psychotropics such as antipsychotics, antidepressants and benzodiazepines. The aim of this study was to produce a consensus list of signs and symptoms suggestive of psychotropic ADEs that should be routinely monitored by nurses and care workers in nursing homes.

**Methods:** A systematic review resulted in a list of 41 signs and symptoms suggestive of psychotropic ADEs for possible monitoring. Through a 3-stage online modified Delphi survey, 51 participants from Europe, Asia, North America and Australasia were invited to indicate their level of agreement with whether these signs and symptoms should be routinely monitored. Statements were included in the final list for prioritization if  $\geq 70\%$  of participants responded  $\geq 7$  on the 9-point Likert scale in Round 1 or  $\geq 50\%$  of participants responded  $\geq 7$  in Round 2, and excluded if  $\leq 30\%$  responded  $\geq 7$ .

**Results:** Respondents included geriatricians, old age psychiatrists, general medical practitioners, pharmacists, nurses and informal caregivers. Of the 41 original statements across eight domains, signs and symptoms for inclusion related to: recent falls, abnormal movements, daytime drowsiness or sleepiness, dizziness, balance problems, dry mouth, postural hypotension, reduced self-care, confusion or disorientation, constipation, restlessness, appetite or weight change, and urinary retention. Twenty-two statements were excluded.

**Conclusion:** The consensus list of signs and symptoms for psychotropic ADE monitoring can be used to implement a proactive approach to identifying and addressing medication-related harm.

## P-660

**Prevalence of polypharmacy/hyperpolypharmacy and psychotropic drug use in nursing homes in Croatia—the need for implementation of clinical pharmacy services in Croatian nursing homes**

Ingrid Kummer (1), Jindra Reissigová (2), Anna Lukačičinová (1), Maja Ortner Hadžiabdić (3), Olena Antonenko (1), Bhagya Sri Aremam (1), Jovana Brkić (1), Matej Stuhec (4), Daniela Fialová (5)

(1) Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové, Charles University, Czech Republic, (2) Department of Statistical Modelling, Institute of Computer Science of the Czech Academy of Sciences, Czech Republic, (3) Center for Applied Pharmacy, Faculty of Pharmacy and Biochemistry,

University of Zagreb, Zagreb, Croatia, (4) Department of Pharmacology, Faculty of Medicine Maribor, University of Maribor, Maribor, Slovenia; eDepartment of Clinical Pharmacy, Ormoz Psychiatric Hospital, Ormoz, Slovenia, (5) Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové, Charles University, Czech Republic; fDepartment of Geriatrics and Gerontology, 1st Faculty of Medicine, Charles University, Czech Republic

**Introduction:** Nursing home (NH) residents are often exposed to polypharmacy/hyperpolypharmacy (PP/HPP) due to complex health conditions, and particularly frequent psychotropic drug use poses a high risk of adverse drug events (ADEs). The study aimed to identify the prevalence of PP/HPP and psychotropic drug prescribing in NHs in Croatia.

**Methods:** A multicenter cross-sectional study was conducted on 226 residents (65+) of 5 NHs in three regions of Croatia (City of Zagreb (COZ), Slavonia, and Dalmatia) (Aug–Dec 2022). Data were collected using the standardised and validated interRAI Long-Term Care Facilities (LTCF) Assessment Form.

**Results:** The mean age of residents was  $82.5 \pm 6.2$  years, 89.9% pertained to the 75+ age group, and the majority of them were females (76.5%). 49.6% were prescribed PP (5–9 drugs) and 25.7% HPP (10+ drugs). 72.1% of residents used psychotropic drugs: benzodiazepines (BZDs) (55.8%), opioids (31.0%), hypnotics, excl. BZD (17.7%), antidepressants (13.7%), and antipsychotics (10.6%). Coronary heart disease (CHD) (proportional odds ratio, POR = 5.41; 95% CI 2.75–10.96,  $p < 0.001$ ), diabetes mellitus type 2 (DM2) (POR = 5.22; 95% CI 2.88–9.66,  $p < 0.001$ ) and acid reflux (POR = 4.62, 95% CI 2.15–10.28,  $p < 0.001$ ) were significantly most associated with higher number of medications prescribed.

**Key Conclusions:** A high prevalence of PP/HPP and psychotropic drug use was observed in Croatian NHs. Comprehensive medication reviews provided by trained clinical pharmacists should be implemented in NHs in Croatia in order to prevent inappropriate drug prescribing and adverse drug events (ADEs). Research works were supported by projects: START/MED/093 “Grant Schemes at the Charles University “(reg. no. CZ.02.2.69/0.0/0.0/19\_073/0016935), INOMED No.CZ.02.1.01/0.0/0.0/18\_069/0010046, Cooperatio research program KSKF-I- Faculty of Pharmacy, Charles University and SVV260 655.

## P-661

### Signs and symptoms attributed to urinary tract infection referred by nursing home staff: Results of a context analysis study

Athina Chalkidou (1), Jette Nygaard Jensen (2), Tina Marloth (2), Valeria Stanislavovna Antsupova (2), Marie Theut (2), Lars Bjerrum (1), Carl Llor (3)

(1) Department of Clinical Microbiology, Copenhagen University Hospital–Herlev and Gentofte, Copenhagen, (2) Department of Clinical Microbiology, Copenhagen University Hospital–Herlev and Gentofte, Copenhagen., (3) Fundació Institut Universitari per a la Recerca a l’Atenció Primària de Salut Jordi Gol, Barcelona

**Introduction:** This study aimed to assess the variation in symptoms that prompt healthcare staff to consider a urinary tract infection (UTI) diagnosis for nursing home residents in eight countries: Denmark, Greece, Hungary, Lithuania, Poland, Spain, Slovakia, and Slovenia. The participants were nursing home staff working directly with the daily care of the residents, including personal hygiene and toilet visits.

**Methods:** A survey was conducted between March and May 2023 to identify areas for improvement in infection prevention and antibiotic

stewardship in nursing homes. A questionnaire comprising 19 questions was developed and administered using SurveyXact. The participants were asked an open-ended question regarding the signs and symptoms that lead them to consider a UTI diagnosis in nursing home residents. Subsequently, the signs and symptoms reported by the participants were identified and quantified.

**Results:** A total of 286 participants from the eight target countries completed the online questionnaire. The findings revealed variation in the symptoms that prompt nursing home staff to consider a resident’s potential UTI. While systemic symptoms and symptoms specific to the urinary tract were frequently mentioned across countries, non-specific mental symptoms, such as confusion, resistance to care, reduced intake of food and liquids, or agitation were often attributed to UTIs and were the predominant symptoms mentioned by the nursing home staff in Denmark and Slovenia.

**Key Conclusions:** Presence of non-specific urinary tract symptoms are commonly mentioned by nursing home staff as indicative of UTI in older residents, leading to an overdiagnosis and consequently, associated to an antibiotic overtreatment.

## P-662

### A cluster randomised controlled trial of Air Filtration to prevent symptomatic winter Respiratory Infections (including COVID-19) in care homes (AFRI-c) —A protocol

Rachel Brierley (1), Tomas J Welsh (2), Ruth Kipping (1), Nicholas Turner (1), Emily J Henderson (3), Alastair Hay (1)

(1) Bristol Medical School: Population Health Sciences, University of Bristol, Bristol, UK, (2) Bristol Medical School: Population Health Sciences, University of Bristol, Bristol, UK; RICE–The Research Institute for the Care of Older People, Bath, UK; Royal United Hospitals Bath NHS Foundation Trust, Bath, UK, (3) Bristol Medical School: Population Health Sciences, University of Bristol, Bristol, UK; Royal United Hospitals Bath NHS Foundation Trust, Bath, UK

**Introduction:** Existing infection control methods in care homes (CHs) focus on interrupting direct or indirect transmission whilst airborne spread remains largely unmitigated. Air filtration is commonly used to reduce infections in high-risk environments, such as operating theatres, and may mitigate this risk in other settings. We are delivering a cluster randomised trial to investigate the clinical and cost-effectiveness of portable high-efficiency-particulate-air (HEPA) filters in reducing symptomatic-winter-respiratory-infections (SWRIs), including COVID-19, in CH residents.

**Methods:** We will recruit at least 740 residents from approximately 74 English CHs over three successive winters. Participating CHs will host at least 20 residents of whom a target of 10 will be consented for participation. CHs will be randomly allocated to control (no air filters) or intervention (air filter provision). Over the winter period we will identify resident SWRI episodes (primary outcome), antibiotic consumption and adverse events through daily reporting by CH staff. We will use a mixed-methods approach to conduct a process evaluation to understand acceptability and intervention implementation within the trial, and to contribute to the interpretation of effectiveness findings. We will undertake a health economic evaluation to determine if the intervention is cost-effective.

**Results:** 1. Two of three winter recruitment seasons are complete. 2. To date, 45 CHs have been randomised (22 to control, 23 to intervention) b. 587 residents consented (270 to control, 327 to intervention) c. Primary outcome completeness is  $> 85\%$ .

**Key Conclusions:** We describe the protocol for a two-arm, cluster randomised, controlled trial that will evaluate the clinical and cost-effectiveness of air filtration in care homes on SWRIs.

**P-663****Implementation of an Antimicrobial Stewardship Programme in an Intermediate and Long Term Care Geriatric Hospital**

Alicia Cambra-López (1), Anna Murgadella-Sancho (2), Wendy Fuentes-Ramos (1), Christian Ruiz-Rodriguez (1), Alexis Vila-Moret (3), Benito Fontecha-Gomez (3)

(1) Geriatrics Department, Consorci Sanitari Integral. Barcelona, Spain, (2) Pharmacy Department, Consorci Sanitari Integral. Barcelona, Spain, (3) Geriatrics Department, Consorci Sanitari Integral. Barcelona, Spain

**Introduction:** Antimicrobial resistance is a global public health crisis. Life expectancy is increasing steadily and geriatric patients are more vulnerable to infections. Intermediate care (IC) and long term care (LTC) units have a high prevalence of infections as well as a high index of antibiotic prescriptions, leading to higher risk of developing microbiological resistance.

**Methods:** An interdisciplinary team of 3 geriatricians and a pharmacist with support from infectious disease specialist was formed in a 120 bed geriatric hospital in with the aim of implementing an antimicrobial stewardship programme. The team met weekly from May 2022 -May 2023 to review antibiotic prescriptions for urinary tract infections (UTI) and respiratory tract infections (RTI). Recommendations were offered according to microbiological findings and clinical guidelines regarding duration of treatment, type of antibiotic and sequential therapy.

**Results:** A total of 111 UTI and 112 RTI were reviewed. 72% were lower RTI and 28% pneumonia. In ITU 55.7% were lower tract UTI (uncomplicated cystitis 31.5% and complicated cystitis 24.2%), 17.2% were high UTI (pyelonephritis 13.5% and acute prostatitis 3.7%), UTI associated with indwelling urinary catheter was 17.2%, and asymptomatic bacteriuria 9.9%. A high number of treatments were empirical specially in RTI.

**Key Conclusions:** The findings and preliminary results of the implementation of an antimicrobial stewardship programme in a geriatric hospital support the need to extend specific strategies in infection control to improve the prescription patterns, reduce the consumption of antibiotics and lower the rate of antimicrobial resistance.

**P-664****Admissions profile in Portuguese long-term care: Comparison pre and post-pandemic**

André Rodrigues (1), Rui Buzaco (2), Victoria Pérez (3)

(1) Orpea Portugal, (2) Clinica CUF Alvalade, (3) Orpea Iberica

The COVID-19 pandemic had a significant impact on the elderly lifestyle conditions. This study aims to compare the admissions profile between 5 long-term care Portuguese institutions before and after the pandemic and evaluate possible changes in their residents' characteristics. A retrospective analysis to the admissions records in long-term care institutions was undertaken, comparing the periods between October to November 2019 and January until March 2023. Demographic and clinical evaluation data were collected, including Barthel scale and Mini Nutritional Assessment. Prescription drugs prescribed at admittance were also considered. SPSS® was used for statistical analysis. In the five institutions studied, 49 residents were admitted in the pre-pandemic period and 51 in the pos-pandemic period, 65% were female. In the pre-pandemic period, the average age was 84.3 years, Barthel Scale average score of 65.7 and MNA average of 23.1

and 6.9 average of prescription drugs at admittance. In the post-pandemic period, the average age was 85.9 years, Barthel Scale average score of 48,9, MNA average of 21.2 and 7.8 average of prescription drugs at admittance. These differences were shown to be statistically significant ( $p = 0.01$ ). As for functional dependence status, we verified that 26.5% of admittances in the pre-pandemic period were totally dependent as in the post-pandemic period this group represented 39.2%. The residents totally independent or with mild dependence represented 63.3% in the pre-pandemic period and in post-pandemic period these were 41.2%. The results show a significant difference between the residents' profile at admittance between the two periods, mainly in the dependence status. These results suggest that the COVID-19 pandemic may have had a significant impact on the admittance profile in long-term care institutions, with residents being more dependent and needing more medical attention, frailer and with more comorbidities. These data are critical to plan and implement a quality health care service to this vulnerable population, considering the changes on their profile and needs.

**P-665****Comprehension of medical recommendations by older patients and their caregivers: preliminary data from the APPROACH randomized controlled trial**

Simone Balanzoni (1), Federico Vezzali (1), Maria Leonardo (1), Silvia Sturani (2), Chiara Ceolin (2), Paola Siviero (3), Francesca Curri (2), Fabrizia Miotto (2), Andrea Cignarella (2), Marina De Rui (2), Giuseppe Sergi (2), Stefano Volpato (1), Caterina

(1) Geriatric and Orthogeriatric Unit, Department of Medical Sciences, University of Ferrara, Ferrara, Italy, (2) Department of Medicine, University of Padua, Padua, Italy, (3) Institute of Neuroscience, National Research Council, Padua, Italy, (4) Geriatric and Orthogeriatric Unit, Department of Medical Sciences, University of Ferrara, Ferrara, Italy Department of Medicine, University of Padua, Padua, Italy

**Introduction:** The older population is burdened by a higher frequency of chronic diseases and treatments, which may make harder their full comprehension and adherence to medical recommendations. In this study, we aimed to evaluate the prevalence of poor comprehension of the medical recommendations given at hospital discharge to older patients and/or their caregivers, and the factors associated with possible misunderstandings .

**Methods:** We considered 156 older participants of the APPROACH study, a clinical trial evaluating the efficacy of a multidisciplinary intervention to improve adherence and comprehension of medical recommendations at hospital discharge. For each patient we evaluated sociodemographic characteristics and data from the comprehensive geriatric assessment. Comprehension of the recommendations reported in the discharge summary was assessed through structured interviews to patients or their caregivers.

**Results:** More than one out of ten participants (12.2%) reported mistakes in the understanding of the discharge summary before the physician's explanation. Most mistakes concerned the details on the post-discharge visits and the knowledge of medications' roles (8.7%). Participants with good vs poor comprehension of the medical recommendations significantly differed by cognitive performance and occupational status. Moreover, individuals who did comprehension mistakes were less likely to report high medication adherence according to the Morisky Medication Adherence Scale-4.

**Key Conclusions:** The frequency of poor comprehension discharge medical recommendations among older patients and their caregivers is not negligible. A possible strategy to address this issue may include

the involvement of physicians in training sessions aimed at improving their communication skills.

Acknowledgements: The project is supported by a Pfizer Quality Improvement grant (n. 53789559).

## P-666

### Functional fitness of older people with chronic pain

Puto Grażyna (1), Muszalik Marta (2)

(1) Institute of Nursing and Midwifery, Faculty of Health Sciences, Jagiellonian University Medical College, (2) Department of Geriatrics, Faculty of Health Sciences, Nicolaus Copernicus University in Torun, Collegium Medicum in Bydgoszcz

**Introduction:** Deterioration of functional efficiency is one of the symptoms of chronic pain. The aim of the study was to assess the impact of chronic pain on the functional capacity of older people with chronic pain.

**Methods:** Chronic pain was assessed using the Geriatric Pain Measure (GPM-24), Katz scale (PADL), and instrumental activities of daily living (IADL). Results Among 181 people over 65 years of age with chronic pain, more women than men participated (61.9% vs 38.1%). Women obtained higher scores in: withdrawal due to pain ( $5.2 \pm 1.9$  vs  $4.5 \pm 2.2$   $p = 0.03$ ), pain intensity ( $15.8 \pm 3.3$  vs  $14.7 \pm 3.6$   $p = 0.04$ ), and in the total ( $17.5 \pm 4.8$  vs  $15.8 \pm 5.5$   $p = 0.03$ ) and final ( $41.7 \pm 11.5$  vs  $36, 3 \pm 13.7$ ,  $p = 0.006$ ) of the GPM-24 score. More intense pain was experienced by women more often than men (83.9% vs 66.7%  $p = 0.01$ ). Women more often than men showed disability in the range of P-ADL ( $4.73 \pm 1.59$  vs  $5.55 \pm 0.89$ ;  $p < 0.001$ ) and in the range of IADL ( $18.28 \pm 4.78$  vs  $20.53 \pm 4.75$ ;  $p = 0.002$ ).

**Conclusions:** Chronic pain was more often experienced by women than men with higher intensity, which resulted in withdrawal due to pain. Women are more likely to be disabled in basic and complex activities of daily living.

**Key words:** chronic pain, functional capacity, older people.

## P-667

### Social and emotional loneliness among older people living in the community—preliminary results

Puto Grażyna (1), Sowińska Izabela (1), Muszalik Marta (2)

(1) Institute of Nursing and Midwifery, Faculty of Health Sciences, Jagiellonian University Medical College, (2) Department of Geriatrics, Faculty of Health Sciences, Nicolaus Copernicus University in Torun, Collegium Medicum in Bydgoszcz

**Introduction:** oneliness is an experience occurring when one's social relationships are perceived as insufficient. This study aimed to assess the prevalence of emotional and social loneliness among older people.

**Methods:** The study used a questionnaire assessing demographic and social characteristics. The assessment of social and emotional loneliness was done using the De Jong Gerveld scale. The results divided the respondents into two groups: one experiencing loneliness and one not experiencing it.

**Results:** Among the 342 people over 60 included in the presented analysis, the percentage of women was higher than the percentage of men (64% vs 36%). Men more often than women reported emotional loneliness (56.9% vs 45.2%;  $p = 0.038$ ) and social loneliness (61.8% vs 46.1%;  $p = 0.005$ ). The average age of people experiencing emotional loneliness was higher than that of people without a sense of

emotional loneliness (respectively:  $K = 71.1 \pm 7.61$ ;  $M = 73.8 \pm 8.67$  vs.  $K = 68.05 \pm 5.099$ ;  $M = 69.19 \pm 5.13$ ;  $p < 0.001$ ) and social loneliness (respectively:  $K = 70.29 \pm 6.90$ ;  $M = 73.25 \pm 8.46$  vs.  $K = 68.69 \pm 6.091$ ;  $M = 69.49 \pm 5.55$ ;  $p = 0.002$ ).

**Conclusions:** Gender and age influence the sense of emotional and social loneliness. These kinds of loneliness in older people constitute a global health problem not only as a negative subjective feeling, but also as a social and economic indicator.

**Key words:** social loneliness, emotional loneliness, older people.

## P-668

### Frailty and long-term antibody responses post anti SARS-CoV 2 vaccination in LTCFs residents

Alba Malara (1), Angela Marie Abbatecola (2), Marianna Noale (3), Caterina Trevisan (4), Annapina Palmieri (5), Giorgio Fedele (6), Gilda Borselli (7), Carmine Cafariello (8), Pietro Gareri (9), Stefano Fumagalli (10), Enrico Mossello (10), Stefano Volpat

(1) ANASTE Humanitas Foundation, (2) Alzheimer's Disease Day Clinic, Azienda Sanitaria Locale, Frosinone, Italy, (3) Aging Branch, Neuroscience Institute, National Research Council, Padua, Italy, (4) Department of Medical Sciences, University of Ferrara, Ferrara, Italy; Department of Medicine, University of Padua, Padua, Italy, (5) Department of Cardiovascular, Endocrine-Metabolic Diseases and Aging, Istituto Superiore di Sanità, Rome, Italy, (6) Department of Infectious Disease, Istituto Superiore di Sanità, Rome, Italy, (7) Italian Society of Gerontology and Geriatrics, Florence, Italy, (8) Long Term Care Clinic, Provincia Romana dei Camilliani, Rome, Italy, (9) Center for Cognitive Disorders and Dementia (CDCC) Catanzaro Lido-ASP Catanzaro, Catanzaro, Italy, (10) Department of Experimental and Clinical Medicine, University of Florence and Division of Geriatric and Intensive Care Medicine, Azienda Ospedaliero-Universitaria Careggi, Florence, Italy, (11) Department of Medical Sciences, University of Ferrara, Ferrara, Italy, (12) Geriatrics Unit, Department of Clinical and Experimental Medicine, University of Pisa, Pisa, Italy, (13) Department of Medicine, University of Padua, Padua, Italy, (14) School of Medicine and Surgery, University of Milano-Bicocca and Acute Geriatric Unit, San Gerardo Hospital, Monza, Italy, (15) Bluecompanion Ltd., Londra, United Kingdom, (16) Unit of Geriatrics, Department of Medicine, Campus Bio-Medico University and Teaching Hospital, Rome, Italy, (17) Department of Geriatrics, Università Cattolica Sacro Cuore, Rome, Italy, 17 Fondazione Policlinico Gemelli Istituto di Ricovero e Cura a Carattere Scientifico, Rome, Italy

**Introduction:** The use of COVID-19 vaccines has proved to be a successful strategy to protect LTC residents (1,2). Several studies have suggested a waning of humoral responses after primary vaccination especially in frail older people (3). We aimed to assess the association between frailty and long-term antibody responses after anti-SARS-CoV-2 vaccination in LTCFs residents.

**Methods:** A total of 3272 residents from 77 Italian LTCFs of the GeroCovid VAX network were recruited and followed for 12 months. All participants received a primary mRNA vaccine cycle and 90% of these received a third dose of an mRNA vaccine. Frailty was assessed according to Anamnestic Frailty Phenotype (AFP) (4). The assessment of SARS-CoV-2 IgG levels was performed before the vaccination (T0) and after two (T1), six (T2), and twelve (T3) months from the administration of the first vaccine dose as described in a previous study (5).

**Results:** Frail individuals, with respect to non-frail, were older ( $84 \pm 8.5$  vs  $82.7 \pm 9.5$  years), and more frequently women (75% vs

68%); clinical characteristics by frailty status are described in Table 1. The generalized linear mixed model, adjusted for previous infection and other confounders, showed that, compared with non-frail, participants with frailty had a significantly decline in antibody levels by 48%, 50% and 71% at 2, 6 and 12 months from the first dose, respectively (Fig. 1).

**Key Conclusions:** The SARS-CoV-2 mRNA vaccines resulted immunogenic in frail residents, anyway a reduced antibody response at 6 and 12 months following vaccination was observed. New vaccine booster programs could be beneficial to boost antibody responses in this vulnerable population.

## P-669

### Gizarea project. development of the relationships centred care (rcc) model in alava nursing homes

Iñaki Artaza (1), Marta Cerezo (2), Izaro Azcunaga (3), Janire Ortuondo (4), Elia Lavinia Hernandez Santos (5), Fidel Molina Ortega (6), Oihana Diez Martinez (3), Itziar Martinez Ortiz De Pinedo (4)

(1) Department Of Social Policies, (2) Lakua Nursing Home, (3) Ajuria Nursing Home, (4) Zadorra Nursing Home, (5) Arabarren Nursing Home, (6) Purisima Concepcion Nursing Home

The Gizarea project, of RCC, is promoted by the Provincial Council of Álava and is based on the construction of relationships between all the people participating in the care: residents, family members and professionals.

**Objectives:** Progressively implement the ACR model in all care centres in Álava and know the profile of the residents in the centres.

**Methodology:** The project begins in October 2021 with the idea of progressively implementing it in the rest of the centres in Alava. We have analysed the residents: age, sex, level of dependency, severity of dementia, frailty, nutritional status, and drug regimen. This study includes 205 of the 232 people from 6 residences (5 for the elderly and 1 for people with intellectual disabilities). Finally, we have excluded the 27 people with intellectual disabilities from the sample.

**Results:** In 2021 the project begins in a centre (23 residents, 5 families, 17 professionals), in 2022 2 centres (77 residents, 19 families, 71 professionals) and in 2023 3 centres (132 residents, 25 families, 100 professionals). Profile of the residents: average age of 86.5 years, 76.6% women, average Barthel of 35.3 (74% total or severe dependency), 88.4% with cognitive impairment, 23% had malnutrition, moderate and advanced frailty in 77%, and 73.65% had prescribed more than 5 drugs and 52% 2 or more psychoactive drugs.

**Conclusions:** RCC model is being successfully implemented in Álava nursing homes. Given the level of dependency, cognitive impairment and frailty of the people we care for, the development of this model is very necessary.

## P-670

### GIZAREA Project: final outcomes of the implementation of the relationship-centred care model in relatives and professionals at the lakua psychogeriatric centre in vitoria-gasteiz

Maite Irastorza Justel (1), Isabel Martin Perez De Nanclares (1), Olatz Ruiz De Munain Bedia (2), Marta Cerezo Plaza (2), Maria Isabel Ferrero Rio (2), Maria Victoria Martin Moro (2), Maria Begoña Izar De La Fuente Jorge (2), Maria Jose Izquierdo Luis (2)

(1) IPACE, Applied Psychologie, (2) Lakua Nursing Home

**Introduction:** Lakua is a psychogeriatric centre for 48 people with dementia located in Vitoria-Gasteiz.

**Objective:** The Relationship-Centred Care Model (RCCM) aims to transform the care model for people with severe dementia, focusing on well-being and building relationships between family members and professionals.

**Methodology:** The participants in this project have been 35 people from the care team belonging to all professional categories, 91.43% women and an average age of 49.5 years. Engagement, work stress and the occupational well-being of professionals have been assessed. There have been 11 participating family members (6 wives, 2 sons, 1 daughter-in-law and 2 nephews), 75% women and an average age of 67.5 years. Satisfaction in care and the well-being of family members have been evaluated, with special emphasis on the level of loneliness. All welfare measures are based on the PERMA Model.

**Results:** Between October 21 and May 2023, in the professionals the engagement has increased (vigour, 1.82%, dedication, 4.59% and absorption 1.35%). The index of work stress (17.86%), index of work pressure (15.26%), index of lack of support (15.69%) has been reduced. Work well-being has gained 2.85%. The loneliness of family members has been reduced by 25.19% and satisfaction with care has increased by 3.38%. Currently, families and professionals work together developing different protocols.

**Conclusions:** The implementation of the RCCM has generated improvements in the levels of well-being in both family and professional caregivers, as well as the active participation of families in care and in the development of protocols.

## P-671

### Interdisciplinary dynamics within an EHPAD: what contribution of an advanced practice nurse?

Marjory Champey (1), Pierrette Bellia-Dhondt (2), David Brely (3), Laurent Tacchini (2), Damien Seynaeve (2)

(1) Drôme Nord Hospital Center—Nursing home Les Jardins de Diane—France, (2) Drôme Nord Hospital Center—Geriatric medicine department—France, (3) Drôme Nord Hospital Center—Senior health officer—France

**Introduction:** We conducted a qualitative and quantitative study to assess the follow-up of chronic and stabilized diseases in a countryside nursing home and ways to strengthen it through interdisciplinarity after an advanced practice nurse joined the team.

**Methods:** Data regarding the ongoing follow-up of residents further assessed in line with national recommendations were gathered from the medical files. We selected patients suffering from cardiopathy and/or type II diabetes according to medical history, as these two chronic conditions were the most frequent in our population. A questionnaire was used to collect information on the interdisciplinary team's means of communication and ways of improving interdisciplinarity. Data were collected between 1 March and 30 April 2023.

**Results:** The interdisciplinary follow-up of 37 residents—20 suffering from cardiopathy and 17 from type 2 diabetes—was detailed. Areas for improvement were identified through care cascades. Twenty questionnaires were collected out of the 28 distributed to professionals. Reported means of communication were various, even though the healthcare workers regretted a lack of time for communication and the absence of interdisciplinary staff meetings.

**Key Conclusions:** Advanced practice nurses may contribute to both a more regular follow-up and better dynamics in the interdisciplinary team leading to a more vivid and personalized care project.

**P-672****Palliative sedation in a palliative care unit; 2.5 years experience**

Saleta Goñi Rosón (1), Gemma Cuesta Castellon (1), Lucía Gómez González (1), Concepción Jiménez Rojas (1), Javier Gómez Pavón (1)

(1) Hospital Universitario Central de la Cruz Roja

**Introduction:** Although palliative sedation is recognized within the benefits of palliative care, there are numerous ethical and ethical debates in this matter, which is why it is considered that numerous protocols and standardized practices must be established to carry it out correctly.

**Methods:** An observational, descriptive, retrospective study was carried out that collected the 400 patients admitted to the Palliative Unit of the Red Cross Central Hospital between December 2019 and June 2022. Frequencies of the characteristics of the patients were analyzed. patients who received palliative sedation and cross tables to compare these between the patients who received it and those who did not.

**Results:** Of the 400 patients admitted to the PCU of the Red Cross Central Hospital between December 2019 and June 2020, 218 patients required palliative sedation (54.5%). The mean age was  $79.89 \pm 11.31$  with 47.8% older than 85 years, 54.6% (119) women. The patients who received Palliative Sedation were younger, with oncological disease, without other differences by gender, origin, main symptom or stay.

**Conclusion:** Although recognized both ethically and legally, palliative sedation continues to be a controversial practice that is difficult to protocol and measure. Establishing a well-defined protocol that includes both clinical criteria and ethical criteria around it, as well as objective monitoring of the process, can help ensure good practice around palliative sedation.

**P-673****The Need Assessment of Age-Friendly Environment in the Long-Term Care Facility among the Residents and their Family**

Hui Yen LIAO (1), Meng Shuo Shen (1)

(1) Hui Yen LIAO

There are more and more families having the difficulty to take care of older people at home appropriately due to the ageing society in Taiwan, and the development of long-term care facilities can support the family and older people. People need the high quality of service and so that the managers of the long-term care facilities have the responsibility to offer the good quality and safe service to meet the users' needs. The purpose of this study was to explore the needs of age-friendly environment in the long-term care facilities among the residents, their family and some other people willing to move there. Four dimensions were assessed according the motivations and reasons to move to the facilities, the expectation to the service and environment and reality of the facilities. There were 5 residents and 6 families who were interviewed, and 19 families and 40 people willing to move there completed the questionnaires. The results of this study concluded that the health was the major motivation and the need of basic daily activities was the most important reason to stay in the long-term care facilities. Moreover, the age-friendly environments were expected, such as the accessibility, the bright space and outdoor area. Furthermore, the arrangements of exercise, adequate diets and leisure activities, well communications, supportive areas for religious belief, the well medical supports, staffs with kind and warm attitude

and home-like environment were also looked forward for the age-friendly facilities.

**P-674****Quality of life in Nursing Homes**

Delamarre-Damier Florence (1), Lafargue Sandrine (2)

(1) Agree Association Gerontologique Recherche Et Enseignement En Ehpad, (2) Mer Et Pins Nursing Home France

The objective of this study is to define a model with items to base best quality of life plan of the resident in a nursing home (NH). Method: We segmented the stages of individualized support for a NH resident based on expert opinions and data from the literature results admission. A pre-admission visit followed by a month-long assessment can significantly contribute to define the life plan and the care plan. The Environment It must be calm, functional, welcoming, and bright and allow the resident to be free to walk around in complete safety with special spaces dedicated to people with behavioral problems. Further, it must include the development of non-medicated therapies. Restoration It is the last pleasures of life. Take care of the organization of the table plans, service made by the residents, presentation on the plate and adaptation of the food textures. Care safety The most important expectation on the part of families. It includes the security of the premises and the service to the care of the residents. 4. Identification of frailty Risk assessment and the follow up of preventive measures fall within this factor. 5. Palliative and end-of-life care Identifying the transition to comfort care is an important first step that would contribute to formalize care, to take advance directives into account, to draw up advance prescriptions and above all evaluate the necessity of a call on a palliative care team.

**Conclusions:** The aforementioned factors are key to successful and harmonious integration of residents in Nursing Homes and would be discussed within the frame of this presentation.

**P-675****Joined Geriatric-Dermatology (GeriDerm) Virtual Clinic: Telemedicine-Based Care for Elderly Patients with Skin Diseases in The State of Qatar**

Wasim Akram (1), Hanadi Al-Hamad (1), Sara Al-Khawaga (1), Shafi Hashmath Ulla Khan (1), Martin Steinhoff (1)

(1) Hamad Medical Corporation

**Background:** The 'GeriDerm' clinic, which stands for geriatric dermatology, is a novel dermatology-based service, inspired by the needs of our elderly population living in the State of Qatar. The global demographic transition directs to an increasing trend toward the elderly population aged 65 years and above. Accordingly, the incidence of dermatologic conditions is also rising in parallel. The geriatric population is at higher risk of using multiple medications and seeing multiple care providers. This situation requires adapting to the elderly medical needs. The COVID-19 pandemic provided the impetus for the establishment of the Geriatric Dermatology telemedicine clinic as an innovative approach to delivering ongoing care to older patients, providing a novel approach to meet the many challenges our elderly patients face via providing quick, accurate assessments of general and rare dermatoses via the dermatologists, and a comprehensive geriatrics assessment of cognition, functional status, frailty screening, and assessment for polypharmacy.

**Primary Objective:** To promote early detection of dermatological conditions and enhance skin health over the course of a lifespan, especially in high-risk patients aged 65 years and above. Secondary objectives: 1) To provide unique considerations for the care of older persons with skin disease, by incorporating principles of geriatrics in the practice of dermatology. 2) To expand patient care services by adding face-to-face consultations to virtual sessions for older patients with skin diseases in Qatar and to create clear pathways for proper triaging, referrals, and minimizing exposure to secondary infection.

**Methods and Clinical Pathways:** (1) Address the geriatric population's needs in terms of dermatological and medical comorbidities by providing state-of-the-art technologies to visualize the skin lesions virtually and provide clinical management at the soonest. (2) Limit the geriatric population's exposure to the hospital setting and driving distances unless necessary where either an actual visit or Day Care visit can be arranged. (3) Address one of the most vulnerable populations during the COVID-19 pandemic by providing a clear pathway for proper triaging, and identification of red flags (e.g. suspected skin cancers and cutaneous malignancies, Blistering disorders, viral infections, and drug eruptions). In the GeriDerm clinic, dermatologists and geriatrics promote early dermatologic condition detection in high-risk patients via our developed virtual platform. Dermatology direct-patient physical examinations and management for complex cases are achieved through coordinated scheduling taking place in the geriatric day care for non-ambulatory patients whereas a clinic visit to the dermatology outpatient department is scheduled for ambulatory patients. Identification of red flags mandates urgent triaging into the system allowing dermatologist and geriatrician assessment via Vsee (virtual consult) for non-ambulatory patients, and daycare visits for those requiring urgent direct examination. (4) Conduct a patient and family-based satisfaction survey on the quality and efficacy of the dermatological care provided via the newly developed pathway (described above) via assessment of the quality and clarity of telephone consult, video consult, dermatology medication refill service, wound care treatment efficacy, satisfaction with the outcome of the dermatology disease treatment provided.

**Results:** A yearly analysis of the demographics and most common dermatoses attending the Geriderm clinic demonstrated 48.2% new cases and 51.8% follow-up cases either virtually or in in-person consultation. A total of 54.4% of female elderly patients attended the clinic and male elderly patients constituted 45.6%. The mean age was 74.6 with a maximum age of 106 years. The majority of Geriderm patients were Qatari 57.9%. The most common dermatoses included contact dermatitis 13%, followed by bullous pemphigoid 10%, eczema 10%, pruritus and xerosis cutis 9.5% 3.1%, fungal infection 2.2%, Stasis dermatitis 1.5%, drug Eruption 1.2%, Herpes Zoster 1.2%, Erysipelas and Cellulitis and leg ulcer 1%. The satisfaction survey demonstrated high satisfaction with the quality and clarity of telephone consults, video consults, dermatology medication refill service, wound care (Bullous pemphigoid) treatment efficacy, and satisfaction with the outcome of the dermatology disease treatment provided.

**Conclusion:** As a new service in Qatar, with its virtual clinic, the 'GeriDerm' service helped to improve the efficacy of treatment as well as the safety standards provided during the COVID-19 pandemic. Even after COVID, in the long term, the Geriatric Dermatology virtual and Face-To-Face service will be a continuously advanced high-standard interdisciplinary clinic to optimally care for elderly patients with skin diseases in Qatar.

## P-676

### Can Home Care Programs Promote Ageing in Place?

Lamprini Moustakopoulou (1), Theodoula Adamakidou (2), Paraskevi Apostolara (2), Alexandra Mantoudi (2), Dimos Mastrogiannis (3), Marianna Drakopoulou (2), Marianna Mantzorou (2)

(1) Help at home program, Municipality of Nauplion, Greece, (2) Nursing Department, University of West Attica, Athens, Greece, (3) General Department of Lamia, University of Thessaly, Greece

**Introduction:** Older adults prefer to remain in their homes and communities as long as possible. Therefore, great emphasis is placed on ageing in place (AIP), an aim supported by many home care programs worldwide. Aim of the study: To present an overview of the impact of home care programs on ageing in place.

**Material and Methods:** A review of the recent literature was conducted in PubMed, Scopus and Google scholar databases using the key words "ageing in place", "homecare", "effectiveness", "older adults".

**Results:** Receiving home care services enhances AIP by reducing hospital admissions and delaying nursing home admissions [1,2]. Home-based care programs have been shown to reduce disability and depressive symptoms of older adults, improve medication management and enhance the ability to perform activities of daily living (ADLs) [2–4]. Moreover, home care services can increase the confidence of older adults in managing household demands and sustaining a favorable level of social connection with the community and neighborhood [3,5]. It must be clarified though, that although the goal of geriatric health care professionals is to enable older adults to age in the right place based on their individual needs, in some cases ageing in their own home is not suitable for them.

**Key Conclusions:** Home care programs are crucial for the promotion and accomplishment of effective AIP. Therefore, home care programs must be enhanced in order to assess the different needs of older adults and enable them to age in place to greatest possible extent by providing quality home-based health services.

1. Young Y, Kalamaras J, Kelly L, Hornick D, Yucel R. Is Aging in Place Delaying Nursing Home Admission? *J Am Med Dir Assoc.* 2015;16 (10) :900.e1-6.
2. Jorgensen M, Siette J, Georgiou A, Warland A, Westbrook J. Modeling the Association Between Home Care Service Use and Entry into Residential Aged Care: A Cohort Study Using Routinely Collected Data. *J Am Med Dir Assoc.* 2018;19 (2) :117–121.e3.
3. Szanton SL, Leff B, Wolff JL, Roberts L, Gitlin LN. Home-based care program reduces disability and promotes aging in place. *Health Affairs* 2016;35 (9) :1558–1563.
4. Kadowaki L, Wister AV, Chappell NL. Influence of home care on life satisfaction, loneliness, and perceived life stress. *Can J Aging.* 2015;34 (1) :75–89.
5. Lewis C, Buffel T. Aging in place and the places of aging: A longitudinal study. *J Aging Stud.* 2020 Sep;54:100870.

## P-677

### Zarit Scale for Measuring Caregiver Burden

María Isabel Porras-Guerra (1), Germán Gómez-Porras (2)

(1) Geriatria. Médico de Familia, (2) Informática. Traducción

The increase in life expectancy means that the population is becoming increasingly elderly. Functional limitations due to age, chronic diseases, especially neurodegenerative diseases, polypharmacy... make

the need for care for the elderly population very high. The role of the caregiver in this group is essential, “caring well” means better quality of life for the patient and better use of health resources, but...who cares for the caregiver?.

**Objective:** To determine the level of caregiver burden in a group of caregivers of patients who attend our clinic.

**Patients and Methods:** Using the Zarit-Caregiver-Burden-Scale, we determined the level of caregiver burden among a group of regular caregivers of patients who attend our clinic. Variables:gender, age, relationship, patient’s pathology, duration of care. Data analysis:descriptive statistics .

**Results:** n = 67 Women = 42 (62.7 Men = 25 (37.3%) ). Most of the caregivers are children (81.2%), external caregivers (13.5%), and spouses (5.3%). The age of the caregivers ranges from 40-87years. The most frequent pathologies that require care are neurodegenerative diseases (52.2%), stroke (25.4%), psychosocial disorders (16.4%), and gait disorders (6%). Zarit-Test:10.4% of caregivers do not present burden, 22.4% present a little burden, 53.7% present moderate burden, 13.4% present intense burden.

**Conclusions:** The “typical” caregiver is a woman between 51-65years old, with moderate burden, who has been caring for her 85year-old mother with dementia for more than 3years. The caregiver thinks that her mother depends entirely on her and is afraid of what might happen to her. She thinks she can do more and do it better for her mother, but she would like someone else to take care of her.

## P-678

### Typology of runaway nursing home residents: the Escape study

Bonin-Guillaume Sylvie (1), Jouve Elisabeth (2), Poulin Elisabeth (2), Clot Faybesse Priscilla (3), Baurtant Thierry (4)

(1) University Hospital of Marseille, Aix Marseille University, (2) University Hospital of Marseille, (3) Medical Manager Korian Paris, (4) NH Domaine De La Source, Marseille

**Introduction:** Escaping behaviors of nursing homes (NH) residents occur even if most of NH have set up specific devices to prevent from this risk; and is often underreported. Resident missing event is associated to guilt, burden, and inappropriate or dangerous attitudes from the carers and nurses’ staff.

**Objective:** To explore the typology of runaway NH residents. Design: Prospective multicenter study (2018–2020) Setting and participants: NH from South East of France region, volunteer to participate and include residents.

**Method:** Sociodemographic and medical characteristics of the residents were reported from their medical file; cognitive disorders were scored with the Mini-mental state evaluation and behavioural and psychological disorders with the Neuropsychiatric inventory. Missing events were reported by NH nurses’ staff during a one-year follow up.

**Results:** 24 NH (out of 606) included 886 residents out of which 63 (7.1%) experienced at least one runaway (49.0% two or more). All NH were provided with security devices to prevent those events. Runaway residents were significantly ( $p < 0.05$ ) younger, less dependent, more recently admitted in the NH ( $< 3$  months), having history of psychiatric disease, more severely cognitively impaired (MMSE mean scores), more likely to experience falls and wandering/aberrant motor behaviour and previous runaway. Among the 149 runaway-events, 44.2% were considered as severe (search by nurses’staff and/or police-firemen services). Surprisingly, there were no differences between the two groups for psychotropic drugs prescription (number and classes), typology of the NH units (open units or specific Alzheimer units) and prescription of mechanic restraints.

Among the 149 runaway-events, 44.2% were considered to be severe (active search by nurses’staff and/or police-firemen) .

**Conclusion:** Better identify runaway NH resident profile is essential to help for NH nurses’ staff. Next step is to score the risk before the missing event occurs.

## P-679

### Factors Affecting Burnout of Greek Gerontological Nurses in Dementia Care: a Cross Sectional Study

Marianna Mantzorou (1), Athena Kalokairinou (2), Marina Economou (3), Dimos Mastrogiannis (4), Constantinos Prouskas (5), John Papatriantafyllou (6), Evmorfia Koukia (2)

(1) Nursing Department, University of West Attica, Athens, Greece, (2) Nursing Department, National and Kapodistrian University of Athens, Greece, (3) 1st Department of Psychiatry, Department of Medicine, National and Kapodistrian University of Athens, Greece, (4) General Department of Lamia, University of Thessaly, Greece, (5) Aktios elderly care units, (6) 3rd Age Center IASIS

**Introduction:** The complex and demanding care of older adults with dementia in nursing homes leads quite often to unbearable stress, physical and emotional exhaustion of nurses. Aim of the study: To explore the factors that may contribute to burnout of gerontological nurses caring for older adults with dementia in nursing homes.

**Material and Methods:** A convenience sample of 171 geriatric nurses and nurse assistants in 16 nursing homes were administered questionnaires regarding sociodemographic and work-related data and the Maslach Burnout Inventory (MBI).

**Results:** The mean age of the participants was 37.75 years old, the majority were women (84.2%), married (48.5%) with children (52.6%). 26.9% were higher education graduates while 47.4% were nursing assistants. 51.5% declared that they wish to change their working area. The professional caregivers of older persons with dementia in nursing homes, were found to experience moderate levels of burnout in the three dimensions of burnout. The desire to change their working area was a prognostic factor for emotional exhaustion ( $p = 0.002$ ) and depersonalization ( $p = 0.042$ ). A working experience 1–5 years compared to  $< 1$  year and working in the nursing home for other reasons than earning their living, were prognostic factors for a sense of low personal achievements ( $p = 0.003$  and  $p = 0.002$  respectively).

**Key Conclusions:** The moderate levels of burnout found in the present study warn for better management of organizational problems in nursing homes as well as better educational preparation of gerontological nurses which would allow nurses to connect with their patients and draw satisfaction from their relationship.

## P-680

### Exploring the EHR Documentation Practices and Motives of the Elderly Care Physician: an Interview Study in Nursing Homes in the Netherlands

Yvonne Jorna (1), Marike de Boer (2), Charlotte Albers (2), Karlijn Joling (2), Patricia Jepma (2), Martin Smalbrugge (2), Cees Hertogh (2), Martine de Bruijne (3)

(1) Nivel, Utrecht, The Netherlands, (2) Amsterdam UMC, department for Elderly care Medicine, (3) Amsterdam UMC, department for Public Health



**Introduction:** Elderly care physicians (ECPs) [1] in nursing homes register everything about their patients. However, because this is not always done in a standardized and structured manner, it is difficult to reuse the data for other purposes such as quality improvement and scientific research. It is therefore necessary that we get insights into the behavior and attitude of ECPs concerning standardized and structured registrations in the electronic health record (EHR). This research aims to explore how and why ECPs register in the EHR and what kind of factors influence standardized and structured registrations.

**Methods:** Participants for this study were recruited through purposive sampling to have enough differences in age, gender, healthcare organization and use of different EHRs between participants. Interviews with ECPs were held until data saturation was reached. Analysis was performed based on the inductive thematic analysis method by Braun & Clark [2].

**Results:** Reasons for ECPs to use the EHR are mainly focused on direct patient care: recall information about patients and transmission of patients to colleagues. The most important factors that influence structured and standardized registration are giving it attention within an organization, having clear arrangements on how, and where to register and seeing what happens with the data which increases the motivation to put more effort in correct registrations.

**Key Conclusions:** ECPs are currently not thinking about how they register and the reuse of data; nevertheless, ECPs are willing to change how they register in the EHR, without it having too much costs in time and effort.

**References:**

- [1] Koopmans, R. T., Lavrijsen, J. C. M., Hoek, J. F., Went, P. B. M., & Schols, J. M. G. A. (2010). DUTCH ELDERLY CARE PHYSICIAN: A NEW GENERATION OF NURSING HOME PHYSICIAN SPECIALISTS. *Journal of the American Geriatrics Society*, 58 (9), 1807–1809. <https://doi.org/10.1111/j.1532-5415.2010.03043.x>.
- [2] Braun V, Clarke V. Using thematic analysis in psychology. *Qualitative Research in Psychology*. 2006;3 (2) :77–101.

## P-681

### Prioritizing candidate quality indicators for medical practitioners in Dutch long-term care: An online Delphi study

Gary Yeung (1), Patricia Jepma (1), Karlijn Joling (1), Cees Hertogh (1), Martine De Bruijne (2), Martin Smalbrugge (1)

(1) Amsterdam UMC, Location Vrije Universiteit Amsterdam, Department of Medicine for Older People; Amsterdam Public Health, Aging & Later Life, Amsterdam, the Netherlands, (2) Amsterdam Public Health, Quality of Care, Amsterdam, the Netherlands

**Introduction:** Quality indicators (QIs) reflecting the quality of care by medical practitioners in long-term care (LTC) has been internationally proposed[1]. This study intent to assemble a set of QIs relevant to Dutch medical practitioners in LTC by evaluating the proposed QIs next to the existing Dutch LTC QIs.

**Methods:** An online Delphi study with a panel of physicians, nurse practitioners and physician assistants working in Dutch LTC evaluated 35 international QIs and 15 Dutch QIs in three rounds. In round one, panelists rated on a 4-point scale the level of control that medical practitioners have over each QI. In round two, QIs were rated on a 10-point scale for relevance to quality of medical care. QIs with  $\geq 70\%$  of the panel rated to be under their control (score  $\geq 3$ ) and relevant (score  $\geq 8$ ) continued to the last round. Panelist compiled a personal top 5, that was used for the final prioritization.

**Results:** Out of the 92 panelists that completed round one, 74% completed round two and 67% round three. For 42 QIs, panelists

reached consensus that these QIs were under the control of medical practitioners. Subsequently, for 21 QIs panelists found them relevant for quality of care. In the final prioritization 3 QIs in the top 5 were related to advance care planning, and the others regarded medication and diagnostics.

**Key Conclusions:** For 21 QIs, medical practitioners have indicated that they are under their control and relevant to the quality of medical care. Further research will evaluate the measurement properties of the prioritized QIs.

**Reference:**

- [1] Mays, A., et al. Quality indicators of primary care provider engagement in nursing home care. *J Am Med Dir Assoc*. 2018;19:824–832.

## P-682

### Vitamin D Deficiency Among Older People Living in Residential Care Homes in Hong Kong

Ka Keung Yam (1)

(1) Fung Yiu King Hospital

**Introduction:** In Hong Kong, about 6% of older population is residing in residential care homes (RCHes). To date, no local study has been conducted to examine the problem of vitamin D deficiency in RCHE residents.

**Objective:** To study the problems of vitamin D deficiency in high-risk elderly living in RCHes.

**Methods:** The study was conducted in 69 RCHes which are receiving Hong Kong West Community Geriatric Assessment Team (HKW CGAT) service. Blood test for vitamin D (total 25OH-D) if RCHE residents had risks or clinical features of vitamin D insufficiency.

**Results:** Between May to December 2022, 215 patients in RCHes were tested for 25OH-D. There were 101 (48%) men and 114 (52%) women with a mean age of 83.5 years. 113 (52.6%) residents were deficient in vitamin D (25OH-D < 50 nmol/L), with 54 (47.8%) mildly deficient (25OH-D 30 to 49 nmol/L), 48 (42.5%) moderately deficient (12.5 to 29 nmol/L), and 11 (9.7%) severely deficient (< 12.5 nmol/L). Alkaline phosphatase and adjusted calcium levels were significantly lower in vitamin D deficient group. Multivariate analysis shows male gender (odds 1.4, 95% CI 1.12 to 2.6,  $p < 0.02$ ) and not on vitamin D replacement (Odds 64.5, 95% CI 8.6 to 485,  $p < 0.001$ ) were significant risk factors for vitamin D deficiency.

**Conclusion:** Older RCHE residents are at risk of vitamin D deficiency. Targeted testing for 25OH-D levels with prompt replacement (if confirmed deficient) is advocated. More study is needed to examine the prevalence and clinical impact of vitamin D deficiency in this vulnerable group.

## P-683

### Appropriateness of antibiotic use in nursing homes for suspected urinary tract infections: comparison across five European countries. HAPPY PATIENT study

Carl Llor (1), Ana Moragas (1), Ana García-Sangenís (1), Jette Nygaard Jensen (2), Matilde Bøgelund Hansen (2), Jesper Lykkegaard (3), Malene Plejdrup Hansen (3), Anna Kowalczyk (4), Ruta Radzeviciene (5), Christos Lionis (6), Pia Toubol-Lundgren (7)

(1) Fundació Institut Universitari per a la Recerca a l'Atenció Primària de Salut Jordi Gol, Barcelona, Spain, (2) Department of Clinical Microbiology, Copenhagen University Hospital–Herlev and

Gentofte, Copenhagen, Denmark, (3) Research Unit for General Practice, Department of Public Health, University of Southern Denmark, Denmark, (4) Centre for Family and Community Medicine, the Faculty of Health Sciences, Medical University of Lodz, Poland, (5) Ltd Mano Seimos Gydytojas (My Family Doctor), Klapeida, Lithuania, (6) Clinic of Social and Family Medicine, School of Medicine, University of Crete, Greece, (7) Nice Hospital, France

**Introduction:** The aim of this study was to estimate and compare the appropriateness of antibiotic use for suspected urinary tract infections (UTIs) in nursing homes across five EU countries regarding the decision to treat.

**Methods:** Nursing homes in five European countries (France, Greece, Lithuania, Poland, and Spain). The study is part of the HAPPY PATIENT, which is funded by the Third EU Health Program and aims to implement the EU AMR guidelines on the prudent use of antimicrobials in humans. Cross-sectional study using the Audit Project Odense (APO) method, which is a prospective self-registry methodology. All residents in new or ongoing treatment with systemic antibiotics were registered during a six-week period between February and April 2022. The appropriateness of the treatment decision for UTI was evaluated according to symptom presentation in residents without indwelling urinary catheter.

**Results:** A total of 79 nursing homes signed up to participate. Nine did not return any filled-in registration charts and the data is therefore based on 70 nursing homes, which registered a total of 329 antibiotic treatments for suspected UTI in residents without catheter. A total of 31% and 49% of antibiotic decisions for UTI in residents were deemed highly appropriate and highly inappropriate, respectively. The highly inappropriate antibiotic treatment decision for UTI varied across the countries: France (38%), Lithuania (28%), Poland (10%) and Spain (69%).

**Key Conclusions:** Implementation of EU guidelines for the prudent use of antimicrobials in the nursing home setting across European countries is needed.

## P-684

### [STUDY PROTOCOL] YELLOW RoUTIne study: Insight in the dynamics of bacteria in the elderly bladder—The way forward to urinary tract infection prevention, diagnosis and treatment

Ruo Chen Wang (1), Laura Van Buul (1), Martin Smalbrugge (1), Kati Halonen (2), Caroline Schneeberger (2), Sabine De Greef (2), Anja Haenen (2), Suzanne Geerlings (1)

(1) AmsterdamUMC, (2) RIVM

**Introduction:** The majority of antibiotic prescriptions in nursing homes (NHs) are for presumed urinary tract infections (UTI). However, antibiotic use for UTI is often unnecessary and may contribute to the development of antimicrobial resistance. Asymptomatic bacteriuria (ASB) is not considered pathogenic for UTI and may be even seen as colonization protecting the bladder from more harmful bacterial strains. The exact role of bacteriuria is however unknown. We aim to provide insight into the course of bacteriuria in the elderly bladder and its relation to UTI.

**Method:** A large prospective cohort study will be conducted in Dutch NHs from January 2024 till June 2025. Urine samples, faecal samples and case report forms (CRF) on UTI-related signs & symptoms will be collected from each consenting NH residents every 3 months. When a UTI is diagnosed in-between these time-points, an additional urine sample and CRF will be collected. Urine samples will undergo several analyses (e.g. dipstick urinalysis, sediment and bacterial culture) to describe the dynamics in occurrence of bacteriuria and

leukocyturia over time. Bacterial urine cultures will be compared with the gut microbiome (faecal cultures). Additional molecular analysis will be done for cultured *Escherichia coli* for virulence factors. Finally, the association between several factors on the NH level (e.g. shared sanitary rooms and personnel clothing) and resident level (e.g. comorbidity, indwelling catheter use and incontinence) and *E. coli* transmission patterns will be studied.

**Hypothesis:** The hypothesis will be tested whether ASB with low-virulent bacterial strains protects against development of UTI.

## P-685

### Interviews With Experts In Residential Long-Term Care And The Built Environment: Balancing Quality Of Life And Infection Control

Jennifer O'Donoghue (1), Dimitra Xidou (1), Tom Grey (1), Desmond O'Neill (2)

(1) Trinity Haus, Trinity College Dublin, (2) Trinity Centre for Health Sciences, Tallaght University Hospital

**Introduction:** Residential long-term care settings (RLTC) for older people were badly affected by COVID-19 with serious impacts on residents, staff, and family members. COVID-19, like other airborne infectious diseases, has many implications for spatial practices and the built-environment. While limited research has identified certain built-environment issues that influence infection control (IC), these can also negatively impact resident quality-of-life. We explored the balance between IC and quality-of-life with key representatives or 'experts' from different aspects of RLTC provision, policy, and IC.

**Methods:** We conducted 20 interviews with experts and a thematic analysis was employed to analyse and generate key themes.

**Results:** For brevity, the codes which had been mentioned by > 5 interviewees, specific to the built-environment, IC and quality-of-life were prioritised; resulting in 16 prioritised themes. These themes included allowing for choice, visiting/safeguarding during pandemic restrictions, and overarching issues: setting size and models of care; as well as several identified issues across the key spatial scales: community connectiveness, setting subdivision, single ensuite bedrooms being preferable, the need for permanent clinical spaces, homelike and IC compliant fixtures, ventilation, and technology for communication, as well as the importance of access to nature for wellbeing and to facilitate safer visiting.

**Key Conclusions:** This research demonstrates the growing awareness of the built-environment as a critical partner in the RLTC health and social care model, as well as illustrating the need for a holistic design approach across all key spatial scales to support the health/wellbeing of older people in RLTC. Funder: Science Foundation Ireland (SFI).

## P-686

### Satisfaction of Caregivers of Dementia Patients in The Use of a Telematic Tool

María Alejandra Zambrano Gustin (1), Tatiana Calderón Prieto (2), Marta Fernandez Esteban (3), Mercedes Fernandez Lopez (4)

(1) mazambranog, (2) 5296, (3) 5697, (4) 2571

**Objectives:** To compare the level of satisfaction among caregivers of dementia patients regarding the control of their relatives in two groups of caregivers: one group followed the control through a telematic tool, while the other group followed the usual controls in consultations.

**Methods:** Prospective randomized clinical study with two parallel single-center intervention groups. In an initial face-to-face visit, patient and caregiver were randomly assigned to either the control group (CG), which would follow the usual controls in consultations, or the telematic group (TG), which would follow remote monitoring without scheduled visits for one year.

**Results:** Recruitment took place between September 2020–March 2021, with 72 patient/caregiver pairs in the CG and 76 in the TG. The average age of caregivers was 58.6 years, 73% women, 50% employed, 30% retired, and 20% unemployed. 91.9% children of the patient, and 92.5% had not received previous training. 60% had moderate level of education, and on average, they had been caregivers for 1–5 years. The level of satisfaction regarding the control of their relatives at the beginning of the study, measured on a scale from 0–100, was 76.5 in the CG and 71.6 in the TG. At the end of the one-year follow-up, satisfaction in the CG had decreased to 74.2, while it had increased to 85.7 in the TG, with a statistically significant difference ( $p = 0.002$ ).

**Conclusions:** TECUIDE, as a telematic tool for the control of dementia patients, has surpassed the satisfaction levels of caregivers compared to the usual controls conducted in regular dementia consultations.

## P-687

### Views On Represcribing Among Nursing Home Residents With A Limited Life Expectancy And Their Relatives: A Qualitative Study

Margaretha T Dijk (1), Eefje M Sizoo (2), Simone C Laeven (3), Eva van Galen (3), Amna Panwar (3), Cees MPM Hertogh (2), Rob J van Marum (4), Jacqueline G Hugtenburg (5), Martin Smalbrugge (2)

(1) 1. Department of Medicine for Older People, Amsterdam UMC, Location VUmc, Amsterdam, The Netherlands 2. Amsterdam Public Health, Aging & Later Life, Amsterdam, The Netherlands, (2) 1 Department of Medicine for Older People, Amsterdam UMC, Location VUmc, Amsterdam, The Netherlands 2 Amsterdam Public Health, Aging & Later Life, Amsterdam, The Netherlands, (3) 1 Department of Medicine for Older People, Amsterdam UMC, Location VUmc, Amsterdam, The Netherlands, (4) 1 Department of Medicine for Older People, Amsterdam UMC, Location VUmc, Amsterdam, The Netherlands 2 Amsterdam Public Health, Aging & Later Life, Amsterdam, The Netherlands 4 Geriatric Department and Center for Clinical Pharmacology, Jeroen Bosch Hospital, 's-Hertogenbosch, The Netherlands, (5) 2 Amsterdam Public Health, Aging & Later Life, Amsterdam, The Netherlands 3 Department of Clinical Pharmacology and Pharmacy, Amsterdam UMC, location VUmc, Amsterdam, The Netherlands

**Background:** The appropriate use of medication in nursing home residents with a limited life expectancy may require represcribing: deprescribing and prescribing. It is largely unknown what nursing home residents with a limited life expectancy and their relatives think about this, and how they want to be involved in decision-making.

**Objective:** To explore (1) views among nursing home residents with a limited life expectancy and their relatives on represcribing, and (2) how they want to be involved in the decision-making process.

**Methods:** Twenty-three semi-structured interviews were conducted with nursing home residents with a limited life expectancy residing in Dutch long-term care units and their relatives. Data saturation was reached. The interviews were analysed thematically.

**Results:** Analysis resulted in four interrelated main themes: (1) trust in the physician; (2) attitudes towards medication use and represcribing; (3) medication knowledge, and (4) decision-making

involvement. Trust in the physician is overarching the other three themes.

**Conclusion:** Nursing home residents and their relatives are generally open to medication changes, however, they often do not realize the possibility themselves. They express confidence in the physician and generally rely on the physicians' initiative and advice. The degree of medication knowledge and preferences regarding decision-making involvement vary widely and depend on several factors. Inquiring about this prior to a medication discussion may improve represcribing and shared decision-making.

## P-688

### The Will to Live and the Wish to Die: Links among Swiss Nursing Home Residents

Samira Ruedin (1), Eve Rubli Truchard (1), Gian Domenico Borasio (1), Mathieu Bernard (1), Ralf Jox (1), Marc-Antoine Borne (1)

(1) Lausanne University Hospital, Switzerland

**Introduction:** The will to live (WTL) and the wish to die (WTD) are valuable indicators of the subjective well-being of nursing home residents and help to understand their subjective experiences. The WTD is not uncommon among such residents, although their WTL is generally relatively high. Studies have also shown that the WTL and the WTD can coexist in a person. However, the interactions between these two concepts are still poorly understood.

**Method:** This mixed-methods study conducted interviews with nursing home residents. The participants were aged 70 + , had preserved decision-making capacity, and had been living in a nursing home for  $\geq 1$  month. Their WTL and WTD were assessed on a single-item scale ranging from 0 to 10. Individual perceptions of the link between these two concepts were explored with an open-ended question.

**Results:** Among 130 residents (mean age 88.4 years, 78% women), the mean WTL was  $6.9 \pm 3.0$ , and the mean WTD was  $3.3 \pm 3.5$ . There was a moderate negative correlation between the two concepts ( $rs = -0.540$ ,  $p = 0.000$ ). Scatter plot analysis showed heterogeneity in the patterns of combinations, which corresponded with the qualitative analysis. All the patterns of association between high and low WTL and high and low WTD were found in the residents' narratives as well as in their descriptions of this articulation.

**Conclusions:** The WTL and the WTD can coexist and the links between them are heterogeneous. Exploring them independently is thus important to understand residents' subjective experience and build personalized interventions.

## P-689

### The Medical Complexity Of Newly Admitted Long-Term Care Residents Before And During The First Year Of The COVID-19 Pandemic In Three Canadian Provinces: A Serial Cross-Sectional Study

Razan Al-Sharkawi (1), John Hirdes (2), Luke Turcotte (3), George Heckman (2), Caitlin McArthur (1)

(1) Dalhousie University, (2) University of Waterloo, (3) Brock University

**Introduction:** The COVID-19 pandemic has had profound effects in long-term care (LTC) setting worldwide, including changes in admission practices. We describe the characteristics and medical

complexity of newly admitted long-term care (LTC) residents before and during the COVID-19 pandemic.

**Methods:** This is a population-based serial cross-sectional study including all newly admitted LTC residents between March 1st, 2019 and March 31st, 2021 in Ontario, Alberta, and British Columbia, Canada. With data from interRAI's Minimum Data Set 2.0, we characterize the medical complexity of newly admitted LTC residents via the Geriatric 5Ms model (mind, mobility, medication, multi-complexity, matters most) through descriptive statistics (counts, percentages), stratified by pandemic wave, month, and province.

**Results:** We included 45,756 new residents in the year prior to and 35,744 completed in the first year of the pandemic. Approximately 60% were female and 50% were over the age of 85 years. We found an increased proportion of residents with delirium (3–6% increase), depression (10% increase), requiring extensive assistance with activities of daily living (5–40% increase), hip fractures (3% increase), antipsychotic use (4–8% increase), expected to live less than 6 months (4–10% increase), with pneumonia (3% increase), low social engagement (2–12% increase), and admitted from acute care (10–30% increase).

**Key Conclusions:** During the pandemic, newly admitted residents in LTC had increased medical complexity during the pandemic. Our results can be used to plan services and interventions for the increasingly complex LTC population, and as a baseline for continued monitoring in changes in population characteristics over time.

## P-690

### Mortality and Causes of Death among Long-term Care Residents in Helsinki, Finland

Lara Kuokkanen-Estrada (1), Hanna-Maria Roitto (2), Ulla Aalto (2), Satu Jyväkorpi (3), Hannu Kautiainen (4), Kaisu Pitkälä (4)

(1) University of Helsinki, (2) Department of Geriatrics, Helsinki University Hospital and University of Helsinki, Finland, (3) Clinicum, Faculty of Medicine, University of Helsinki, Helsinki, Finland., (4) University of Helsinki, Department of General Practice and Primary Health Care, Helsinki, Finland

**Introduction:** People in long-term care are living the last years of their lives. We aimed to investigate mortality and causes of death in long-term care. In addition, we aimed to compare causes of death in residents with and without dementia.

**Methods:** Longitudinal cohort study of residents (N = 2513) living in long-term care facilities in Helsinki, Finland. The baseline data were collected in March 2017. Each resident was assessed over the course of one day.

**Background:** Data on demographics, diagnoses and medication were retrieved from medical charts. Causes of death were retrieved from the Finnish Cause of Death register for deaths that were registered before 31 December 2021.

**Results:** 2033 of the 2513 participants died during follow up. Standardized mortality ratio (SMR) for all was 3.31 (95% CI 3.17–3.46). SMR was higher for men (4.33) compared with women (3.05) and for residents < 70 years (13.80). SMR decreased linearly with age. Having dementia at baseline did not affect SMR. The most common cause of death in all residents was dementia (67%), and second most common cause was cardiovascular disease (16%). In residents with dementia, the most common cause of death was dementia (78%) whereas in residents without dementia at baseline, cardiovascular disease was the most common cause of death (36%), followed by dementia (27%) and other neurological diseases (12%).

**Key Conclusions:** In long-term care male gender and younger age are associated with higher SMR. Residents with dementia most often die

of dementia, whereas those without dementia most often die of cardiovascular disease.

## P-691

### The one-year longitudinal trajectory of ADL and cognitive function among nursing home residents

Kasumi Ikuta (1), Takako Ishikawa (1), Miya Aishima (1), Sayuri Nonaka (1), Kurumi Asaumi (2), Maiko Noguchi-Watanabe (1), Sakiko Fukui (1)

(1) Tokyo Medical and Dental University, (2) Tokyo University of Technology

**Introduction:** Enhancing and preserving activities of daily living (ADL) and cognitive function is one of the most paramount objectives for nursing home residents to live a well-being life. Despite existing reports on the interindividual variability of ADL and cognitive function, limited literature has comprehensively assessed their longitudinal trajectories. Consequently, we aimed to examine the one-year trajectory of ADL and the cognitive function among nursing home residents.

**Methods:** This retrospective cohort study, conducted from July 2021 to March 2023, utilized data from the Long-Term Care Information System for Evidence, an initiative introduced in Japan in April 2021. Monthly evaluations of ADL and cognitive function were conducted by the Barthel Index and the Dementia rating, respectively. We classified these trajectories through the Group Based Trajectory Model.

**Results:** This study involved 572 newly admitted older adults in nursing homes, including 403 women (70.5%) with a mean age of 86.2 years (SD = 7.8). ADL trajectory is classified into five distinctive groups: 'Independent ADL (42.3%)', 'Quasi-independent ADL (26.9%)', 'Partially assisted ADL (15.0%)', 'Fully assisted ADL (9.1%)', and 'Worsening ADL (6.6%)'. Cognitive function trajectory is classified into three distinct groups: 'High cognitive function (42.1%)', 'Worsening cognitive function (57.9%)', and 'Low cognitive function'. Among those in the 'Independent ADL group', 39.7% exhibited 'Worsening cognitive function'.

**Key Conclusion:** We identified the one-year trajectories of ADL and cognitive function. We believe that nursing home staff could suggest and implement preventive interventions personalized to the older adults by assessing trajectory.

## P-692

### Developing Evidence-Based Guidelines for the Physical Environment of Nursing Homes To Promote Resident's Health

Etienne Bourdon (1), Bonin-Guillaume Sylvie (2), Belmin Joël (1)

(1) APHP Hôpital Charles Foix, (2) APHM Service Médecine Interne Gériatrie

**Introduction:** Preserving health of aged persons living in nursing homes (NH) with declining independence is an important challenge. The role of the physical environment on NHs' residents health has been extensively explored for its supporting and maintaining the ageing faculties. However, the existing corpus of literature has not succeeded in providing useful recommendations for the design of NH environment. This is mainly due to a wide disparity in the environmental assessment scales and health markers used in these studies. Moreover, methodologies used often did not allow conclusions to be

drawn with a scientific proof value. There are at present no explicit recommendations on this subject.

**Objectives:** The objective is to initiate the organization of a European Taskforce to develop scientifically validated recommendations on NH physical environment that will promote resident's health. This Taskforce shall operate for validating these recommendations with the help of European experts and user's associations. Such recommendations, may further help to increase knowledge of professionals and hence improve outcomes.

**Methods:** The different geriatric societies will be invited to nominate experts and users associations to constitute this Taskforce. The process shall operate through 3 rounds of meetings that will successively define the project scope, analyse the findings of a literature review, elaborate statements and validate them through a defined voting protocol.

**Results and Key Conclusions:** These recommendations will be published and converted into each European geriatric society. The International Taskforce final guidelines may be used by those involved in the management and design of NH renovation and construction.

### P-693

#### Medication Appropriateness For Older Nursing Home Residents With A Limited Life Expectancy: Adjusting The STOPP/START Criteria By Means Of A Delphi Consensus Study

Margaretha T Dijk (1), Karin Pouw (2), Cees MPM Hertogh (1), Rob J van Marum (3), Jacqueline G Hugtenburg (4), Martin Smalbrugge (1)

(1) 1 Department of Medicine for Older People, Amsterdam UMC, Location VUmc, Amsterdam, The Netherlands 2 Amsterdam Public Health, Aging & Later Life, Amsterdam, The Netherlands, (2) 1 Department of Medicine for Older People, Amsterdam UMC, Location VUmc, Amsterdam, The Netherlands, (3) 1 Department of Medicine for Older People, Amsterdam UMC, Location VUmc, Amsterdam, The Netherlands 2 Amsterdam Public Health, Aging & Later Life, Amsterdam, The Netherlands 4 Geriatric Department and Center for Clinical Pharmacology, Jeroen Bosch Hospital, 's-Hertogenbosch, The Netherlands, (4) 2 Amsterdam Public Health, Aging & Later Life, Amsterdam, The Netherlands 3 Department of Clinical Pharmacology and Pharmacy, Amsterdam UMC, location VUmc, Amsterdam, The Netherlands

**Background:** Several guidelines and prescription tools exist to assist physicians with appropriate prescribing, such as the STOPP/START criteria. However, the STOPP/START criteria are designed for older adults in general [1]. Older nursing home residents often choose a more palliative care approach and appropriate prescribing for these patients might shift from a focus on prevention to symptom treatment.

**Objective:** To adjust the current STOPP/START criteria to older nursing home residents with a limited life expectancy of up to 1.5–2 years.

**Methods:** An online modified Delphi consensus study was conducted in 2017. The international panel consisted of 23 experts and was presented with the 2015 STOPP/START criteria [1]. The panellists were asked after their opinion on the appropriateness of the START criteria, and their agreement on additions and adjustments to the STOPP and START criteria, on 4-point Likert scales. They also provided feedback on their opinions. Consensus was defined as  $\geq 70\%$  of the participants answering (very) inappropriate or (very) appropriate, and (completely) disagree or (completely) agree.

**Results:** Twenty-one panellist completed all three Delphi rounds. The final list of adjusted STOPP/START criteria comprises 132 criteria:

98 STOPP criteria (70 original and 28 adapted) and 34 START criteria (16 original and 18 adapted) for older nursing home residents with a limited life expectancy. Considerations for the adaptations were mainly the prevention and treatment of discomfort.

**Conclusion:** The adjusted STOPP/START criteria may be useful to improve prescribing to older nursing home residents with a limited life expectancy.

**Reference:**

1. O'Mahony D, O'Sullivan D, Byrne S, O'Connor MN, Ryan C, Gallagher P. STOPP/START criteria for potentially inappropriate prescribing in older people: version 2. Age and ageing. 2015;44 (2):213–8.

### P-694

#### May submaxillitis at the end of life be a predictor of short-term mortality in palliative care patients?

Carmen Espinosa Val (1), Priscilla Matovelle Ochoa (1), María González-Gómez. (1), Irene Herranz Llano (2), Wendi Romina Cossio Jimenez (2), Juan Diego Ayala Ayuso (2), Nesly Catolin (2), María Concepción Ortíz Domingo (1)

(1) 1. Geriatrics Department, San Juan de Dios Hospital, Zaragoza, Spain; 2. Geriatrics Department, Zaragoza University, Zaragoza, Spain, (2) 1. Geriatrics Department, San Juan de Dios Hospital, Zaragoza, Spain

**Introduction:** Salivary gland infections can be caused by viruses or bacteria. Bacteria usually cause unilateral infections. The most frequently affected gland is the parotid gland. Bacterial infections usually occur in children under one year of age and elderly adults who are hospitalized, have poor oral hygiene or have been intubated. In adults it is a rare complication, which in some cases is associated with poor vital prognosis. Cases report N1: a 76-year-old woman with infiltrating urothelial carcinoma in progression who was admitted for end-stage intestinal occlusion. She was receiving treatment with midazolam, olanzapine, butyrylscopolamine and morphine. Xerostomia without aphthous ulcers. She presented left submaxillitis five days before death. Cases report N2: a 72-year-old woman with COPD with GOLD IV bronchiectasis, immobility syndrome and multiple complications during hospitalization, including severe malnutrition, oropharyngeal dysphagia, acute confusional syndrome and repeated respiratory infections that were treated with antibiotics according to antibiogram (pseudomonas aeruginosa in sputum). She was treated with quetiapine, oral nystatin, inhaled ipratropium and morphine. Xerostomia and oral thrush. He suffered a right submaxillitis 15 days before his death.

**Conclusions:** The onset of acute unilateral submaxillitis may be a predictor of short-term mortality in patients with oncologic and non-oncologic end-stage disease. Triggering factors are dehydration, xerostomia, drugs that decrease salivation, septic mouth, radiotherapy and oral cavity cancer, so oral hygiene and adequate hydration are essential.

### P-695

#### Antibiotic prescription in nursing homes in Aragon-Spain. Preliminary study

Priscila Matovelle Ochoa (1), Rosa Magallón (2), Ramón Monfà (3), Rosa Morros (3), Ana García-Sangenis (3)

(1) 1. Geriatrics Department, San Juan de Dios Hospital, Zaragoza, Spain; 2. Geriatrics Department, Zaragoza University, Zaragoza,

Spain, (2) 3. Primary Care Department, Zaragoza University, Zaragoza, Spain, (3) 4. Primary Care Research Institute Jordi Gol (IDIAPJGol), Barcelona, Spain

**Introduction:** Inappropriate antibiotic use is the main cause of antimicrobial resistance, which is particularly problematic, especially in frail elderly, susceptible to frequent and severe infections. There is a lack of information on antibiotic use in long-term care facilities in Spain.

**Methods:** This is a before/after intervention study Improving Antibiotic PrescribinG in Nursing HomEs in Spain. The first audits, prior to the intervention, were conducted in March–April 2023. During the audit period, participants used a registration chart to record all infection-related queries. We will present the outcome of the pre-intervention audit of the included nursing homes in Zaragoza, Spain.

**Results:** Four nursing homes were recruited. were included 385 patients, 69% women. The mean age was  $88 \pm 8.80$  years. The 76.5% were 81 years of age or older. The median duration of antibiotic treatment was 7 days. The most frequent infections were urinary tract infection, respiratory infection and Skin or soft tissue infection with 40.5%, 35% and 12% respectively. The most prescribed antibiotics were quinolones, fosfomycin and amoxicillin/clavulanic acid with 17.7%, 14%, 12.5% respectively. The 70% were prescribed antibiotics in the nursing home. The 21% of the patients had been prescribed an antibiotic in the previous 15 days, and 47% of the residency staff had antibiotic demand perception.

**Conclusions:** Respiratory and urinary tract infections are the most frequent infections in nursing homes. That is why we must consider the symptoms and signs of the patients and perform appropriate tests to prevent overuse of antibiotic treatment.

## P-696

### The impact of tailored need-based care on behavioural and psychological symptoms in residents with dementia: a 3-arm RCT

Katrin Gillis (1), Hilde Lahaye (2), Linda van Diermen (3), Marianne De Witte (4), Dirk Lips (4), Peter Van Bogaert (3)

(1) Antwerp University—Odiqee University college, (2) Odisee University college, (3) Antwerp University, (4) Curando vzw

**Introduction:** ore than 80% of nursing home residents with dementia exhibit one or more forms of behavioural and psychological symptoms of dementia (BPSD). Non-pharmacological interventions have the potential to reduce BPSD and increase quality of life of people with dementia.

**Methods:** A longitudinal cluster randomized controlled study in twenty-three nursing homes with three parallel groups was set up. A total of 481 residents with mild to moderate dementia participated in this study. Residents in the need-based care group who showed symptoms of agitation or aggression were treated with a non-pharmacological intervention, tailored on their unmet needs, twice a week with re-evaluation every eight weeks. In the time group formal caregivers just spent ‘time’ twice a week. In the standard care group it was care as usual. Behavioural outcomes were measured at four different time points with Doloplus-2, Cohen-Mansfield Agitation Inventory and the Neuropsychiatric Inventory.

**Results:** Need-based care had a significant effect on residents’ levels of pain behaviour. In the need-based care group, scores on overall BPSD, agitation and aggression, depression and nocturnal unrest improved significantly from baseline when compared to other time-points. No significant different interactions over time were found between all three groups for frequencies of NPI subscales.

**Key Conclusion:** Need-based care reduced the level of BPSD in residents with dementia. This study supports the importance of tailoring non-pharmacological interventions on residents’ needs.

## P-697

### Implementing an exploratory study at Saint-Quentin General Hospital (France) : interest of equitherapy in Parkinson’s patients aged 60 and over at risk of losing independence (EQUIDIA)

Hamouchi Khelifa (1), Minouflet Alexis (1), Mechighel-Collot Aurore (1), Attier Jadwiga (1)

(1) Geriatric, Hospital Centre, Saint-Quentin, France

Parkinson’s disease (PD) is affecting patient quality of life and independence. Existing treatments, like dopamine therapy, have limited long-term efficacy. Equitherapy, a psycho-behavioral therapy involving interaction with horses, showed promise in improving PD patients’ life quality in a preliminary study we conducted. This quantitative study will examine equitherapy’s potential in improving quality of life in PD patients aged 60 + who risk losing independence. The study will measure potential enhancements in motor and non-motor symptoms, cognitive functions, and mood. 36 volunteer participants, 60 + and diagnosed with PD (according to the Movement Disorders Society 2015 criteria) with stable antiparkinsonian treatment for at least three months, will partake in a six-session equitherapy protocol under a trained geriatrician’s supervision. Quality of life, postural disorders and walking, motor sign severity, non-motor symptom severity, and cognitive abilities will be evaluated pre and post equitherapy cycle for quantitative effect assessment. The study will evaluate if equitherapy reduces symptom severity, enhances cognitive functions, and curtails depressive symptoms, thereby improving PD patient life quality. Positive results may boost unconventional therapies like equitherapy acceptance in geriatric practice and older PD patient management, supplementing or replacing conventional drugs. It could also spur the development of other non-pharmacological treatment methods for PD and similar neurodegenerative disorders. However, equitherapy’s non-conventional nature poses acceptance challenges in the medical field. Larger studies may be necessary to fortify the scientific evidence supporting equitherapy. Additionally, the efficacy of equitherapy combined with other non-pharmacological interventions and long-term effects should be explored.

## P-698

### Supporting Integrated Care for Older Persons: Testing an approach to identify common housing hazards affecting older people

Jennifer O’Donoghue (1), Dimitra Xidou (1), Tom Grey (1), Simon Nicol (2), Sean Kennelly (3)

(1) Trinity Haus, Trinity College Dublin, (2) BRE Group, (3) Trinity Centre for Health Sciences, Tallaght University Hospital

**Introduction:** Housing is critical to the health and well-being of older people and is a vital part of preventative healthcare in the community. Good quality housing is an important factor in people’s ability to maintain good mental and physical health, as well as quality of life, particularly for older people who may spend more time at home than other demographics. This study explores the linkages between housing conditions and the health and wellbeing of older people and aims to inform housing designers, providers, and policy makers about the

key aspects of healthy homes and common housing hazards, affecting older people in Ireland.

**Methods:** This research utilised a in-depth stakeholder engagement strategy involving focus groups, diaries, and interviews to place the perspectives of older people living in a major local authority area at the centre of the work. It also involved a series of case study visits and interviews with patients of the Integrated Care Team for Older People based in a major urban hospital.

**Results:** Several key themes were identified throughout the various research activities, including overarching issues; themes related to the hospital and integrated care, and the local authority; housing conditions and hazards; and built environment issues across the key spatial scales.

**Key Conclusions:** There is a need for better, more accessible data on the housing issues, conditions, and hazards throughout Ireland. Additionally, it is essential to consider the needs of patients with additional care requirements, such as those living with dementia, as the built environment greatly impacts them.

## P-699

### Antipsychotics Discontinuation Among Nursing Home Residents: Incidence And Associated Factors

Emanuele Rocco Villani (1), Graziano Onder (1), Daniela Fialova (2), Harriet Finne-Soveri (3), Domenico Fusco (4), Katarzyna Szczerbińska (5), Rosa Liperoti (6)

(1) Departments of geriatrics, Università Cattolica del Sacro Cuore, Rome, Italy, (2) 2 Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové, Charles University in Prague, Heyrovského 1203, 500 05, Hradec Králové, Czech Republic (3) Department of Geriatrics and Gerontology, 1st Faculty of Medicine, Charles University, Prague, Czech Republic, (4) Finnish Institute for Health and Welfare, Helsinki, Finland (5) Nordic Healthcare Group, Helsinki, Finland, (6) Department of geriatrics, Università Cattolica del Sacro Cuore, Rome, Italy, (5) Laboratory for Research on Aging Society, Chair of Epidemiology and Preventive Medicine, Medical Faculty, Jagiellonian University Medical College, Kraków, Poland, (6) Università Cattolica del Sacro Cuore, Rome, Italy; Fondazione Policlinico Universitario A. Gemelli IRCCS

**Introduction:** Chronic use of antipsychotics is associated with adverse health outcomes (aHO) and geriatric syndromes. Antipsychotics discontinuation (ApD), could have an impact on health trajectories. Aim of the study is to evaluate factors associated with 6-months ApD and its association with aHO.

**Methods:** Retrospective longitudinal cohort study involving 57 nursing homes (NHs) from 7 EU countries and Israel. InterRAI-LTCF tool was used to assess residents aged  $\geq 65$  years on antipsychotics classified according to their ATC. ApD was defined as antipsychotic withdrawal at 6 months follow-up.

**Results:** 736 individuals were included. 113 (15.4%) of them discontinued antipsychotics, regardless of age, sex, frailty, falls, ADL impairment ( $p > 0.05$  for all). ApD was more prevalent among Finnish and Dutch individuals ( $n = 23$ , 20.4% vs  $n = 81$ , 13.0%  $p = 0.006$ ;  $n = 10$ , 8.8% vs  $n = 21$ , 3.4%  $p = 0.009$ ) but less prevalent among Italian and German individuals ( $n = 9$ , 8.0% vs  $n = 96$ , 15.4%  $p < 0.001$ ;  $n = 10$ , 8.8% vs  $n = 96$ , 15.4%  $p < 0.001$ ). NHs features, such as consulting geriatrician ( $n = 53$ , 46.9% vs  $n = 247$ , 39.7%  $p = 0.038$ ) and nurses hours per week ( $80 \pm 11$  vs  $54 \pm 6$ ,  $p = 0.007$ ) were associated with ApD. Individuals with dementia showed lower prevalence of ApD ( $n = 43$ , 38.1% vs  $n = 308$ , 49.4%,  $p = 0.026$ ). Neuroleptics were mostly discontinued ( $n = 71$ , 63.4% vs  $n = 294$ , 47.4%  $p = 0.002$ ). Individuals with daysleeping showed

higher prevalence of ApD ( $n = 23$ , 20.4% vs  $n = 74$ , 11.9%  $p = 0.023$ ). ApD was not associated with 6-months aHO such as falls (aOR 1.10, 95% CI 0.44–2.73), hospitalizations (aOR 1.22, 95% CI 0.49–3.05) or death (aHR 1.12, 95% CI 0.70–1 0.80).

**Conclusions:** ApD among NH residents is associated with both individuals' and organizational factors, but it could have little to none impact on aHO.

## P-700

### Cross-country Diversity of Factors Associated with the Use of Physical Therapy in Nursing Homes

Natalia Drapała (1), Ilona Barańska (1), Agata Stodolska (1), Paweł Jagielski (1), Adrianna Ziuziakowska (1), Katarzyna Sekulak (1), Violetta Kijowska (1), Karlijn J. Joling (2), Emiel O. Hoogendijk (3), Hein P. J. van Hout (3), Eline C.M. Kooijmans (3)

(1) Laboratory for Research on Aging Society, Department of Medical Sociology, The Chair of Epidemiology and Preventive Medicine, Medical Faculty, Jagiellonian University Medical College, Kraków, Poland., (2) Department of Medicine for Older People, Location Vrije Universiteit Amsterdam, Amsterdam UMC, Amsterdam, the Netherlands., (3) Department of General Practice, Amsterdam UMC, Location VU University Medical Center, Amsterdam, the Netherlands., (4) Department of Computer Science, Vrije Universiteit Amsterdam, De Boelelaan 1111, 1081 HV Amsterdam, The Netherlands., (5) Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové and Department of Geriatrics and Gerontology, 1st Faculty of Medicine, Charles University, Prague, The Czech Republic., (6) Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové, Charles University in Prague, The Czech Republic., (7) Laboratory for Research on Aging Society, Department of Medical Sociology, The Chair of Epidemiology and Preventive Medicine, Medical Faculty and University Hospital, Jagiellonian University Medical College, Kraków, Poland

**Introduction:** Physical therapy (PT) is an important non-pharmacological therapy that may improve independence of nursing homes (NH) residents. However, clinical indications for PT are not consistent. Aim: To describe the profiles of NH residents who were administered PT most often in 7 European countries and Israel.

**Methods:** The interRAI-LTCF tool was used to assess the prevalence and factors associated with the use of PT. The data were collected from 4062 NH residents aged 60 and over in 8 countries participating in the SHELTER project. PT was defined as therapeutic services that are provided or directly supervised by a qualified physical therapist. Decision trees analysis was applied to find factors associated with higher frequency of PT use. The analysis was supported by the I-CARE4OLD project (HORIZON2020-GA965341).

**Results:** We observed large differences in the use of PT between countries (9.0% in the United Kingdom; 67.3% in Italy). For example, in Italy PT was most often provided to residents with dizziness (81.1%) and to residents without dizziness and without foot problems and did not resist care (74.1%); in Israel—to residents with high frailty index and dizziness (84.0%) or very severe dependency (76.1%); in the Netherlands—to residents with standing difficulties and cognitively intact or with mild cognitive impairment, and mild pain (72.2%).

**Conclusions:** Even though clinical indications for PT seem to be well established, they are not used in a consistent way in NHs across

countries. Recommendations should be developed to improve PT accessibility and to justify its use.

## P-701

### Prevalence and Factors Related to the Use of Occupational Therapy (OT) in Nursing Homes (NHs) Residents in 7 European Countries and Israel

Agata Stodolska (1), Natalia Drapała (1), Ilona Barańska (1), Paweł Jagielski (1), Adrianna Ziuziakowska (1), Katarzyna Sekulak (1), Violetta Kijowska (1), Karlijn J Joling (2), Daniela Fialová (3), Jitka Pokladnikova (4), Emiel O Hoogendijk (5), Hein PJ

(1) Laboratory for Research on Aging Society, Department of Medical Sociology, The Chair of Epidemiology and Preventive Medicine, Medical Faculty, Jagiellonian University Medical College, Kraków, Poland, (2) Department of Medicine for Older People, Location Vrije Universiteit Amsterdam, Amsterdam UMC, Amsterdam, the Netherlands, (3) Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové & Department of Geriatrics and Gerontology, 1st Faculty of Medicine, Charles University, Prague, Czech Republic, (4) Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové, Charles University in Prague, Czech Republic, (5) Department of General Practice, Amsterdam UMC, Location VU University Medical Center, Amsterdam, the Netherlands, (6) Department of Computer Science, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands, (7) Laboratory for Research on Aging Society, Department of Medical Sociology, The Chair of Epidemiology and Preventive Medicine, Medical Faculty & University Hospital, Jagiellonian University Medical College, Kraków, Poland

**Introduction:** OT has been acknowledged to provide beneficial effects on performance in daily activities and cognitive function. However, clinical indications for OT are not consistent and there are many factors that might influence its use.

**Aim:** To assess the prevalence of OT among NHs older residents and to describe the profiles of the residents receiving OT.

**Methods:** We used the data collected between 2009 and 2010 with the interRAI-LTCF tool in the SHELTER project to estimate the prevalence and factors associated with the use of OT in 4062 NHs residents aged 60 and more in seven European countries and Israel. OT was defined as therapeutic services that are provided or directly supervised by a qualified occupational therapist. Multiple regression models with decision trees were used for the analysis.

**Results:** We observed large differences in the use of OT between countries: from 1.6% in England to 41.4% in Israel. Also, factors associated with the frequency of OT varied greatly. In Israel, OT was most often provided to residents who were dependent and had no aggressive behavior (72.4%). In Italy, OT was provided to 39.8% residents with Alzheimer's disease and to 36.2% residents without Alzheimer's disease, but feeling mild pain. In some countries, it was difficult to clearly define the patients' profiles due to small numbers of patients receiving OT or missing data.

**Conclusion:** The study results might be helpful in defining clinical indications for OT, as well as in establishing recommendations for the use of OT in patient's care.

## P-702

### Human Respiratory Syncytial Virus “Christmas” outbreak: an avalanche of complications

Flavie Drouard (1), Damien Seynaeve (2), Monique Girard (3), Sabrina Nougier (4), Loïc Brulin (5), Mathieu Carbonell (6), Nathalie Weil (7)

(1) Nursing home Les jardins de l'Allet, France, (2) Drôme Nord Hospital Center, France, (3) Nursing home Les Terrasses du Ventoux, France, (4) Nursing home Les Jardins de l'Allet, France, (5) Nursing home les Jardins de l'Allet, France, (6) Nursing home Résidence du lac, France, (7) Valence Hospital Center, France

**Introduction:** We describe a human respiratory syncytial virus (hRSV) outbreak in a French nursing home (NH), in November–December 2022, and report a clinical and outcome analysis.

**Methods:** We conducted a retrospective cohort study, including all residents (77) from 26th November to 29th December 2022, considering a 3–5-day incubation period for hRSV. Identification of hRSV was carried out on naso-oropharyngeal swabs by RT-PCR. The distribution of cases was described on an epidemic curve. A probable case presented at least one respiratory symptom or one constitutional symptom. A confirmed case presented one respiratory symptom or one constitutional symptom, with positive RT-PCR for hRSV. Controls were residents with no symptoms of respiratory infection.

**Results:** The NH hosted 77 residents at the time of the outbreak. Four residents were positive for hRSV. The attack rate was 42.9% (33 out of 77 residents). Almost all residents presented cough (93.9%), and most of them fatigue (66.7%). Other signs were scarcer. Fever was present in 16 out of 33 cases. Due to superinfection, 16 out of 33 were treated with antibiotics. Ten out of 33 needed oxygen therapy. The mortality rate was 15%. Due to the uncontrolled development of the epidemic despite barrier measures, an audit of the management emphasized some challenges and pitfalls.

**Key Conclusions:** Early detection of an epidemic phenomenon remains challenging, furthermore when some viral circulating diversity reappears after being contained by repeated worldwide lockdowns.

## P-703

### Ultrasound muscle measurements in malnourished patients in nursing homes. A pilot of the “R-ECO-NUT” Study

Ana Merello de Miguel (1), Francesca Argentina (1), Montserrat Barcons Marques (1), Paola Reinoso Parraga (1), Carmen Reyes Manzano (1), Paula Merino Pazos (1), Rocío Menéndez Colino (1), Juan Ignacio Gonzalez Montalvo (1)

(1) Hospital La Paz Madrid

**Objective:** To describe the baseline characteristics, frailty, sarcopenia and ultrasound muscle measurements, in older diagnosed of malnutrition in nursing homes (NH). These evaluations are the first of two assessments, from a 3-months multimodal intervention study with oral supplementation and an individualised exercise plan.

**Methods:** A prospective study of NH patients diagnosed of malnutrition from May to June 2023. Socio-demographic variables, functional status [Barthel index (BI), Functional Ambulation Category (FAC)], cognitive status (Reisberg's Global Deterioration Scale



(GDS) ), frailty status [FRAIL, FRAIL-NH, ROCKWOOD scales], sarcopenia status [SARC-F scale, Short Physical Performance Battery (SPPB), Hand-grip (HG), Timed-up and go (TUG), Gait Speed (GS) according to EWGSOP2 values] and muscle measurement of femoral rectus [fat thickness (FT), muscle thickness (MT), muscle area (MA) and angle of pennation (AP) according to the “SARCUS PROJECT” values] were registered.

**Results:** Ten NH patients were diagnosed with malnutrition in 2 NH. Mean age was  $87.3 \pm 9.2$ , 80% were female results were: BI ( $< 40/100$ : 30%;  $> 60/100$ : 50%), FAC  $\leq 3$ : 60%, GDS  $> 5$ : 60%. Frailty diagnosis: [FRAIL: 50%; FRAIL-NH: 70%; ROCKWOOD: 70%]. 90% were sarcopenic [SARC-F ( $\geq 4$ ): 50%; SPPB ( $\leq 8$ ): 80%; HG low: 90%; TUG ( $\geq 20$ ): 70%; GS ( $\leq 0,8\text{m/s}$ ): 100%] and all had low muscle measures: [FT:  $10.3 \pm 5.1$ ; MT:  $8.6 \pm 2.5$ ; MA:  $2.2 \pm 0.9$ , AP:  $7.8 \pm 1.4$ ].

**Conclusions:** Most patients diagnosed with malnutrition are also sarcopenic and many of them are also frail. The vast majority have obtained poor scores on functionality tests and have low ultrasound measures of muscle mass.

## P-704

### Identifying and implementing Innovative Approaches in Vulnerable Groups of Older People in the Local Population for Better Health Care and Aging—the Gold Health Care project

Fatjona Kamberi (1), Jerina Jaho (1), Brunilda Subashi (1), Glodiana Sinanaj (1), Irini Rapushi (1)

(1) Scientific Research Centre for Public Health, Faculty of Health, University of Vlora “Ismail Qemali” Albania

With the number of elderly in Albania predicted to increase drastically in the next decade, following global trends, there is a need for improvement in long-term care and equality of health care access among vulnerable groups of this sensitive population. The Gold Health Care project aims to implement innovative approaches to healthcare tailored to vulnerable groups of the elderly for better healthcare and aging. The methodology is based on the EPIS framework, assisted by the Health Belief Model and behavioral economics. It consists of three main stages that build upon each other: preliminary context analysis, assessment of barriers, and stakeholder analysis; development of tailored healthcare interventions; implementation, evaluation, and dissemination. The geographical area where the project is intended to be implemented is the coastal city of Vlora, in the southwest of Albania, one of the most populous and economically significant cities in the country. The project will offer innovative and holistic approaches to care, providing five services (health care for elderly vulnerable groups, community health education including e-health, capacity building of health professionals and academic staff, and employment of nursing students) in one shot. The core impact will be maximizing the effectiveness of interventions among vulnerable groups of elderly people in the local population, a group rarely focused on by research projects. It will create a wide local knowledge framework detailing health care barriers, facilitators, and needs among vulnerable groups of older people through working in close collaboration with them, then use the findings to generate evidence-based interventions and policies.

## P-705

### Family safety for hospital discharge and time commitment in transitional care for elderly patients

Joann Seunarine (1), Larissa Chaves Pedreira (2), Jeferson Moreira dos Santos (2), Claudia Silva Marinho (2), Ivana Santos Pinto (2), Aniya Gabriele De Jesus Damasceno (2), Letícia Chicharo Vivas (2)

(1) University of Miami, (2) Federal University of Bahia School of Nursing

**Introduction:** Family members partaking in homecare for elderly patients recently discharged from hospitals play an important role for continuity of care preventing future hospitalization. Due to low formal and informal support, Brazilian family structures rely heavily on each other for care. Patients, with dependency from being discharged require consistent and careful support of caregivers, typically family, who do not always feel safe for the transition of care. The objective of this is to relate safety for hospital discharge in the perception of family caregivers, with the time they provide care for the elderly.

**Methods:** Survey data was collected from family caregivers ( $n = 77$ ) of elderly patients recently discharged from a University Hospital in Salvador, Bahia, Brazil. Variables used to create this analysis were perception of security of discharge of the elderly from the perspective of the familiar caregiver and the time of care.

**Results:** Analyses comprised of ( $n = 77$ ) familial care providers. 41.6% ( $n = 32$ ) were secure in their ability to provide care to family members, while the majority 58.4% ( $n = 45$ ) were insecure. Insecure caregivers had less than six months of experience in care. However, insecurity was greater among those who had been in care for between 6 and 12 months, due to the elderly having progressive neurological diseases and increased demands on the caregiver over time.

**Key Conclusions:** This preliminary analysis demonstrates that familial caregivers devote lengthy amounts of time to provide care to their elderly family members. It is important to identify caregivers vulnerable to insecurity in the continuity of care for safe interventions.

## P-706

### Reasons for the insecurity of family caregivers of elderly patients regarding hospital discharge

Joann Seunarine (1), Larissa Chaves Pedreira (2), Claudia Silva Marinho (2), Jeferson Moreira Dos Santos (2), Milena Oliveira Leal De Campos (2), Renata Farias Amorim (2), Luan Almeida Dos Santos (2)

(1) University of Miami, (2) Federal University of Bahia School of Nursing

**Introduction:** Family member caregivers play an important role in the successful support and care of discharged elderly patients with high dependency from hospitals. This success in care prevents from further hospitalizations for any reason. Family caregivers in Brazil face a multitude of potential factors that may inhibit them from practicing adequate care and support for the elderly creating insecurity in the continuation of care. The objective of this is to verify the relationship between insecurity regarding hospital discharge and its reasons.

**Methods:** Survey data was collected from family members ( $n = 77$ ) of the elderly recently discharged from a University Hospital in

Salvador, Bahia, Brazil. Variables used to create this analysis were perception of security of discharge of the elderly from the perspective of the familiar caregiver and the factors that make them insecure to provide care.

**Results:** Analyses comprised of ( $n = 77$ ) familial caregivers, who provided a multitude of reasons for why they are insecure in their ability to provide care to the elderly. 58.4% ( $n = 45$ ) were insecure in their ability to provide care. Of this, 35.6% ( $n = 16$ ) cite use of devices, 15.6% ( $n = 7$ ) cited safety and structure in homes, 35.6% ( $n = 15$ ) cited overall provided care, as the factors that might inhibit them from providing care.

**Key Conclusions:** This preliminary analysis demonstrates that familial caregivers face many perceived factors that inhibit the continuity of care to their elderly family. If family member caregivers are not provided with the confidence and resources to administer care to their family member patients, the patients may be susceptible to hospital readmission.

## P-707

### Challenges in nursing for the implementation of transitional care for hospitalized elderly persons

Jessica Lane Pereira Santos (1), Larissa Chaves Pedreira (1), Alyne Henry Motta Coifman (1), Jeferson Moreira Dos Santos (1), Joann Seunarine (2)

(1) Federal University of Bahia School of Nursing, (2) University of Miami

**Introduction:** As a result of hospitalization, elderly persons will often need continuity of care after returning home. Transitional care from hospital to home is an important strategy that should be used from admission to hospital until hospital discharge. This allows for elderly and their family member caregivers to be prepared for the new care demands. The objective of this is to identify challenges experienced by the nursing team in implementing transitional care for hospitalized elderly people.

**Methods:** Qualitative research carried out in a public hospital in the southwest of Bahia, Brazil. The nursing team consisting of nurses and nursing technicians linked to the Medical Clinic and Surgical Clinic units of the institution participated in this implementation of transitional care. MAXQDA qualitative data analysis software was used to manage and code the data. The study was complied with the recommendations of Resolution n° 466/12, 510/16.

**Results:** Nineteen professionals, five nurses and fourteen nursing technicians participated. The challenges for the implementation of transitional care for the hospitalized elderly were: difficulty in communication between the multidisciplinary team, insufficient social support, difficulty in carrying out health education with the elderly and lack of articulation in the health network.

**Key Conclusions:** Nursing plays a fundamental role in the transition of care. However, the challenges identified make it difficult to manage discharge, provide comprehensive care and prepare the person and family for its continuity.

## P-708

### Quality of life in care home residents, and associations with pain, anxiety and depression: secondary analysis of the Falls in Care Homes (FinCH) dataset

Jemima T Collins (1), Lisa Irvine (2), Adam L Gordon (1), Pip A Logan (1), FinCH team (1)

(1) University of Nottingham, (2) University of Hertfordshire

**Introduction:** Maintaining and promoting a good quality of life (QoL) in older people is an important person-centred healthcare goal. Pain, anxiety and depression are common, and particularly challenging to assess and manage in people living with dementia. The objective of this study was to investigate whether severity of pain, anxiety and depression was associated with QoL, in care home residents with and without dementia.

**Methods:** A secondary analysis of the Falls in Care Homes (FinCH) randomised controlled trial [1] data was performed. Chi-squared tests and logistic regression models were used to test for associations between severity of pain, anxiety and depression, and QoL (DEM-QOL-P). Spearman's rho was used to test the strengths of these associations, using the total DEMQOL-P score.

**Results:** The total number of participants was 1657; 1109 had a diagnosis of dementia whereas 548 had no diagnosis of dementia. QoL was good in 58% and poor in 42%. The mean age was 90.9 years, 32.1% were men. Participants with no pain and no anxiety and depression had good QoL ( $p < 0.001$ ), and these associations were significant in residents with dementia and no dementia (all  $p < 0.001$ ). There was an inverse relationship between severity of pain and QoL (Spearman's rho  $-0.287$ ,  $p < 0.001$ ) and severity of anxiety and depression and QoL (Spearman's rho  $-0.564$ ,  $p < 0.001$ ).

**Key Conclusions:** Regardless of the diagnosis of dementia, pain, anxiety and depression are common and associated with poor QoL. Greater clarity of symptom clusters and more effective recognition of symptoms and causes will enable better care and may improve overall QoL.

**Reference:**

[1] Logan PA et al. BMJ. 2021 Dec 7;375:e066991.

## P-709

### Patterns of Wound Care Administering and Repositioning Use in Nursing Homes (NHs)

Adrianna Ziuziakowska (1), Katarzyna Sekulak (1), Paweł Jagielski (1), Ilona Barańska (1), Natalia Drapała (1), Agata Stodolska (1), Violetta Kijowska (1), Daniela Fialová (2), Jitka Pokladnikova (3), Eline C.M. Kooijmans (4), Karlijn J. Joling (5), Mark

(1) Laboratory for Research on Aging Society, Department of Medical Sociology, The Chair of Epidemiology and Preventive Medicine, Medical Faculty, Jagiellonian University Medical College, Kraków, Poland, (2) Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové and Department of Geriatrics and Gerontology, 1st Faculty of Medicine, Charles University, Prague, The Czech Republic, (3) Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové, Charles University in Prague, The Czech Republic, (4) Department of General Practice, Amsterdam UMC, Location VU University Medical Center, Amsterdam, the Netherlands, (5) Department of Medicine for Older People, Location Vrije Universiteit Amsterdam, Amsterdam UMC,, (6) Department of Computer Science, Vrije Universiteit Amsterdam, De Boelelaan 1111, 1081 HV Amsterdam, The Netherlands, (7) (Department of General Practice, Amsterdam UMC, Location VU University Medical Center, Amsterdam, the Netherlands, (8) Laboratory for Research on Aging Society, Department of Medical Sociology, The Chair of Epidemiology and Preventive Medicine, Medical Faculty and University Hospital, Jagiellonian University Medical College, Kraków, Poland

**Introduction:** Pressure ulcers (PU) remain an important issue affecting quality of care in NHs. Many of NH residents need wound care (WC) and preventive measures like repositioning in bed, which should be provided to every individual at risk.

**Aim:** To examine the provision of WC, turning programs (TPs) and factors associated with getting these therapies by NH residents in 8 countries.

**Methods:** We used interRAI-LTCF tool to assess use of WC and TP in 4062 residents in SHELTER database. Decision trees were used for the analysis. The study is supported by the I-CARE4OLD project (HORIZON2020–GA965341).

**Results:** TP was provided to 23.6% of residents and WC to 11.0% and only 4.9% received both therapies. WC was most commonly received by patients with PU and weight loss (67.5%). Among residents without PU, WC was provided to 50% of individuals who suffered from other skin ulcers (eg. venous or arterial ulcer, diabetic foot), to 45.9% of patients with major skin problems (like lesions, 2nd- 3rd degree burns, surgical wounds), and to 34.1% of persons with skin tears or cuts. TP was the most widely used among individuals with high/very high risk of PU and having PU (68.4%). Over half of residents (54.7%) with high frailty index and moderate to high risk of PU received TP.

**Conclusion:** Our study showed patterns of decision made by clinicians when referring to TP and WC, which are not optimal since they are missing many residents being at need of WC and risk of PU.

## P-710

### Descriptive analysis of the care activity of the geriatric liaison service with social-health centers in the province of Guadalajara (Spain). Creating a new level of care

Maria Gebauer-Campos (1), Peggy-Paola rios (1), Isabel Rodriguez-Miñon (1), Juan Rodriguez-Solis (1), Consuelo Fernández-Martín (1), Nuria Sánchez-Rios (1), Elena Santiago-De la Torre (1), Noelia Benito-Rubio (1)

(1) University Hospital of Guadalajara

**Introduction:** In Guadalajara there are 4009 residential beds distributed in 46 socio-health centers. This is important because the most complex patients are grouped together, with greater comorbidity, polypharmacy, greater functional dependence and a higher percentage of dementia, so these are the patients who consume the most healthcare resources. The main objective of this study is to find out the characteristics of the patients on whom we intervene and if this has an impact on avoiding referrals to the Emergency Department or consultations with other specialists.

**Methods:** Analysis of interventions from February-April 2023. We collected demographic characteristics, face-to-face and telephone assessments, referral to emergencies avoided, consultations assumed and avoided, polypharmacy, reasons for consultation, drugs, anticipated decisions, treatment of complicated wounds, dysphagia, nutritional assessments, coordination with other specialists.

**Results:** We carried out 695 intervention. The average age was 87 years.65.6% are women. 92% of assessments were in person at the residence. Most of the patients attended are severely dependent (30.5%) with moderate-severe cognitive impairment.37% consulted for a medical reason,34% for follow-up after hospital discharge,9% for falls and 8% for complicated injuries. We make treatment adjustments in 44% and early decisions in 2%. We avoided referrals to the emergency room in 33% of patients with total or severe dependence (p 000.1),and in 20.9% of moderate-severe dementias without finding statistically significant differences.

**Key Conclusions:** The interventions are carried out mostly in the most dependent patients, with greater polypharmacy and with a greater degree of cognitive impairment where it has been possible to reduce referrals to the hospital. Our work and the availability of the team provide support and a real alternative to the management of these residents in the centers.

## Multimorbidity

### P-711

#### Comprehensive Geriatric Assessment in Elderly Patients with End-Stage Kidney Disease Undergoing Hemodialysis in a third level private hospital in Monterrey, Mexico

Aníbal Gutiérrez-Torres (1), Karina Rodríguez-Quintanilla (1), Rogelio Maya-Quinta (2), Alejandro Valdes-Cepeda (2), Alejandro Valdes-Canales (2)

(1) Geriatrics Service, Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM), Nuevo León, México., (2) Nephrology Service, Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM), Nuevo León, México

**Introduction:** The ageing population with Chronic Kidney Disease (CKD) has been increasing in developing countries [1]. Prevalence of geriatric syndromes in this population remains unknown since patients undergoing HD seldom receive a Comprehensive Geriatric Assessment (CGA) [2].

**Methodology:** In patients 50 years and older, receiving HD in a private third level hospital in northern Mexico, we applied a CGA consisting of functionality (Barthel and Lawton & Brody), comorbidity (Charlson Index), cognition (MoCA), depression (Yesavage), frailty (CFS), nutrition (MNA-SF), sarcopenia (EWSOP2), falls, and quality of life (OPQOL-Brief). Of 52 patients in the HD unit, 35 were eligible for the study. 9 patients did not gave consent to participate in the study, resulting in a population of 26 patients.

**Results:** The mean age of the population was 68.85 years and 61% were women. Comorbidity was severe (Charlson  $\geq 5$ ) in 84% of patients. Most common comorbidities were hypertension (96%) and diabetes (73%). The majority of patients (34%) reported having a very bad quality of life. Patients presented on average 5.5 geriatric syndromes. The most common geriatric syndrome was dependance in Instrumental Activities of Daily Living (92%), followed by cognitive impairment (MoCA < 26) (84%) 0.53% of patients presented dependance in basic ADL, 42% presented some degree of depression (Yesavage > 5), 80% had inadequate nutrition (MNA-SF < 12), 42% presented falls, 57% had sarcopenia (EWSOP2) and 57% were frail (CFS > 3).

**Conclusion:** Our findings revealed a higher incidence of geriatric syndromes (5.5) than what has been reported in other internationally [2].

#### References:

- Méndez-Durán, A. (2021). Evolución del tratamiento sustitutivo de la función renal en México en los últimos 10 años. *Nefrología*, 82–83.
- Goto, N. A., van Loon, I. N., Morpey, M. I., Verhaar, M. C., Willems, H. C., Emmelot-Vonk, M. H., Bots, M. L., Boereboom, F., & Hamaker, M. E. (2019). Geriatric Assessment in Elderly Patients with End-Stage Kidney Disease. *Nephron*, 141 (1), 41–48.

## P-712

### Effectiveness of antiepileptic treatment in the management of Charles Bonnet syndrome

Natalia SHPAK-DESCHAMPS (1), Emmanuelle MUSELLEC (1)

(1) Psychiatric Hospital Rennes

**Introduction:** Charles Bonnet syndrome (CB) corresponds to various optical phenomena in patients with reduced visual acuity, who present neither psychiatric illness, nor underlying cognitive disorders. This pathology is rare, but the quality of life is impaired by these hallucinatory manifestations. There is no treatment for this disease.

**Methods:** Single clinical case description: Mrs. Y., 56 years old, housed in a long-term care unit.

**Results:** Mrs Y's visual acuity was limited to light perception because of a meningioma of the jugum and a bilateral cortico-nuclear cataract. Mrs Y. claimed to regularly see "babies" as well as other images, less systematized, that distressed her. These optical illusions were partly responsible for a depressive syndrome, that gradually set in the patient. Faced with the progression of the meningioma, treatment by phenobarbital 100 mg (antiepileptic medication, benzodiazepine) per day was introduced to prevent the seizures. Following the regular administration of the antiepileptic treatment, we observed a progressive disappearance of the visual phenomena, as well as the reduction of anxiety.

**Key findings:** The example of Mrs Y. shows that antiepileptic drugs are effective in the management of visual hallucinations in the context of Charles Bonnet syndrome. Additional studies are desirable in order to deepen the understanding of the pathological mechanism of the syndrome and the possibilities of its management.

## P-713

### Assessing Loneliness in Frail Elderly Hospital Inpatients

Qun Wang (1)

(1) Epsom and St. Helier University Hospitals NHS Trust

**Introduction:** This study was conducted on a 16-bedded elderly care ward in a hospital in Southeast London. Patients (age: median:89, mean:81.6) were medically optimised for discharge but had concurrent multi-morbidity, severe frailty, functional and social complexity. The aim was to identify loneliness and risk factors in frail elderly hospital inpatients and the impact on their well-being.

**Methods:** Fourteen patients were recruited; two were excluded due to advanced dementia. Medical records were reviewed for risk factors (recent illness, recent bereavement, living alone, impaired mobility, impaired sensory, impaired function, housebound, and any relatives nearby) and face to face structured interviews were performed. A single-item scale from the English Longitudinal Study of Ageing (ELSA) was used by asking: 'How often do you feel lonely? Never, or sometimes, or often.'

**Results:** All patients had risk factors range between two and seven. Most common risk factors identified were recent illness (8), living alone (6), reduced mobility (6), housebound (6), functional dependence (5). Regarding to the question, seven patients with high risk factors responded as 'never lonely', seven 'sometimes lonely'. High numbers of risk factors did not correlate with high likelihood of loneliness.

**Key Conclusions:** This study demonstrated that a cohort of frail complex elderly inpatients had multiple risk factors and 50%, on

direct questioning, rated themselves as 'sometimes lonely'; whereas the other 50% with high risk factors rated 'never lonely'. Loneliness is subjective and personal experience that can impact on physical and psychological well-being. It cannot be judged solely by assessing risk factors.

## P-714

### Effects Of Age On Clinical Presentation Of Obstructive Sleep Apnoea Syndrome

Giulia Rivasi (1), Stefania Bertini (2), Riccardo Soldaini (2), Marco Capacci (3), Ludovica Ceolin (3), Ginevra Fabiani (4), Federico Lavorini (2), Andrea Ungar (1)

(1) University of Florence, (2) Pneumology Unit of Careggi Hospital, Florence, (3) Hypertension Clinic, University of Florence, (4) Emergency Department Unit, Florence

**Introduction:** Few studies have investigated obstructive sleep apnoea (OSA) at old age, when typical OSA-related symptoms (snoring, observed apnoea, nocturnal choking, daytime sleepiness) might be less common. The present study aimed at comparing symptoms and comorbidities associated with the diagnosis of OSA in younger and older adults.

**Methods:** We retrospectively analysed data from patients undergoing overnight cardio-respiratory monitoring at the clinic of sleep respiratory disorders of the Pneumology Unit of Careggi Hospital, Florence, Italy, during the period 2011–2019, and receiving a diagnosis of OSA (defined as apnoea/hypopnoea index [AHI] > 5). Clinical features, OSA-related symptoms and polysomnography data were compared in younger and older patients (age cut-off 75 years). Severe OSA was defined by an AHI > 30. Daytime sleepiness was defined by an Epworth Sleepiness Scale (ESS) > 10.

**Results:** Among 2018 patients undergoing cardio-respiratory monitoring, OSA was diagnosed in 1678 (mean age 59, 27% female). Older patients (n = 174, 10.4%) had a higher prevalence of comorbidities including hypertension, atrial fibrillation, stroke, diabetes and COPD, while body mass index and neck circumference were similar in the two age subgroups. Older patients less frequently complained of nocturnal choking (36.8% vs 45.7%, p = 0.024) and daytime sleepiness (31.8% vs 41.3%, p = 0.017), although OSA was more frequently severe (46% vs 38.6%, p = 0.060). ESS and AHI did not vary significantly across age decades (p = 0.479 and p = 0.334, respectively, Fig. 1A-B).

**Key Conclusions:** OSA symptoms might be less frequent at old age, despite high disease severity. Atypical OSA-related symptoms should be considered and investigated in older adults.

## P-715

### Early growth, stress, and socioeconomic factors predict the rate of multimorbidity accumulation across the life course: a birth cohort study

Markus Haapanen (1), Davide Vetrano (2), Tuija Mikkola (3), Amaia Calderón-Larrañaga (2), Serhiy Dekhtyar (2), Eero Kajantie (4), Johan Eriksson (5), Mikaela von Bonsdorff (6)

(1) University of Helsinki, (2) Karolinska Institutet, (3) Folkhälsan Research Center, (4) Finnish Institute for Health and Welfare, (5) National University of Singapore, (6) University of Jyväskylä

**Background:** Early growth, stress, and socioeconomic factors are associated with future risk of individual chronic diseases. It is uncertain whether they also affect the rate of multimorbidity accumulation later in life.

**Methods:** We studied 11,689 people born in Helsinki from 1934 through 1944. Early anthropometry, growth, experienced stress, and socioeconomic factors were recorded. ICD-codes of diagnoses for chronic diseases were obtained from the Finnish national Care Register starting from 1987 (when participants were aged 42–53 years) through 2017. Linear mixed models were employed to study the association between early-life factors and the rate of change in the number of chronic diseases over time.

**Findings:** Offspring of women who became mothers below 25 years of age ( $\beta = 0.009$ , 95% CI 0.006, 0.012), mothers with BMI between 25–30 kg/m<sup>2</sup> ( $\beta = 0.008$ , 95% CI 0.005, 0.010), and mothers with BMI over 30 kg/m<sup>2</sup> ( $\beta = 0.026$ , 95% CI 0.021, 0.030) in late pregnancy accumulated chronic diseases faster than those born to older or normal weight mothers. Those with a low birth weight ( $\beta = 0.017$ , 95% CI 0.010, 0.025) accumulated chronic diseases faster during their life course. Rapid growth in height and weight from birth until age 11 was associated with a faster pace of chronic disease accumulation, as were poorer socioeconomic circumstances (manual workers vs. upper middle class  $\beta = 0.027$ , 95% CI 0.023, 0.030) and severe early life stress (wartime parental separation  $\beta = 0.024$ , 95% CI 0.019, 0.029 for boys and  $\beta = 0.031$ , 95% CI 0.026, 0.035 for girls). Interpretation: Early life characteristics seem to be associated with faster chronic disease accumulation.

## P-716

### Can Pan-Immune-Inflammation Value Predict Multimorbidity?

Serdar Ceylan (1), Merve Güner (1), Arzu Okyar Baş (1), Yelda Öztürk (1), Meltem Koca (1), Burcu Balam Doğu (1), Meltem Gülhan Halil (1), Mustafa Cankurtaran (1), Cafer Balcı (1)

(1) Hacettepe University Faculty of Medicine Division of Geriatrics

**Introduction:** The pan-immune-inflammation value (PIV) is related many chronic diseases. It can be calculated as a result of complete blood count. If its relationship with multimorbidity is shown, it can be a guide for further evaluation for chronic diseases. The aim of the study is to examine the relationship between PIV and multimorbidity.

**Methods:** PIV was computed as follows: [neutrophil (103/ $\mu$ L)  $\times$  platelet (103/ $\mu$ L)  $\times$  monocyte (103/ $\mu$ L) /lymphocyte (103/ $\mu$ L)]. Multimorbidity was accepted as co-existence of two or more chronic diseases. Binary logistic regression analysis was performed to determine factors that independently affect multimorbidity. Model includes age, sex, clinical frailty score, mini nutritional assessment-short form, minimal state examination, Yesavage geriatric depression scale, SARC-F and PIV.

**Results:** The median age of 783 patients was 72.0 years (25p–75p: 68.0–77.0), 61.6% (n = 482) were female. Multimorbidity was detected in 78.3% of the patients (n = 613). The median PIV was 279.1 (25p–75p: 182.3–446.7). PIV predicting living with multimorbidity with ROC curve was determined as 269 (Area Under Curve: 0.590, p < 0.001). Sensitivity was 56.8%, specificity was 61.2%. High PIV ( $\geq 269$ ) was associated with multimorbidity, independent of other variables (OR: 1.90, 95% CI 1.33–2.74, p < 0.001).

**Key conclusions:** High PIV and multimorbidity are interrelated. It would be reasonable to assess the patients in light of the possibility that they have undetected chronic diseases if their PIV is high.

## P-717

### Subdural Spinal Hematoma And Pathological Fracture, With Anca Vasculitis And Corticoids Use Associated. Case Report

Maria Alejandra Zambrano Gustin (1), Carmen Ferrer Ferrer (2), Marta Fernandez Esteban (3)

(1) mazambranog, (2) 4276, (3) 5697

**Introduction:** An 85-year-old woman, autonomous, with a recent diagnosis of ANCA-MPO vasculitis, in the last month treated with Mycophenolate Mofetil and corticosteroids, was admitted to the Geriatrics Department, due to suspicion of Pulmonary Embolism, discarded after 10 days of management with enoxaparin at Renal dose adjusted.

**Methods:** Initial Whole spine Magnetic Resonance Imaging (MRI) is requested, given a history of vertebral fracture associated with intense pain at the thoraco-lumbar and interscapular level, evidencing an acute fracture of D6, which in the absence of trauma, is considered a pathological fracture in patient with a recent corticosteroid use. Second MRI requested due to worsening pain, associated with a progressive weakness and hypoesthesia in the lower extremities, on physical examination; Spontaneous Babinski, motor deficit 0/5 bilateral and hypoesthesia with sensory level D6-D7. The test confirms Kummel T6, with vertebral osteonecrosis and spinal cord compression, due to epidural hematoma, commented and assessed by Neurosurgery that rules out surgical treatment.

**Results:** Poor pain control despite high doses of opioids, functional decline, multiple complications. Due to poor clinical evolution and bad response to management, palliative sedation was finally decided.

**Key Conclusions:** Glucocorticoid-induced osteoporosis is the most common iatrogenic cause of the disease, according to the evidence. Among secondary spinal hematomas, the most common are related to coagulation disorders. It is important to be careful and reserved with the use of corticosteroids and anticoagulants.

## P-718

### Impact of short and long term sleep deprivation in hospitalized elderly patients

Margarida Araújo (1), M Manuela Cruz (2), Mariana Alves (2)

(1) Faculdade de Medicina. Universidade de Lisboa, (2) Faculdade de Medicina. Universidade de Lisboa

**Introduction:** Environmental causes that limit the rest of the elderly patients are the noise, the light interruptions and the fact that rooms in the ward are shared. Causes related to healthcare professionals include, for example, the measurement of vital signs during the rest period. As factors related to the patient, stand out untreated sleep disturbances, pain symptoms and pathologies of the anxiety and depression spectrum.

**Methods:** Using the database pubmed, articles published between 2010 and 2022 (including narrative and systematic reviews, meta-analyses, cross-sectional and longitudinal studies) were selected to write a literature review. The key words used for the search were: sleep deprivation; hospitalised elderly patients; health impact; short-term; long-term.

**Results:** Sleep deprivation may condition a delay in the recovery of hospitalised elderly patients, due to the following factors: damaged immune function, which predisposes to greater susceptibility to hospital infections; increased drowsiness and fatigue, which makes it difficult for patients to participate in recovery activities; increased depressive symptoms, anxiety and stress; development of insomnia

disorder; increased risk of certain pathologies, namely Delirium and hyperglycemia; increased pain symptoms and, finally, increased mortality. Measures that could counteract this problem include non-pharmacological ones, which should always be the first option, and pharmacological, which should be resorted to if non-pharmacological don't have an effect.

**Conclusions:** During hospitalization, patients tend to have worse sleep quality and duration, which has a particular impact on the elderly patients.

## P-719

### Associations between multimorbidity and kidney function decline in old age: findings from a Swedish population-based cohort

Giorgi Beridze (1), Lu Dai (1), Juan-Jesús Carrero (2), Alessandra Marengoni (3), Davide L Vetrano (1), Amaia Calderón-Larrañaga (1)

(1) Aging Research Center, Karolinska Institutet, (2) Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, (3) Department of Clinical and Experimental Sciences, University of Brescia

**Background:** Individual chronic conditions have been linked to kidney function decline; however, the associations with multimorbidity (the presence of  $\geq 2$  conditions) remain unclear.

**Methods:** 3094 individuals from the Swedish National Study on Aging and Care in Kungsholmen (SNAC-K) were followed up for 15 years. Multimorbidity was operationalised as the number of chronic conditions and multimorbidity patterns. Joint models and Cox regression models were used to explore the associations between multimorbidity at baseline, and absolute and relative ( $\geq 25\%$  decline from baseline) changes, respectively, in the estimated glomerular filtration rate (eGFR).

**Results:** Mean age of the sample was 73.9 and 87% had multimorbidity. There was a dose–response relationship between the number of chronic conditions and the absolute ( $\beta$  [95% CI] =  $-0.05$  [ $-0.07$ ;  $-0.03$ ]) and relative (HR [95% CI] =  $1.23$  [ $1.17$ ;  $1.29$ ]) declines in eGFR. Five patterns of multimorbidity were identified. The Unspecific, low burden pattern had the lowest burden of morbidity and was used as the reference category. The Unspecific, high burden and Cardiometabolic patterns showed accelerated absolute ( $\beta$  [95% CI] =  $-0.15$  [ $-0.26$ ;  $-0.05$ ] and  $-0.77$  [ $-0.98$ ;  $-0.55$ ], respectively) and relative (HR [95% CI] =  $1.45$  [ $1.09$ ;  $1.92$ ] and  $3.45$  [ $2.27$ ;  $5.23$ ], respectively) declines. Additionally, the Cognitive and Sensory pattern showed accelerated relative decline (HR [95% CI] =  $1.53$  [ $1.02$ ;  $2.31$ ]). No associations were found for the Psychiatric and Respiratory pattern.

**Conclusion:** Multimorbidity is strongly associated with accelerated kidney function decline in older age. Individuals with cardiometabolic multimorbidity exhibit a particularly increased risk. A person-centred approach considering the interplay between conditions may help identify high-risk groups.

## P-720

### Association between directly measured free testosterone levels and mortality in Korean elderly men: insights from the Ansung cohort study

Kyunam Kim (1), Moonjong Kim (2), Youngsang Kim (2)

(1) Department of Family Practice and Community Health, Ajou University School of Medicine, (2) Department of Family Medicine, CHA University, CHA Bundang Medical Center

**Background:** Previous studies have established an association between low testosterone levels and mortality. However, most investigations focusing on free testosterone (FT) have relied on calculated levels derived from formulas rather than direct measurements. This study aimed to examine the relationship between directly measured FT levels and mortality in elderly Korean men.

**Methods:** Data from the Ansung cohort, a biennial population-based study, were utilized for this analysis. Baseline data from the 8th wave (2015–2016) were analyzed, with mortality data collected until 2020. FT levels were assessed using a radioimmunoassay method.

**Results:** The analysis included 1103 men aged 54–84. The median concentration of FT was 8.14 pg/mL. Participants were categorized into quartiles based on their FT levels. The mortality rates were 18.12%, 6.55%, 6.55%, and 5.05% across the quartiles, respectively ( $P < 0.001$ ). After adjusting for age and body mass index, a 1-standard deviation increase in FT was associated with a hazard ratio of 0.676 (0.538–0.850). Cubic spline analysis indicated a significant increase in mortality rates for FT levels below 8 pg/mL.

**Key Conclusions:** This study provides evidence of an association between low directly measured FT levels and mortality in elderly Korean men. These findings align with previous studies that relied on calculated FT levels. Future investigations incorporating measurements of sex hormone-binding globulin and other sex hormones may enhance our understanding of the relationship between sex hormones and mortality.

## P-721

### A nursing student-led home visiting programme for community-dwelling older adults with chronic multimorbidity (VISITAME trial) : effects on self-care behaviours

Jose Manuel Hernandez-Padilla (1), Iria Dobarrio-Sanz (1), Anabel Chica-Pérez (2), Matías Correa-Casado (3), Cayetano Fernández-Sola (1), María Dolores Ruiz-Fernández (1)

(1) University of Almería, (2) Emera Nursing Home, (3) Almería Health District

**Introduction:** In older adults with chronic multimorbidity, self-care behaviors are associated with improved patient outcomes. The World Health Organisation recommends community-based home visiting programmes to promote self-care in older people with chronic multimorbidity. The aim of the study was to analyse the effects of a nursing student-led home visiting programme on self-care behaviours amongst community-dwelling older adults with chronic multimorbidity.

**Methods:** A parallel group randomised controlled trial with 252 community-dwelling older adults was conducted. Participants were randomly allocated to a control group ( $n = 126$ ) or experimental group ( $n = 126$ ). The Self-Care in Chronic-Illness Inventory was used to assess self-care maintenance behaviours, self-care monitoring behaviours and self-care management behaviours. Nursing students conducted weekly visits for 12 weeks and data were collected before, immediately after and 6 months after completing the intervention. Repeated measures ANOVA was used to test the effects of the intervention. ClinicalTrials.gov Identifier: NCT05264207.

**Results:** The participants' mean age was 76.80 years ( $SD \pm 8.06$ ) and 69.7% were female. On average, participants had been diagnosed with 5.75 ( $SD \pm 3.20$ ) chronic conditions and were prescribed on 6.00 ( $SD \pm 3.18$ ) drugs. Statistically significant differences between both groups and large or moderate size effects were observed for all

outcome variables (self-care maintenance behaviours:  $F(1,260) = 51.311$ ,  $p < 0.001$ ,  $\eta^2 = 0.17$ ; self-care monitoring behaviours:  $F(1,260) = 13.492$ ,  $p < 0.001$ ,  $\eta^2 = 0.05$ ; self-care management behaviours:  $F(1,260) = 56.000$ ,  $p < 0.001$ ,  $\eta^2 = 0.18$ ).

**Key Conclusions:** A nursing student-led home visiting programme can improve self-care behaviours in community-dwelling older adults with chronic multimorbidity. Nurse leaders, nursing regulatory bodies and nursing faculties should develop programmes in which nursing students work with community-dwelling older adults.

## P-722

### Management of infectious complications in older patients with systemic sclerosis

Benhammacth Yassine (1), Ameer Mohand Amokrane (1), Haouchine Massinissa (1), Bensaida Amal (1), Laskri Asmahane (1), Delandre Pierre-Julien (1), Vansteenbergh Ophélie (1), Sches Guillaume (1), Minoufflet Alexis (1), Attier Jadwiga (1)

(1) Geriatric, Hospital Centre, Saint-Quentin, France

Systemic sclerosis (SSc) is a rare autoimmune condition affecting connective tissue and arterioles, causing skin hardening and internal organ fibrosis. It typically affects 30–240 people per million, predominantly females. The diagnosis and management in older patients are complicated by concurrent health conditions and increased infection risk. Diagnosis is primarily based on the ACR-EULAR clinical criteria, with additional antibody tests and periungual capillaroscopy. Comprehensive assessment of comorbidities and medical history is essential for accurate diagnosis and effective management in older individuals. SSc treatment aims to manage progression and complications, often involving low-dose corticosteroids ( $< 15$  mg/day), methotrexate, mycophenolate mofetil, and cyclophosphamide. Specific complications might require targeted treatments. An 82-year-old patient with SSc, also suffering from chronic lymphocytic leukemia, hypertension, atrial fibrillation, and stroke history, was admitted due to malaise and recurrent falls. Treated with mycophenolate mofetil and prednisone, she developed cerebral abscesses and acute kidney failure. Despite antibiotics, her condition worsened, and brain abscesses persisted on the last MRI. Puncture was deemed inappropriate due to her age and history. Older SSc patients face increased infection risks due to immunosuppressive treatment and age-related susceptibility to infections. Prompt infection management and careful immunosuppression benefit-risk evaluation are crucial. SSc management in this group requires a personalized approach considering comorbidities, medical history, and infection risks. Further insight into pathogenic mechanisms and tailored treatment strategies are essential for improving the quality of life and clinical outcomes of these patients.

## P-723

### Study of factors related to functionality in the geriatric patient with intracranial hemorrhage

Raquel Condón Martínez (1), Katia Jacqueline Ávila Rosales (1), María Dolores Domingo Sánchez (1)

(1) Hospital Nuestra Señora de Gracia Zaragoza

**Introduction:** Older patients are at higher risk of intracranial haemorrhage (ICH), our aim is to describe factors related to functionality, for better approach to this disabling disease.

**Methods:** Retrospective study that included patients admitted to a geriatrics service from June 2021 to June 2022 with ICH. We reviewed medical records and recorded demographic variables, personal history, rehabilitation, Barthel and Charlson Indices.

**Results:** 23 patients, 74% female, 88 years old. Previous Barthel Index (BI) : 4.35% independence, 30.4% mild dependency, 34.7% moderate, 13% severe, 17.3% total. BI at discharge: 17.39% mild dependency, 17.39% moderate, 13.04% severe, 52.17% total. 21.74% rehabilitated: 40% maintained mildly dependent and 60% decreased 40 points on average in BI. 34.78% had dementia, decreased 21 points on average in BI. They were previously 62.5% moderately and 75% totally dependent at discharge ( $p = 0.224$ ). 65.22% had  $\geq 2$  cardiovascular risk factors, previously 33.33% mildly and 33.33% moderately dependent. They suffered a mean loss of 26 points in BI, 46.67% totally dependent at discharge ( $p = 0.759$ ) 0.69.9% Charlson index  $\geq 5$ , with a mean loss of 21 points in BI; previously 18.75% were totally dependent and at discharge 62.5% ( $p = 0.105$ ).

**Key Conclusions:** ICH is a disabling pathology in our geriatric patients, who have high previous comorbidity, and in whom rehabilitation did not improve functional capacity. Geriatric patients admitted with ICH who have previous dementia and hypertension have worse functional prognosis. Results, despite being a small sample, support the need to address and treat the factors favouring ICH.

## P-724

### Hallo Sign in Giant Cell Arteritis. A Case Report

Celia Ruiz Alonso (1), Celia Caro Roncel (2), Inmaculada Garrón Neguillo (1), Fausto García Marcos (3), Julia María Mohedano Molano (4), José Luis González Guerrero (4)

(1) Geriatrics Resident, (2) General Medicine Resident, (3) Radiologist, (4) Geriatrician

**Aim:** To present a medical record in which giant cell arteritis (GCA) is diagnosed through doppler ultrasound (DUS).

**Introduction:** 89 year old female with history of hypertension, diabetes, atrial fibrillation, anemia, coronary artery disease; Barthel Index 70, Lawton Scale 3, without cognitive impairment. Initially presenting global weakness, fatigue and temple veins' swelling, dizziness and frontal headache, also aching and stiffness of shoulder and hip girdles. She occasionally presented fever. High-dose glucocorticoids therapy was initiated when diagnosis of GCA was suspected, experimenting a dramatic improvement. The patient refused a temporal artery biopsy procedure, an DUS was performed by skilled clinicians finding the well-known "hallo sign".

**Discussion:** GCA is a chronic inflammatory disease involving large and medium-sized arteries. It is the most common idiopathic systemic vasculitis, typically occurring in older adults, females, Northern European ethnicity. Clinical manifestations feature fever, fatigue, and weight loss, headache, jaw claudication, polymyalgia rheumatica, sight loss. The onset of symptoms tends to be subacute, but abrupt presentations can occur. Demonstration of typical histopathologic or imaging findings is fundamental for diagnosis. Histopathologic evidence is usually acquired by temporal artery biopsy, though it may be possible for DUS to substitute for biopsy, typically showing a circumferential hypoechogenic area around the vascular lumen known as the "halo sign". It normally presents a good clinical response to high-dose glucocorticoids early therapy.

**Conclusion:** Even though the temporal artery biopsy remains an essential diagnostic measure for the evaluation of suspected GCA, the DUS has several advantages as it is a noninvasive test which provides simultaneous image acquisition and interpretation.

## P-725

### Vitamin D deficiency and its associations with geriatric syndromes in the cohort of nonagenarians

Luba Matchekhina (1), Anastasia Balashova (1), Olga Tkacheva (1), Irina Strazhesko (1)

(1) Pirogov Russian National Research Medical University

**Relevance:** The increasing number of older people in the population brings in the focus of attention the study of the causes and ways of modifying age-related conditions. A few studies have shown the prevalence of 25 (OH) D insufficiency and deficiency in older people, as well as their associations with some of geriatric syndromes. However, at the moment it is still unknown whether these patterns persist in the cohort of nonagenarians and centenarians. Aim of the study To assess the prevalence of vitamin D deficiency in a cohort of nonagenarians in the central region of the Russian Federation and to study its associations with some geriatric syndromes.

**Materials and Methods:** The study was carried out in Pirogov Russian National Research Medical University. The cohort included persons aged 90 years and older, for whom a comprehensive geriatric assessment was performed, along with the past medical history collection, geriatric scales and questionnaires assessment (MMSE, SARC-F, MNA, and others). Serum 25 (OH) D levels were measured using a chemiluminescent assay. The study was approved by the local ethic committee. Statistical analysis was performed using the programming languages R version 4.1.3 and Python version 3.9.

**Results:** The study included 3,235 people aged 90 to 107 years. The average level of 25 (OH) D in the cohort was 9 ng/ml, 86.7% of participants had 25 (OH) D deficiency, and 8.3% were insufficient. According to the results of intergroup comparison, significant associations were demonstrated for the subgroups with normal, low and high vitamin D levels and malnutrition, sarcopenia and cognitive impairment. The effect was strongest for malnutrition: every 10 units increase of vitamin D reduced the chance of having malnutrition by 35.5%. Similarly, the chance of having cognitive impairment decreased by 20.7% and sarcopenia by 18.4%. However, when adjusting for nutritional status and physical activity, the association of vitamin D levels remained statistically significant only for cognitive impairment.

**Conclusion:** It was demonstrated that the majority of Russian nonagenarians have vitamin D-deficiency. According to our data, higher vitamin D levels might play a protective role against developing of malnutrition, sarcopenia and cognitive impairment.

Key words: nonagenarians; 25-OH vitamin D; vitamin D deficiency; geriatric syndromes; malnutrition; cognitive impairment; sarcopenia.

## P-726

### The Relationship between Neutrophil-to-Lymphocyte Ratio and the Most Common Chronic Diseases in Hospitalized Geriatric Population from Central Poland

Serena Stephenson (1), Bartłomiej Soltysik (1), Ganna Kravchenko (1), Renata Korycka-Bloch (1), Tomasz Kostka (1)

(1) Department of Geriatrics, Medical University of Lodz, Poland

**Introduction:** Neutrophil-to-lymphocyte ratio (NLR) is widely used across almost all medical aspects as a valid and easily available

marker for various infectious etiologies and disorders. NLR may be influenced by many conditions such as age, medications, and diseases.

**Methods:** For this study, patients 60 years old and above were recruited from January 2017 to December 2019 at Central Veterans Hospital in Lodz, Poland. After screening, 849 patients with normal C-reactive protein (CRP) set at the value of below 6 were enrolled into the analysis. NLR was calculated by dividing the number of neutrophils by the number of lymphocytes. A normal NLR is ranged between 1–3 and NLR of 6–9 suggests mild stress. NLR was assessed for subjects with and without common chronic diseases. Statistical analysis was performed by using Statistica 13.1.

**Results:** In the whole study group, the median age was 83 (77–87). From the analysis, after sex and age adjustment, diabetes, chronic kidney disease, chronic lung disease and bedsores are associated with higher NLR. Reversely, lipid disorder and eyes disorder linked with significantly lower NLR.

**Conclusions:** Several age-linked diseases were found to be associated with higher NLR. Some diseases, more often diagnosed in younger patients were linked with significantly lower NLR. Therefore, NLR may be an indicator of serious diseases linked with an advanced age requiring more focus to facilitate better management.

**Keywords:** neutrophil-to-lymphocyte ratio, chronic diseases, hospitalized older adults.

## P-727

### Prostatic and Intestinal Tuberculosis in the Elderly

Jose Luis Amorone Leiva (1), Jose Gabriel Alvarez (1), Claudia Caballero Gonzalez (2), Javier Farina (2)

(1) Hospital Mariano y Luciano de La Vega, (2) Hospital Mariano y Luciano de la Vega

**Introduction:** Prostatic tuberculosis (TB) is very rare and is mainly found in immunocompromised patients. Its symptoms are nonspecific. The simultaneous presentation of intestinal and prostatic foci is an extraordinary finding in the literature.

**Clinical Case:** A 66-year-old male presents for preoperative evaluation of an inguinal hernia. He reports a weight loss of approximately 10 kg over 2 years. HIV Elisa test: negative. Digital rectal examination reveals an enlarged prostate with increased consistency and a palpable nodule in the left lobe. Total PSA: 62.54 mg/ml, Free PSA: 3.66 mg/ml, PSA L/T ratio: 0.05. Biopsy reports Granulomatous Prostatitis. Urine and sputum acid-fast bacilli (AFB) smear: negative. Review of the biopsy and Ziehl–Neelsen staining reveals positive caseating epithelioid granulomas. The patient experiences acute abdomen. CT scan shows nodular images in both apices, thickening of the small intestine with predominant involvement of the terminal ileum, and fat alteration at the mesenteric border. Intraoperative examination confirms perforation of a lesion in the terminal ileum. Biopsy reports active tuberculous granuloma. The patient received chemotherapy treatment with complete recovery.

**Discussion:** Prostatic TB is an incidental finding post transurethral resection of the prostate or biopsy for suspected prostate cancer. It is challenging to identify Mycobacterium in prostatic tissue. The presence of epithelioid granulomas, Langhans-type giant cells, and caseous necrosis justifies chemotherapy treatment.

**Conclusion:** Prostatic TB is an extremely rare disease. It is not easily proven. New tests with greater diagnostic accuracy for extrapulmonary TB are being implemented. Anti-tuberculosis chemotherapy



is mandatory. Lifelong follow-up is recommended due to the high relapse rate.

## P-728

### Osteoporosis in old patients with amputated lower limbs: preliminary results

Svetlana Topolyanskaya (1), Leonid Bubman (2), Dmitry Koshurnikov (2), Victor Karpov (2), Stanislav Khan (2), Alexey Nechaev (2), Georgyi Melkonyan (2)

(1) War veterans hospital N3, First Moscow State Medical University, (2) War veterans hospital N3

The study aim was to investigate bone mineral density (BMD) in patients with amputated lower limbs and to analyze relationships of BMD with various clinical and laboratory parameters.

**Materials and Methods:** This work is a cross-sectional study, which to date enrolled 31 patients—7 women and 24 men over 60 years of age, who underwent amputation of one of the lower extremities. The mean age of the study patients was  $73.4 \pm 8.9$  years, ranging from 60 to 101 years. 41.9% of patients underwent amputation of the left lower limb, 58.1%—right. The time from amputation to enrollment in the study ranged from 4 to 444 months, with a median of 36 months. Bone mineral density in the lumbar spine and proximal femurs was analyzed by dual energy x-ray absorptiometry.

**Results:** Osteoporosis in the proximal part of the left femur was registered in 48.4% of patients, osteopenia—in 22.6%, normal BMD—in 29.0% of cases. Osteoporosis in the proximal part of the right femur was observed in 58.1% of patients, osteopenia—in 16.1%, normal BMD—in 25.8% of cases. In the lumbar spine, osteoporosis was found only in 2 patients (6.4%), osteopenia—in 19.3%, normal BMD—in 74.2% of cases. The mean T-score in the lumbar spine reached  $+0.4$  SD, in the proximal left femur— $-1.5$  SD, in the left femur neck— $-2.1$  SD, in the proximal right femur— $-2.0$  SD, in the right femur neck— $-2.1$  SD. In the case of amputation of the left lower limb, the left femur BMD averaged  $710.8 + 239$  mg/cm<sup>3</sup>, the left femur T-score— $-2.6 + 1.6$ SD, the T-score in the left femur neck— $-3.0 + 1.3$ SD, with the intact left leg— $980.1 + 194$  mg/cm<sup>3</sup>,  $-0.8 + 1.5$ SD,  $-1.5 + 1.2$ SD, respectively ( $p = 0.002$ ,  $p = 0.005$  and  $p = 0.006$ ). In case of amputation of the right lower limb, the right femur BMD reached  $743.8 + 268$  mg/cm<sup>3</sup>, right femur T-score— $-2.4 + 1.7$ SD, the T-score in the right femur neck— $-2.4 + 1.7$ SD, with the intact right leg— $909.9 + 211.0$  mg/cm<sup>3</sup>,  $-1.2 + 1.5$ SD,  $-1.5 + 1.5$ SD, respectively ( $p = 0.09$ ,  $p = 0.06$  and  $p = 0.1$ ). The likelihood of developing osteoporosis in the left femur with amputation of the left leg increased by 9.6 times, compared with patients who had a preserved left lower limb (odds ratio = 9.6; 95% CI 1.1–90.3;  $p = 0.02$ ). In relation to the right leg, this indicator did not reach the statistical significance (odds ratio = 1.5; 95% CI 0.3–7.8;  $p = 0.5$ ). In patients with amputation of the left leg, inverse correlation was registered between bone mineral density and the time from the moment of amputation to inclusion in the study:  $r = -0.65$ ,  $p = 0.03$  for T-score in the left femur;  $r = -0.53$ ,  $p = 0.09$  for T-score in the left femur neck;  $r = -0.52$ ,  $p = 0.1$ —for the absolute values of BMD in the left femur. In patients who underwent amputation of the right leg, there were no significant relationships between BMD and the time elapsed since amputation. Inverse correlation was found between BMD and the time elapsed since amputation in patients who underwent amputation less than 5 years ago ( $r = -0.44$ ;  $p = 0.04$ ); in patients who underwent amputation more than 5 years ago this relationship was not found. Patients with diabetes mellitus had higher BMD in the proximal left femur (T-score:  $-0.5$ SD and  $-2.2$ SD, respectively;  $p = 0.01$ ). Patients with obesity had higher BMD

in the lumbar spine (T-score: 2.4SD and  $-0.7$ SD,  $p = 0.004$ ) and in the proximal left femur (T-score:  $-0.2$ SD and  $-2.5$ SD, respectively;  $p = 0.004$ ). In the general group of patients, direct correlations were registered between BMD and body mass index of patients ( $r = 0.62$ ;  $p = 0.0002$ ), glucose ( $r = 0.47$ ;  $p = 0.008$ ), creatinine ( $r = 0.38$ ;  $p = 0.03$ ) and uric acid concentrations ( $r = 0.74$ ;  $p = 0.004$ ).

**Conclusion:** Preliminary results of this study demonstrate a decrease in bone mineral density in the proximal femur of the amputated limb. Further studies are needed to study BMD in amputees and to elucidate the pathogenetic basis of the relationship between BMD and other clinical and laboratory parameters in this group of patients.

## P-729

### Chronic conditions, multimorbidity and cardiometabolic disorders in relation with physical and cognitive functioning among the oldest old

Inna Lisko (1), Anette Hall (2), Tiia Ngandu (3), Miia Kivipelto (4), Alina Solomon (2), Jenni Kulmala (5)

(1) Faculty of Sport and Health Sciences and Gerontology Research Center (GEREC), University of Jyväskylä, Finland, (2) Institute of Clinical Medicine, Department of Neurology, University of Eastern Finland, Kuopio, Finland, (3) Population Health Unit, Finnish Institute for Health and Welfare, Helsinki, Finland, (4) Division of Clinical Geriatrics, Center for Alzheimer Research, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet, Stockholm, Sweden, (5) Faculty of Social Sciences (Health Sciences) and Gerontology Research Center (GEREC), Tampere University, Finland

**Introduction:** It is not clear which chronic conditions and morbidity measures are most closely associated with physical and cognitive functioning among the oldest old. The aim of the study is to explore the associations of chronic conditions, multimorbidity and cardiometabolic factors with physical and cognitive functioning among the oldest old.

**Methods:** Data come from a population-based Cardiovascular Risk Factors, Aging and Dementia (CAIDE) 85+ study ( $N = 186$ ; 94% community-dwelling), collected in 2019–2020 in Finland. Information on 15 self-reported chronic conditions diagnosed by a doctor, physical functioning (scores on objectively measured mobility (SPPB), and subjective self-reported mobility and activities of daily living) and cognitive functioning (CERAD total score) was used. Measures on multimorbidity and cardiometabolic factors (sum score of heart infarct, stroke, heart failure, angina pectoris and diabetes) were drawn from chronic conditions. Cardiometabolic disorders were included in the multimorbidity sum score as yes (at least 1)/no. Linear regression models adjusted for education and sex were used.

**Results:** Among all, chronic urinary tract infection and heart failure were statistically significantly associated with lower physical functioning across all measures. For lower cognitive functioning, associations were found with stroke ( $\beta = -0.135$ ,  $p = 0.044$ ) and heart infarct ( $\beta = -0.166$ ,  $p = 0.014$ ). High number of cardiometabolic disorders was associated with lower physical and cognitive functioning across all measures. Multimorbidity was associated only with lower subjective physical functioning.

**Conclusions:** Among the oldest old, cardiometabolic disorders appear to be a useful morbidity indicator associated with both objective and subjective physical functioning as well as cognitive functioning.

## P-730

### Epidemiology of Chronic Kidney Disease And Comorbid Illness In Older Hospitalized Patients

Nastasa Andra (1), Mahu Gheorghe (2), Onofriescu Mihai (1), Apetrii Mugurel (3), Voroneanu Luminita (4), Hussien Hani (1), Popa Cristina (1), Alexa Ioana (1), Covic Adrian (1), Nistor Ionut (2)

(1) “Grigore T.Popa” University of Medicine and Pharmacy, Iasi, Romania, (2) “Grigore T.Popa” University of Medicine and Pharmacy, Iasi, Romania; Project Center For Innovation and Technological Transfer MAVIS, Iasi, Romania, (3) “Grigore T.Popa” University of Medicine and Pharmacy, Iasi, Romania, (4) “Grigore T.Popa” University of Medicine and Pharmacy, Iasi, Romania

**Background and Aims:** The number of older people in Europe is expanding. Although chronic kidney disease (CKD) becomes more common with increasing age, data concerning epidemiology of CKD in older people are scarce, especially in Eastern Europe countries. These patients have multiple chronic conditions that must be correctly quantified for guiding risk stratification and subsequent management. Previously, European Renal Best Practice (ERBP) guidelines shed some light on managing older patients with advanced CKD, by stimulating the implementation of validated tools for predicting the most critical risks (death and progression to end-stage renal disease). Risk stratification can further inform decisions about the intensity of care (dialysis versus conservative treatment). In the current analysis, we aimed to fill the gap in CKD epidemiology in older people from Romania by describing a large population of hospitalized geriatric patients.

**Method:** In this retrospective cohort study, we included all patients aged  $\geq 65$  years hospitalized in the Geriatric Department of “Dr. C. I. Parhon” Hospital from Iasi, Romania, between 2012–2022. This Geriatric Unit covers the entire North-East region of the country, so patients are representative of a population of almost 4 million people. CKD was identified as decreased estimated glomerular filtration rate ( $< 60$  ml/min/1.73 m<sup>2</sup>) according to CKD-EPI equation. We investigated comorbid conditions including diabetes mellitus, hypertension/hypertensive heart disease, coronary artery disease, congestive heart failure, atrial fibrillation, chronic respiratory failure and anemia.

**Results:** 3563 geriatric patients (59,2% females) were hospitalized between 2012–2022, totalling 5124 hospital admissions. The most common diagnosis was congestive heart failure (1958 cases, 38,2%) frequently due to hypertensive heart disease (877 patients, 44,8% of CHF cases). 3116 patients (87,4% of the total population) had a serum creatinine assay. Among these patients, the prevalence of CKD using the CKD-EPI equation was 32%. The mean age of CKD patients was 79 years, gender distribution was unequal (63,4% females) and almost half of them (49,1%) had stage 3a CKD. The most frequent comorbidities in patients with CKD were congestive heart failure (33%), diabetes (19%) and hypertension (17%), followed by atrial fibrillation (11%), chronic respiratory failure (9%), coronary artery disease (6%) and anemia (3%). The distribution of CKD patients stratified by the number of comorbidities showed that 86,7% had  $\geq 2$  comorbidities. The largest CKD subgroup was the one that associated three comorbidities (315 patients, 31,5%), followed by two subgroups that had two comorbidities (249 patients, 24,9%), respectively four comorbidities (189 patients, 18,9%). Only a minority of CKD patients (24 adults, 2,4%) had no other chronic condition.

**Conclusion:** With the ageing of the population, cardiovascular disease is becoming more common. In our population of geriatric patients, heart failure was the leading cause of hospitalization and the most frequent comorbid condition in CKD patients. One in three adults  $\geq 65$  years had CKD, a finding similar to other literature data. We emphasized that in older adults, CKD is not an isolated entity,

which makes caring for these patients challenging, especially if we add the negative impact of other superimposed geriatric syndromes like frailty and cognitive decline.

## P-731

### Possible relationship between vitamin D deficiency and Clostridium difficile diarrhea

Yanira Aranda Rubio (1), Luis Ruiz (2), Raquel Fuentes (3), Pablo Montejano (3), Pilar Tejada (3), Olga Tornero (3), Francisco Javier Gómez Pavón (1)

(1) geriatrician (Hospital Cruz Roja), (2) microbiologist (Hospital Cruz Roja), (3) pharmacologist (Hospital Cruz Roja)

Vitamin D is a necessary nutrient. It helps prevent osteoporosis and is essential for the immune system to fight bacteria and viruses that attack it. *C. difficile* bacteria are found in the environment, but people commonly only become infected with *C. difficile* when they are taking antibiotics. Retrospective observational study to see the influence of vitamin D levels and clostridium difficile (CD) infection, in patients admitted to a Geriatrics unit.

**Methods:** The medical records of 50 geriatric patients admitted in recent years were reviewed and the vit D levels of 158 geriatric patients admitted for other causes were compared, between 2020 and 2023. The data were processed with the statistical package Stata 13.

**Results:** The mean age of the 50 CD-positive patients was 88.56 years and that of the 158 patients 87.35. The mean vit D in the CD group was 22.64  $\pm$  14.08 ng/ml and in the control group 29.43  $\pm$  22.07 ng/ml. The p-value corresponding to Student’s t-test is 0.0422. These values indicate that there is a statistically significant difference in vitamin D levels between the two groups.

**Conclusions:** The data point to the fact that low vitamin D level may have an influence on the occurrence of CD infection. It would be necessary to increase the number of patients, as well as to study other factors such as previous antibiotic treatment, polypharmacy, to confirm these data.

## P-732

### Intersectionality and emergency department visits in Pelotas, Southern, Brazil, 2021–2022: The EAI Pelotas Cohort

Felipe Mendes Delfino (1), Sandro R Rodrigues Batista (2), Bruno Pereira Nunes (3)

(1) Federal University of Pelotas, Pelotas, Brazil., (2) Federal University of Goias, Goiânia, Brazil, (3) Federal University of Pelotas, Pelotas, Brazil

**Introduction:** Emergency departments (ED) are often overcrowded, and their utilization is associated with various factors, including sociodemographic characteristics. This study evaluated the Jeopardy Index about to with concern ED utilization (public and private emergency services among older adults (60+) from the EAI PELOTAS cohort study in Brazil.

**Methods:** A jeopardy index (intersectionality variable) was created based on gender, skin color, education, and wealth, with a score ranging from 0 (most privileged group: male, white, high education, and high wealth) to 8 (less privileged group: female, non-white, low education, and low wealth). The ED utilization was assessed after one year of baseline and it was categorized as public (1 municipal emergency room, four emergency care units, and the national emergency mobile care service) and private (emergency care units and

private mobile care). The results were reported as the Relative Risk (RR) and respective 95% confidence interval (95% CI) obtained by Poisson regression.

**Results:** The prevalence of public and private services utilization was 35.4% and 14.5%, respectively. The use of public services was higher among less privileged individuals. Females, non-white, low education and low wealth used 4.23 (95% CI 1.27; 14.0) more public services (44.1%) than the most privileged individuals (10.4%). On the other hand, the use of private services was 47.5% among the most privileged individuals and 5.5% among their counterparts.

**Key Conclusions:** The results showed a widespread inequality in the risk ED utilization. The emergency network in Brazil should consider these differences to organize the health system, especially in primary care.

### P-733

#### Multimorbidity among the elderly attended the municipal emergency room in Pelotas, Southern Brazil, 2021

Paula Viana Stolz (1), Sandro R Rodrigues Batista (2), Bruno Pereira Nunes (1)

(1) Federal University of Pelotas, Pelotas, Brazil, (2) Federal University of Goiás, Goiânia, Brazil

**Introduction:** Population aging is observed in several countries, directly interfering in health systems. A consequence of this phenomenon is the high prevalence of multimorbidity among the elderly, which is directly related to a higher risk of mortality, reduced quality of life, and more frequent use of health services such as urgency and emergency. The aim of the study was to measure the prevalence of multimorbidity among older adults who used a public emergency room during the pandemic period.

**Methods:** Between May and August 2021, a cross-sectional epidemiological study was conducted with 1,186 elderly people attending the emergency service in the municipality of Pelotas, RS, Brazil. The morbidities were evaluated based on self-reported medical diagnoses. A descriptive analysis was performed.

**Results:** Of the total, 43.5% of the elderly were between 60 and 69 years old, and 51.2% were male. The most prevalent chronic diseases were hypertension (61%), heart failure (32%), diabetes mellitus (28%), back problems (18%), and depression (17%), in men; and hypertension (70%), diabetes mellitus (35%), depression (35%); heart failure (33%), and back problems (23%), in women. The prevalence of multimorbidity was 75.5% (95% CI 72.8; 78.1) for  $\geq 2$  and 19.3% (95% CI 17.0; 21.9) for  $\geq 5$  morbidities. Multimorbidity was associated with being female, elderly, widowed, bedridden, and having had acute diseases in the last year (stroke, influenza, and pneumonia, for example).

**Conclusions:** The results evidenced the high prevalence of multimorbidity in the elderly population who attended public urgent and emergency services during the pandemic period.

### P-734

#### Expectations of Multimorbid Patients and their Relatives towards APN-Care—A Quantitative Study

Renate Stemmer (1), Joachim Klein (1)

(1) Catholic University of Applied Sciences Mainz

**Introduction:** Unlike many other countries, advanced practice nurses (APNs) are not yet deployed in general practitioner (GP)

practices in Germany. The research project ‘Case-based care of multimorbid patients in general practices by advanced practice nurses’ is examining the care of multimorbid patients by APNs in GP practices in Germany. Since October 2021, nine APNs in one practice each are providing individual care for patients with at least 3 chronic diseases. The aim of this study is to analyse the expectations of multimorbid patients and their relatives towards APN care.

**Methods:** Design: cross-sectional study; instruments of data collection: project specific questionnaires with three scales (knowledge, care, cooperation) and 17 items; time of data collection: t0, from October 2021—September 2022; samples: patients (n = 217), relatives (n = 170); data analysis: descriptive and analytical statistics (t-tests, variance analyses) .

**Results:** 88% of patients are > 70 years; 82% of relatives are  $\leq$  70 years; main expectations: increasing knowledge about health: patients value: 79,5 (on a scale with 100 being the best possible rating); relatives value 77,2; better medical and nursing care: patients value 73,7; relatives value 77,5; better cooperation with GP practice: patients value 74,1; relatives value 79,7. There are no significant differences between the two views in any single specific area.

**Key Conclusion:** Patients and relatives have high and similar expectations of care provided by APNs, indicating a lack of appropriate care for multimorbid patients in primary health care and confidence in APN competencies.

#### Reference:

(1) Maier, C., Aiken, L., & Busse, R. (2016). Nurses in advanced roles in primary care: Policy levers for implementation OECD Health Working Papers, No. 98 [https://www.oecd-ilibrary.org/social-issues-migrationhealth/nurses-in-advanced-roles-in-primary-care\\_a8756593-en](https://www.oecd-ilibrary.org/social-issues-migrationhealth/nurses-in-advanced-roles-in-primary-care_a8756593-en).

### P-735

#### The elderly patients with hypertension slightly controlled from therapy: role of ultrasound in the multidimensional geriatric evaluation

Vito Carrieri (1), Grazia Angone (2)

(1) Casa di Cura Prof. Petruccianni Lecce Italy, (2) Casa di Cura Salus Brindisi Italy

**Introduction:** The aim of the study is to evaluate if in the elderly patients with hypertension slightly controlled from therapy, the complete preliminary evaluation with Ultrasound and Doppler allows to prescribe a more appropriate and effective therapy.

**Materials and Methods:** 120 elderly obese patients (65—85 years old, 73 women and 47 men) with hypertension, were studied. They were divided in two groups: one group of 60 patients in which a preliminary ultrasound evaluation of the kidneys, thyroid, abdominal organs, Doppler of neck vessels and renal vessels was performed and another group of 60 patients homogeneous for sex and age in which the therapy for hypertension was prescribed before the ultrasound evaluation, which was however carried out in the following weeks, with therapy for hypertension already in progress.

**Results:** In the group of 60 elderly patients in which the therapy for hypertension was established early, after the clinical and cardiological evaluation, but without abdominal, renal and doppler preliminary evaluation, within 10 days of monitoring blood pressure values, in 40 elderly patients (67% of cases) the physician modified the number and the dose of drugs in order to obtain satisfactory blood pressure control. The team of specialists in geriatrics, nephrology and cardiology, therefore spent more time (+ 7 days), more resources and more drugs (+ 30%) to treat effectively the elderly patients in which the initial therapeutic prescription was then modified consequently to the new

data obtained from the abdominal, renal, thyroid ultrasound and doppler of the renal and neck vessels. The hospitalization of elderly patients was 50% longer in order to perform an adequate blood pressure monitoring and to obtain normal blood pressure values. Discussion and .

**Conclusions:** Our data show that in the elderly patients whit hypertension should be performed, in addition to traditional cardiological and clinical evaluation, also an accurate and complete diagnostic ultrasonographic evaluation with US abdominal, renal, thyroid and Doppler US, in order to prescribe an appropriate and effective treatment of hypertension. The elderly patients have many diseases and take many drugs and they often are hospitalized for drug interactions and side effects. The multidimensional geriatric evaluation of elderly patients with hypertension should be performend associated with Ultrasound and Doppler evaluation in order to prescribe the more appropriate and the more effective therapy. In conclusion a multidisciplinary program of therapeutic elderly patients and families education should be associated with US evaluation in order to prevent complications of hypertension and to detect early associated diseases, to obtain elderly patients compliance and improving the quality of life.

### P-736

#### Evaluation of sleep in a Multidisciplinary Outpatient Clinic

Marilia Fernandes (1)

(1) Unidade de Geriatria Centro Hospitalar Universitário Lisboa Central

**Introduction:** A good night's sleep improves cognitive and emotional functioning and is essential for immunological, metabolic, and endocrine homeostasis specially in the elderly.

**Objective:** Evaluate the quantity and quality of sleep, with the Epworth Sleepiness Scale and the Pittsburgh Sleep Quality Index in geriatric patients.

**Methods:** Observational cross-sectional study, carried out by completing a questionnaire and evaluation of the electronic file in an Outpatient Geriatric Multidisciplinary Clinic.

**Results:** Of the 59 patients included, with an average age 82.9years, 32 (54.2%) female, IMC 27.41 kg/m<sup>2</sup>. Average CFS2.17, average diseases 6,67 (14 patients heart failure; 5prostate hyperplasia; 24diabetes; 14obesity; 7depression/dementia) and average medication 8,14. Average bedtime was at 23.17h, average sleep latency 26.55 min and waking up time average at 8.39h. Sleep quality was considered very good in 3 patients, good in 44 (74.6%) and bad in 8 patients. Causes for sleep disturbance  $\geq 3$  times/week, were mainly, use of the bathroom 36 (61,01%) or wake in the middle of the night 32 (54.23%). Only 11 (18.6%) were taking medicine to help sleep at least once a week, and 7 (1.8%) had trouble staying awake while engaging in social activity. Epworth Sleepiness Scale  $\geq 10$  in only 6 patients with high probability of sleeping in mainly watching television:11 or reading:8 or in an after-lunch nap:14patients.

**Discussion:** It is important to raise awareness that inadequate sleep has a substantial impact on the patient's and family's quality of life. Sleep deprivation is a risk factor for cognitive decline, weight gain, diabetes, and cardiovascular disease as well as mood and behavior conditions.

### P-737

#### Sleep quality in Geriatric Patients

Marilia Fernandes (1), Carla Barbosa (1), Manuela Barão (1), Manuela Campos (1), Carla Gonçalves (1), Maria Saldanha (1), Ricardo Silva (1), Ana Sebastião (1), Ana Lourenço (1), Dinis Costa (2), Catarina Silva (2), Liliana Maçorano (2), Heidi Gruner (1)

(1) Unidade de Geriatria, Centro Hospitalar UNiversitário Lisboa Cental, (2) Nova Medical School

**Introduction:** A good night's sleep improves cognitive and emotional functions and is essential for immunological, and endocrine homeostasis specially in the elderly.

**Objective:** To evaluate the quantity and quality of sleep, using the Epworth Sleepiness Scale (ESS) and the Pittsburgh Sleep Quality Index in geriatric patients followed at a geriatric multidisciplinary outpatient clinic (GMOC).

**Methods:** Observational cross-sectional study, carried out by completing a questionnaire and analysis of medical records at a GMOC.

**Results:** Among the 59 patients included, the mean age was 82.9 years, with 54.2% of them being female. The mean score on clinical frailty scale was 2.2, and the number of comorbidities 6.7, with 24 of patients having diabetes, 14 heart failure, 14 obesity (overall mean body mass index 27.4 kg/m<sup>2</sup>), 7 depression or dementia, and 5 benign prostatic hyperplasia. The mean number of drugs was 8.1, with less than one fifth (18.6%) of patients taking sleeping drugs at least once a week. The mean bedtime was at 11.17 p.m. and waking-up time at 8.39 a.m., with a mean sleep latency of 26.6 min. Regarding the sleep quality, most of the patients (74.6%) classified it as good, with 13.6% saying it was bad. The causes more commonly pointed for sleep disturbance  $\geq 3$  times/week were the use of the toilet (61.0%) or waking in the middle of the night (54.2%). A punctuation  $\geq 10$  on ESS was only verified in six patients. Eleven patients reported a high probability of sleeping while watching television, 8 while reading, and 14 admitted taking a nap after lunch. Seven patients have mentioned troubles with staying awake while engaging in social activities.

**Discussion:** Inadequate sleep has a substantial impact on patient's and family's quality of life. Sleep deprivation is a risk factor for cognitive decline, weight gain, diabetes, and other cardiovascular diseases, as well as mood and behaviour conditions.

### P-738

#### Estimating morbidity communities by network analysis among older adults in the Brazilian Longitudinal Study of Aging (ELSI-Brazil)

Sandro R Rodrigues Batista (1), Renato Rodrigues Silva (2), Valéria Pagotto (3), Bruno Pereira Nunes (4), Rafael Alves Guimarães (3)

(1) School of Medicine, Federal University of Goiás, Goiânia, Brazil, (2) Institute of Mathematics and Statistics, Federal University of Goiás, Goiânia, Brazil, (3) School of Nursing, Federal University of Goiás, Goiânia, Brazil, (4) Department of Nursing in Public Health, Federal University of Pelotas, Pelotas, Brazil

**Introduction:** Multimorbidity (MM), the presence of multiple chronic diseases in the same individual, is a complex clinical issue. However, evidence about the grouping and interrelationships of morbiditis is scarce. The aim of this study was to estimate clusters of MM and measure the interrelationships among these diseases and older Brazilians using network analysis.

**Methods:** We conducted a cross-sectional analysis with 5,206 older Brazilians (> 60 years) from the Brazilian Longitudinal Study of Aging (ELSI-Brazil) first wave (2015–2016). MM was evaluated based on self-reported morbidities from a list of 16 physical and mental morbidities. According to sex, MM was analysed considering the presence of  $\geq 2$  morbidities. Network analysis (NA) was performed to estimate clusters of MM and assess the complex relationships between these morbidities. Node-specific centrality measures were analysed to understand the interrelationships among these diseases.

**Results:** The prevalence of multimorbidity and mean number of diseases or chronic conditions in women were 82.2% (79.9–84.2) and 3.4 (3.4–3.5), while in men they were 67.6% (64.8–70.2) and 2.5 (2.4–2.6). Network analysis has demonstrated 4 MM clusters for women (cardiometabolic, cancer, and depression; ophthalmic and musculo-skeletal; neurological; and respiratory). Among men, there were 4 MM clusters (cardiometabolic and depression; neurological; respiratory; and musculoskeletal) and 2 isolated morbidities (cancer and ophthalmic problems). Depression and heart problems were the most central morbidities in the model according to nodes' centrality measures (strength, closeness, and betweenness) among women, while in men, back problems and heart problems played this role.

**Key Conclusions:** There are differences between the networks of morbidities in the Brazilian elderly that need to be considered in the care and development of public policies for older people.

## P-739

### Subjective cognitive decline in adults over 50 years and elderly living with multimorbidity: evidence from the Brazilian Longitudinal Study of Aging (ELSI-Brazil)

Sandro R Rodrigues Batista (1), Nathan Luiz Gonçalves Leão (1), Samara Cristina de Melo Nogueira (1), Sayuri Yamaguchi de Melo (1)

(1) School of Medicine, Federal University of Goiás, Goiânia, Brasil

**Background:** Recent studies have shown an association between chronic disease and cognitive decline, but the relationship between multiple chronic conditions in this issue is unclear. Our study aimed to analyse the association between subjective cognitive decline and multimorbidity' variables (occurrence and patterns) in Brazilians aged 50 years and over.

**Methods:** Data from 9,412 participants aged  $\geq 50$  years sourced from the baseline of the Longitudinal Study of the Health of Older Brazilian Adults were analysed. Subjective cognitive decline (SCD) was the outcome variable and was calculated according to the recommendations of the Subjective Cognitive Decline Initiative Working Group. Multimorbidity was assessed by a list of 14 self-reported health conditions and categorised into  $\geq 2$  conditions. The calculation of frequencies and the most frequent 10 dyads and triads of diseases were performed and analysed according to the occurrence of SCD.

**Results:** A total of 2,749 adults aged over 50 and elderly were included in this study after the necessary steps were taken to exclude potential confounding factors for SCD. The occurrence of SCD was 27.1 (95% CI 24.7–29.7). The highest prevalence was observed among women (31.8%), in people with less scholarly (64.3%), and in rural residents (37.5%). Among the participants, the prevalence of MM was 62.9% (95% CI 59.5–66.1). The occurrence of SCD in the MM group was 31.4% (95% CI 28.5–34.4) compared to 19.9% (16.8–23.3) in the no MM group. A higher occurrence of SCD was observed in individuals with arthritis/rheumatism and ophthalmological problems [OR: 1.75; 95% CI 1.26–2.43], back problems and

ophthalmological problems (OR: 1.68; 95% CI 1.36–2.08), dyslipidemia and ophthalmological problems (OR: 1.62; 95% CI 1.23–2.12), arthritis/rheumatism and back problems (OR: 1.57; 95% CI 1.14–2.15), hypertension and ophthalmological problems (OR: 1.51; 95% CI 1.16–1.96) when compared to those without these dyads. Among the triads, arthritis/rheumatism, osteoporosis, and back problems were followed by osteoporosis, back problems, and ophthalmological problems and arthritis/rheumatism, back problems, and ophthalmological problems were those with higher associations with SCD, respectively, 2.26 (1.45–3.53), 2.21 (1.50–3.23), and 1.84 (1.30–2.60).

**Key Conclusions:** Our study demonstrated an association between SCD and MM, especially for specific patterns of MM.

## P-740

### Associations between hospitalisation with multimorbidity patterns by age and sex in adults and older adults: ELSI-Brazil study

Luciana Pereira Rodrigues (1), Diego Galdino França (2), João Ricardo Nickenig Vissoci (3), Nayara Malheiros Caruzzo (2), Sandro R Rodrigues Batista (4), Cesar Messias de Oliveira (5), Bruno Pereira Nunes (6), Erika Aparecida Silveira (4)

(1) Graduate Program in Health Sciences, School of Medicine, Federal University of Goiás, Goiânia, Brazil, (2) State University of Maringá, Maringá, Brazil, (3) Duke Global Health Institute, Duke University, Durham, NC, USA, (4) School of Medicine, Federal University of Goiás, Goiânia, Brazil, (5) Department of Epidemiology and Public Health, University College London, London, UK, (6) Department of Nursing in Public Health, Federal University of Pelotas, Pelotas, Brazil

**Introduction:** Although the association between multimorbidity (MM) and hospitalisation is known, the different effects of MM patterns by age and sex on this outcome need to be elucidated. Our study aimed to analyse the association between hospitalization variables (occurrence, readmission, length of stay) and patterns of multimorbidity (MM) according to sex and age.

**Methods:** Data from 8,807 participants aged  $\geq 50$  years sourced from the baseline of the Longitudinal Study of the Health of Older Brazilian Adults were analysed. Multimorbidity was defined as  $\geq 2$  (MM2) and  $\geq 3$  (MM3) chronic conditions. Poisson regression was used to verify the association between the independent variables and hospitalisation according to sex and age group. Multiple linear regression models were constructed for the outcomes of readmission and length of stay. Ising models were used to estimate the networks of diseases and MM patterns.

**Results:** Regarding the risk of hospitalisation among those with MM2, we observed a positive association with male sex, age  $\geq 75$  years, and women aged  $\geq 75$  years. For MM3, there was a positive association with hospitalisation among males. For the outcomes of hospital readmission and length of stay, we observed a positive association with male sex and women aged  $\geq 75$  years. Network analysis identified two groups that are more strongly associated with the occurrence of hospitalisation: the cardiovascular–cancer–glaucoma–cataract group stratified by sex and the neurodegenerative diseases–renal failure–haemorrhagic stroke group stratified by age group.

**Key Conclusions:** We conclude that the association between hospitalisation, readmission, length of stay, and MM changes when sex and age groups are considered. Differences were identified in the MM patterns associated with hospitalisation according to sex and age group.

**P-741****Multimorbidity, health service utilization and regular source of primary care among Brazilian elderly**

Sandro R Rodrigues Batista (1), Paulo Cesar Brandão Veiga Jardim (1), Ana Luiza Lima Sousa (2), Bruno Pereira Nunes (3)

(1) School of Medicine, Federal University of Goiás, Goiânia, Brazil, (2) School of Nursing, Federal University of Goiás, Goiânia, Brazil, (3) Department of Nursing in Public Health, Federal University of Pelotas, Pelotas, Brazil

**Introduction:** In aging populations, multimorbidity (MM) is a complex challenge to health systems. Although regular source of primary care (RSPC) is associated with better health outcomes, its effects on health service utilization in elderly patients with MM are scarce. Our objective was to analyze the influence of RSPC on health service utilization among elderly Brazilians with MM.

**Methods:** A national cross-sectional study performed with data from national representative samples (11,177 elderly people) from the Brazilian National Health Research (PNS, in Portuguese; Pesquisa Nacional de Saúde), held in 2013. MM was evaluated using a list of 16 physical/mental morbidities and analyzed using 0 or 1 (MM0), > 2 (MM2), ≥ 3 (MM3), and physical-mental (MMPM) morbidities. The RSPC was analyzed by the presence of regular font of care in primary care and health service utilization according to the demand for health services ≤ 15 days, medical consultation ≤ 12 months, and hospitalization ≤ 1 year.

**Results:** Higher prevalence of MM was observed (MM2, 58.6%; MM3, 36.4%; MMPM, 12.2%). Regardless of the cut-off point, we observed that individuals with MM had higher utilization of health services. Medical consultation ≤ 12 months was more frequent in MM3 (95.29%) than in MM2 (92.59%), and hospitalization ≤ 1 year was more frequent in MMPM (19.85%) than in MM2 (13.56%). RSPC was present at 36.54% and was higher in women (37.78% vs. 34.95%). The lowest occurrence of hospitalization ≤ 1 year occurred among individuals with MM2 and RSPC compared to those without RSPC, which was also observed in MM3.

**Key Conclusions:** Our findings demonstrate that RSPC can be an important component of care in elderly patients with multimorbidity, mainly because can reduce the incidence of hospitalization.

**P-742****Obesity and Hypertension in elderly diabetic patients associated with hepatic steatosis: role of Ultrasonography**

Vito Carrieri (1), Grazia Angone (2)

(1) Casa di Cura prof. Petrucciani Lecce Italy, (2) Casa di Cura Salus Brindisi Italy

**Introduction:** The aim of the study is to verify if in elderly diabetic patients (age 65 years), with or without obesity and with ultrasound diagnosis of hepatic steatosis, hypertension develops in 24 months of follow up. Materials and .

**Methods:** Two homogeneous groups of 120 diabetic patients (65 years old, 60 women and 60 men), with normal blood pressure, one group with BMI > 28 and another group with normal BMI were compared. 24 h blood pressure test was performed for monitoring patients every 3 months. The clinical evaluation of diabetes and ultrasound abdominal and renal examination was performed every 6 months. Body weight was checked every month. All patients had a follow up of two years.

**Results:** Ultrasound detected hepatic steatosis in 75% of obese patients and in 30% of patients with normal weight. In the group of obese patients with US diagnosis of hepatic steatosis, after two years follow up, hypertension was detected in 80% of the patients and in all these patients that became hypertensive the body weight was unchanged while none of patients with US diagnosis of hepatic steatosis which achieved weight reduction showed hypertension. In the group of patients with US hepatic steatosis and normal weight after two years follow up was not detected hypertension. In the group of obese patients US detected normal liver in 25% of cases but, after two years follow up, 80% of these became hypertensive patients and in all these patients the body weight was unchanged. Discussion and .

**Conclusions:** Our data show that the obese diabetic patients, with or without US diagnosis of hepatic steatosis, have a higher probability of developing hypertension if the body weight is unchanged or increased in the two years follow up. US findings of hepatic steatosis in the normal weight patients are not associated with higher probability of developing hypertension. The hepatic US should be performed in all obese diabetic patients and the US diagnosis of hepatic steatosis in obese and diabetic patients with hypertension confirms the need of implement the multidisciplinary program of therapeutic patients and families education in association with clinical evaluation. It is essential that the obese diabetic patients follows an adequate diet and adopts a suitable lifestyle in order to avoid also diseases related to hypertension and multimorbidity. US evaluation and follow up allows the appropriate management in all patients with multimorbidity.

**P-743****Multidimensional Aspects of Elderly People with Multimorbidity Correlated with Frailty Syndrome**

Popescu Ana (1), Gabriela Soric (1), Felicia Lupascu-Volentir (1), Anotlie Negara (1), Ana Popa (1)

(1) Scientific Laboratory of Gerontology, SUMPh "Nicolae Testemitanu", Republic of Moldova

**Background:** Multimorbidity is a major component of frailty syndrome (FS), both being considered as strong predictors of disability and death in older people, chronic conditions may cause a functional and cognitive decline in the elderly. The purpose. Assessment of the particularities of multimorbidity in the context of FS in the elderly to identify informative value indices.

**Methods:** The epidemiological study included 507 elderly (72.70 ± 0.26 years), the respondents were examined according to the complex geriatric assessment (EGC) - (Katz, Lawton, Tinetti—functional, MMSE—cognitive, mini-DGS—depression) and the FS—by Fried criteria, SPPB—physical performance, Charlson Comorbidity Index (CCI) .

**Results:** The elderly included into the study had an average of 3.96 conditions, according to the results of FS screening, they were divided into 3 groups: robust elderly people—23.07%, pre-frail people—29.39% and frail elderly—47.54%. Frail elderly had 4.26 conditions, CCI—4.7 ± 0.12, Katz—9.67 ± 0.14, Lawton—10.82 ± 0.25, Tinetti—17.63 ± 0.25, MMSE—23.85 ± 0.41, GDS—7.6 ± 0.21, SPPB—5.9 ± 0.19, had substantial functional and autonomy limitations and high depressive and emotional symptomatology with worsening cognitive performance. Pre-frail elderly had 3.8 conditions, CCI—3.8 ± 0.12, Katz—11.30 ± 0.09, Lawton—13.89 ± 0.20, Tinetti—22.22 ± 0.35, MMSE—25.55 ± 0.26, GDS—4.8 ± 0.23, SPPB—9.04 ± 0.20. Robust elderly had 3.4 conditions, CCI—3.5 ± 0.20, Katz—11.12 ± 0.20, Lawton—14.95 ± 0.18, Tinetti—24.44 ± 0.42, MMSE—27.05 ± 0.32, GDS—2.0 ± 0.23, SPPB—10.97 ± 0.23.

**Conclusion:** The results of the study reveal that multimorbidity is a major component of FS and it is associated with a decline of the functional and emotional status in the elderly.

**Key-words:** multimorbidity, frailty syndrome, functional, elderly.

## P-744

### Multimorbidity and Iatrogeny Correlated with Frailty Syndrome in the Elderly

Popescu Ana (1), Gabriela Soric (1), Felicia Lupascu-Volentir (1), Anotolie Negara (1), Ana Popa (1)

(1) Scientific Laboratory of Gerontology, SUMPh "Nicolae Testemitanu", Republic of Moldova

**Background:** Frailty syndrome (FS) refers to the elderly prone to frequent decompensations that occur at minimal demands with the onset of an increased state of vulnerability and negative prognosis. Morbidity and iatrogeny may determine the development of FS. The purpose. Assessment of the particularities of multimorbidity, iatrogeny correlated with FS in the elderly to identify informative value indices.

**Methods:** The epidemiological study included 241 elderly ( $74,47 \pm 0,26$  years), the respondents were examined according to complex geriatric assessment (CGA) - Katz, Lawton, Tinetti, MMSE, GDS, MNA, SARC-F, SPPB, Charlson Comorbidity Index (CCI) and the FS-by Fried criteria.

**Results:** According to the CGA: CCI- $4.7 \pm 0.12$ , Katz- $9.67 \pm 0.14$ , Lawton- $10.82 \pm 0.25$ , Tinetti- $17.63 \pm 0.25$ , MMSE- $23.85 \pm 0.41$ , GDS- $7.6 \pm 0.21$ , SPPB- $5.9 \pm 0.19$ , SARC-F- $5,74 \pm 0,14$ , MNA- $21,20 \pm 0,24$ , resulting a functional decline, decreased autonomy and severe physical limitations with depression and cognitive decline. Frail elderly presented mainly low physical activity, fatigue, decreased walking speed, had an average of 4.26 conditions, treatment administered caused iatrogenic pathology in 39,83% cases. The impact of comorbidity on the functionality of the elderly was demonstrated by the Pearson correlation method, thus, the mean values of the Charlson score had a mean direct correlation with the mean values of the MNA score ( $r = 0.43$ ;  $p < 0.05$ ), SARC-F ( $r = 0.58$ ;  $p < 0.05$ ), GDS ( $r = 0.53$ ;  $p < 0.05$ ), a significant indirect correlation with mean Katz ( $r = -0.48$ ;  $p < 0.05$ ), Lawton ( $r = -0.48$ ;  $p < 0.05$ ), MMSE score values ( $r = -0.43$ ;  $p < 0.05$ ).

**Conclusion:** Multimorbidity and iatrogeny are major components of frailty syndrome (FS), both being considered as strong predictors of disability and death in older people, chronic conditions may cause a functional and cognitive decline in the elderly. Key-words: multimorbidity, frailty syndrome, iatrogeny, elderly.

## P-745

### Sarcopenia, obesity and sarcopenic obesity—association with dietary nutrient intake in Polish community-dwelling older people

Marika Murawiak (1), Roma Krzyżmińska-Siemaszko (1), Katarzyna Wieczorowska-Tobis (1)

(1) Department of Palliative Medicine, Poznan University of Medical Sciences, Poznan, Poland

**Introduction:** Several previous studies showed a link between dietary nutrient intake and the progression of aging-related body composition changes that can lead to sarcopenia, obesity, and sarcopenic obesity

(SO) in older adults. We aimed to assess the prevalence of these conditions and their association with dietary nutrient intake.

**Methods:** 150 community-dwelling older adults ( $\geq 60$  years) were included in this analysis (mean age  $72.9 \pm 7.28$ ; 66.0% women). Participants were divided into groups depending on their body composition phenotype. Sarcopenia was identified according to the EWGSOP2 guidelines (polish cut-off points for ALMindex), obesity based on the Percent Body Fat  $> 42\%$  in women and  $> 30\%$  in men, and SO based on modified recommendations from the ESPEN/EASO (muscle mass assessment: ALM/BMI women  $< 0.512$ ; men  $< 0.789$ ). Dietary nutrient intake was assessed by analysis of current consumption (minimum three days) using the Diet6.0 program. Consumption of nutrients was compared with the EAR (Polish National Food and Nutrition Institute recommendation).

**Results:** Sarcopenia, obesity, and SO were diagnosed in 10.0%, 35.3%, and 11.3% of participants, respectively. All subjects with abnormal body composition were deficient in calcium and vitamin D in their diet. Differences between phenotypes were noted in the consumption of protein per kg of body weight (the highest for the sarcopenia group;  $p = 0.000$ ). Sarcopenic participants had substantially lower: sodium ( $p = 0,02$ ), potassium ( $p = 0,005$ ), calcium ( $p = 0,02$ ), and zinc ( $p = 0,047$ ) intake and more frequent deficiencies in i.a.: magnesium, iron, vitamin E, C, B12 (statistically non-significant).

**Key Conclusions:** Consumption of some nutrients differed among phenotypic groups, especially sarcopenia can be associated with lower dietary intake of selected nutrients.

## P-746

### The pattern of respiratory manifestations in persons living with HIV/AIDS in the context of ante-retroviral therapy: a cross-sectional clinic based study protocol from Dar es Salaam, Tanzania

Robert Magoma (1), Yasin Mgonda (2), Khalfan Masoud (3), Warles Charles (4), Kelvin Leshabari (5)

(1) Amana Regional Referral Hospital—Dar es Salaam, Tanzania, (2) Hubert Kairuki Memorial University—Dar es Salaam, Tanzania, (3) Pulmonology Research Group-Extension (PURGE), Registered Trustee of Ultimate Family Health Care—Dar es Salaam, Tanzania, (4) Hubert Kairuki Memorial University, (5) Ageing Research Group, Registered Trustees of Ultimate Family Healthcare

**Background:** HIV infection in Africa has reached a plateau phase with appreciable mortality risk reduction. However, there appears to be an epidemiological transition whereby the infection is associated with chronic debilitating conditions at the extremes of ages. Respiratory manifestations are reported as the commonest among people living with HIV. However, there are virtually no evidence of studies that tested the burden and factors associated with respiratory manifestations in persons living with HIV in Africa.

**Methods:** We did a cross-sectional study of adults living with HIV or AIDS attending or admitted in Dar es Salaam hospitals respectively. Our target population was persons living with HIV/AIDS reported any respiratory manifestation (s). Study population was all adults living with HIV/AIDS in Dar es Salaam city. Prevalence of respiratory manifestations associated with HIV/AIDS was the outcome variable. A generalized linear model was fitted after appropriate model validation. Data were analysed using SPSS software version 25. Unless otherwise stated,  $\alpha$ -level of 5% was used as a limit of type 1 error rate. All study participants provided a written informed consent prior to inclusion into the study.

**Results:** We recruited 402 participants with a mean age of 58 (S.D. =  $\pm$  12) years. Prevalence of any respiratory manifestation was 78.1%. Pneumonia (66.7%) was the reported leading respiratory diagnosis. Majority (97.9%) of study participants were on treatment for their respiratory manifestations at the time of the study. Age > 65 [AOR: 1.11, 95% CI 1.04–1.2], gender (male) [AOR: 2.3, 95% CI 1.8–2.8], CD4 + counts [AOR: 6.7, 95% CI 6.6–6.8] and viral load [AOR: 3.7, 95% CI 3.3–4.1] were significantly associated with respiratory manifestations.

**Conclusion:** Respiratory manifestations were highly prevalent among participants in this study. Pneumonia was the leading respiratory diagnosis in this cohort.

## P-747

### Hepatitis C screening rates in older adults during the COVID19 Pandemic: lessons learned from a 2-year retrospective study in Atlanta, United States

Jorge Pena Garcia (1)

(1) Emory University

**Introduction:** Hepatitis C virus (HCV) is the most common blood-borne pathogen worldwide. Primary care providers (PCP) and geriatricians have been slowly adopting HCV screening guidelines. The goal of this study is to compare the HCV screening rates pre- and during the COVID19 pandemic.

**Methods:** Patients attending our academic geriatric clinic were eligible. Patients with HCV antibody or HCV RNA testing were considered as screened, and risk factors for HCV were recorded. Screening rates, ordering physician and risk factors were compared between patients evaluated pre- (2014–2019) and during (2020–2022) the COVID-19 pandemic, using Fisher test.

**Results:** During the pandemic, 51/576 (8.85%) patients were screened (mean age 73 years, 61% females, 71% non-Hispanic/Latino). Most HCV screening tests were ordered by PCP/geriatricians (79%). The most common specialty screening for HCV was Rheumatology (27%). Human immunodeficiency virus (HIV) testing was the most common risk factor (29%). In contrast, 57/305 (18.69%) patients were screened for HCV in 2014–2019 (mean age 71 years; 35.1% males, 47.36% African Americans). Nephrology was the most common specialty ordering HCV screening (30%) and hemodialysis was the most common risk factor. No statistically significant differences were found between the two cohorts for all variables.

**Conclusion:** Despite challenges during the COVID19 pandemic (patient access, less in-office visits and vaccination-focused health care maintenance), HCV screening rates in older adults were slightly but not significantly lower during the COVID19 pandemic versus pre-pandemic times. HCV screening rates remain suboptimal overall, emphasizing the importance of quality improvement projects to enhance HCV rates among older adults.

## P-748

### Mortality in Patients with Respiratory Infection Admitted

Erwin Martin Hernandez Ocampo (1), Pablo Carmona Muñoz (1), Maria Angeles Garcia Conesa (2), Milagros Suyapa Mejia Sanchez (3), Chiara Elice Paurinotto (1), Susana Fernández Menéndez (3)

(1) Centro Socio Sanitario Bernat Jaume -Figueres (España), (2) Centro Socio Sanitario Benat Jaume -Figueres (España), (3) Centro Socio Sanitario Bernat Jaume -Figueres (España)

**Introduction:** Respiratory infection is one of the most frequent infections in patients admitted to social health centers, with a high mortality.

**Keywords:** infection, respiratory, morality  
**OBJECTIVES:** To determine the frequency of mortality in bacterial infections of the lower respiratory tract. in patients admitted to Socio Sanitario in the year 2022.

**Material and Methods:** The medical records of patients diagnosed with bacterial lower respiratory tract infections between January 1 and December 31, 2022 in the Center were reviewed. A descriptive and retrospective study was carried out.

**Results:** The patients admitted to the Health Partner in 2022 were 774, distributed 411 in convalescence, long stay 165 and palliative 198. The patients who presented respiratory infection were 81 (10.4%) : 49 (60.5%) men and 32 (39.5%) ) women, the mean age was 79.5 years. Respiratory infections that died during hospitalization were 33 (40.7%) and the patients in whom the end date of the antibiotic with death were 22 (27.1%) in whom Amoxicillin Clavulanic Acid was improved in 15 and Ceftriaxone in 5. Per unit: convalescence 33 cases of infection, 9 (27.3%) died and 5 (15.1%) coincided with the date of completion of the antibiotic and the date of death; long stay 41 cases, 16 (39%) died, 6 (14.6%) the date of completion of the antibiotic coincided with the date of death; palliative 18 cases, 14 (77.8%) died and 11 (61.1%) coincided with the end date of the antibiotic date of death.

**Conclusions:** Lower respiratory infection could be the cause of mortality in 22 (27.1%). The unit with the highest mortality rate was the palliative care unit.

## P-749

### Complications of Gastroesophageal Reflux Disease in Older People

Gabriel Ioan Prada (1), Catalina Raluca Nutu (1), Ovidiu Lucian Bajenaru (1), Ana Gabriela Prada (1), Ioana Dana Alexa (2), Adina Carmen Ilie (2), Andrei Kozma (3), Ramona Stefaniu (2), Ioana Alexandra Sandu (2), Gabriela Cristina Chelu (1), Sinziana Geor

(1) University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania, (2) University of Medicine and Pharmacy "Gr.T. Popa", Iasi, Romania, (3) Anthropology Institute of Romanian Academy "Fr.I.Rainer", Bucharest, Romania

**Introduction:** Gastroesophageal reflux disease (GERD) results when the reflux of stomach contents leads to troublesome symptoms and/or complications. Aim of the study was to identify characteristics of complications of this condition in older people.

**Material and Methods:** We carried out an observational, retrospective, analytic, case-control study on 738 subjects, age-range 50–93 years. They were divided into two groups based on chronological age, both presenting with GERD or GERD symptoms: 316 adults (50–64 years), 422 older adults (75–93 years). Patients have been evaluated by endoscopy, ultrasound investigation and Reflux Diseases Questionnaire (to assess frequency and severity of symptoms).

**Results:** Majority of patients lived in urban area. Prevalence of GERD was significantly ( $p < 0.05$ ) more prevalent in older people, especially in men. Alcohol consumption was significantly higher ( $p < 0.01$ ) in patients with GERD, irrespective of gender. Prevalence of typical GERD symptoms was significantly lower ( $p > 0.01$ ) in older people, irrespective of gender. Prevalence of heartburn and regurgitations was significantly lower ( $p < 0.01$ ) in older patients, irrespective of gender. Complications of GERD had a statistically significant higher prevalence ( $p < 0.01$ ) in older patients, especially



in men. Prevalence of complications of GERD was statistically significant higher ( $p < 0.01$ ) in older people with atypical presentation of gastroesophageal disease and higher values have been observed in older women.

**Conclusions:** Older people have a higher prevalence of GERD complications, especially those with atypical presentation of disease and this warrants a constant monitoring of the risk factors for this condition in people beyond 75 years of age.

**Keywords:** gastroesophageal reflux, complications, older people.

## P-750

### Risk Factors for Thromboembolic Disease in Older People

Gabriel Ioan Prada (1), Ovidiu Lucian Bajenaru (1), Catalina Raluca Nuta (1), Ioana Dana Alexa (2), Adina Carmen Ilie (2), Ana Gabriela Prada (1), Andrei Kozma (3), Ramona Stefanu (2), Ioana Alexandra Sandu (2), Gabriela Cristina Chelu (1), Sinziana Geor

(1) University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania, (2) University of Medicine and Pharmacy "Gr.T. Popa", Iasi, Romania, (3) Anthropology Institute of Romanian Academy "Fr.I.Rainer", Bucharest, Romania

**Introduction:** Venous thromboembolism (VTE), a major global health problem, with pulmonary embolism (PE) being most common cause of preventable death in hospitalized patients. Study objective was to identify specific patterns of risk factors for VTE in elderly.

**Materials and Methods:** We carried out a retrospective, observational, case-control study. 951 subjects, age-range 48–94 years, were included, all with chronic venous disease (CVD). They were divided into two groups: 425 adults (44–64 years), 526 elderly (75–94 years). CEAP classification was used.

**Results:** Highest prevalence of CVD complications was identified in elderly from rural area, irrespective of gender, deep venous thrombosis reaching statistical significance ( $p < 0.05$ ). Patients from urban areas had highest prevalence of risk factors for VTE. Older women that cumulated at least 3 risk factors for VTE had highest prevalence, differences being statistically significant ( $p < 0.05$ ). Concomitant presence of at least 5 risk factors for VTE was identified only in elderly, without significant difference between genders. Prevalence of complications of CVD was higher in subjects with increased Body Mass Index, especially in older women with obesity. Highest prevalence of complications was noticed in diabetic patients with poor control of glycaemia ( $HbA1c > 7.5\%$ ). Diabetic patients who smoked had the highest prevalence of complications, especially if they were  $> 75$  years and of feminine gender, differences being statistically significant ( $p < 0.05$ ). Elderly with high CEAP class cumulated over 5 risk factors for VTE.

**Conclusions:** Identification and management of risk factors for VTE is extremely important in older people with comorbidities.

**Key words:** venous thromboembolism, risk factors, comorbidities.

## Nutrition

### P-751

#### Contribution of energy, protein intake and the interaction with physical activity to transitions between frailty states: prospective analysis of the UK Biobank

Nuno Mendonça (1), Ana M Rodrigues (1), Ana R Henriques (1), Helena Canhão (1), Armando Raimundo (2)

(1) EpiDoC Unit, CHRC, NMS, UNL, Lisboa, Portugal, (2) Departamento de Desporto e Saúde, Escola de Ciências e Tecnologia, UE, Évora, Portugal

Frailty is defined as an increased vulnerability or failure to return to homeostatic equilibrium after a stressor event increasing the risk of dependency, care home admission, hospitalisation, and death. The frailty phenotype is defined by five criteria: muscle weakness, slow walking speed, low activity, exhaustion, and unintentional weight loss. Malnutrition is central to all these criteria. Provision of adequate energy and dietary protein could therefore be a viable strategy to modulate the progression of frailty in older adults by slowing down the progressive loss of muscle mass and physical function. Equally, physical activity has a direct beneficial effect on muscle strength and mass, as well as several other benefits on the endocrine, respiratory, and cardiovascular systems. Expert groups have suggested that protein and physical activity have a synergistic protective effect on age-related loss of muscle strength and muscle mass. Therefore, we aim to determine whether an adequate energy, higher protein, and physical activity have a protective effect against frailty, above and beyond each individual exposure. Our analytic sample will include more than 350,000 participants from the UK Biobank aged 50 and over at baseline. Participants were followed up to 9–13 years. Dietary intake was estimated via the Oxford WebQ at baseline and follow-up. Physical activity was collected via a self-reported physical activity questionnaire. Participants were assigned the current frailty state (robust, pre-frail, frail) or absorbing state if that was the case (death or censored). Transitions between states and to death will be modelled by multi-state models.

### P-752

#### Inflammation is associated with low food intake independently from comorbidity in older adults

Manuel Sanchez (1), Charlotte-Marie Stordeur (2), Marion Bedbeder (3), Antoine Dureau (4), Emmanuelle Di Valentin (2), Sonia Dell'Agnese (2), Emmanuelle Paris (5), Christine Chansiaux-Bucalo (5), Pauline Courtois-Amiot (2), Agathe Raynaud-Simon (1)

(1) Department of Geriatric Medicine, APHP.Nord Bichat Beaujon Bretonneau Hospitals, Paris, France and Faculty of Medicine, Paris Cité University, Paris, France, (2) Department of Geriatric Medicine, APHP.Nord Bichat Beaujon Bretonneau Hospitals, Paris, France, (3) (Department of Geriatric Medicine, APHP.Nord Bichat Beaujon Bretonneau Hospitals, Paris, France, (4) Department of Geriatric Medicine, APHP Rothschild Hospital, Paris, France, (5) Department of Geriatric Medicine, Rives de Seine Hospital, Courbevoie, France

**Rationale:** Inflammation is associated with low appetite and food intake. We aimed to determine if this association was dependent on comorbidity in hospitalized older adults.

**Methods:** We conducted a multicenter prospective cross-sectional study in four acute care geriatric units. Energy intake (EI) was calculated using the visual plate method by quarters of consumption and compliance to oral nutrition supplementation (ONS) during three consecutive days starting the day after admission. Logistic regression analyzed the association between CRP and EI taking into account confounding factors: age, sex, disability (ADL and IADL), comorbidity (Charlson index) and Body Mass Index (BMI).

**Results:** In 264 participants (65% female, mean age 87), only 24% achieved minimum recommended EI for acutely ill older adults (30 kcal/kg/day) and 46% had low EI defined by  $EI < 75\%$  of recommended EI (i.e.  $< 22.5$  kcal/kg/day). The proportion of participants with low EI increased significantly for  $CRP \geq 30$  mg/L (62 vs 37%,  $p < 0.001$ ). In the logistic regression, high  $CRP \geq 30$  mg/L was

significantly associated with low EI in a model that included age, sex, disability, Charlson index and BMI (OR = 1.74 [1.29–2.37]).

**Conclusion:** EI correlated inversely and significantly with CRP in hospitalized older adults, independently from confounding factors. In older patients with inflammation, food intake needs to be closely monitored and nutritional support should be proposed without delay. Disclosure of Interest: None Declared Keywords: Energy and protein intakes, Hospitalisation, Inflammation, Older Adults.

## P-753

### Nutritional status and 2-year survival of nursing home residents who survived the first wave of COVID-19

Pauline Courtois-Amiot (1), Vincent Herrault (1), H el ene Allart (1), Castille de Cathelineau (1), Philippe Eischen (2), Denise Lepineux (3), Fabienne Chetaille (4), Agathe Raynaud-Simon (5), Manuel Sanchez (5)

(1) Department of Geriatric Medicine, APHP.Nord Bichat Beaujon Bretonneau Hospitals, Paris, France, (2) Fondation Roguet Nursing Home, Clichy, France, (3) Jacques Barrot Nursing Home, Paris, France, (4) Les Artistes de Batignolles Nursing Home, Paris, France, (5) Department of Geriatric Medicine, APHP.Nord Bichat Beaujon Bretonneau Hospitals, Paris, France and Faculty of Medicine, Paris Cit  University, Paris, France

**Rationale:** Nutritional status of nursing home (NH) residents is likely to have been impacted by both COVID-19 infection and lockdown restrictions during the first pandemic wave (PW). In NH residents who survived the first COVID-19 PW, we aimed to a) determine the prevalence of malnutrition and b) assess the predictive value of malnutrition and of having survived a COVID-19 infection for 2-year mortality.

**Methods:** In a multicenter retrospective study conducted in 3 NH, nutritional status was assessed using GLIM criteria in survivors of the first PW. Collected data: age, sex, length of stay in the NH, disability, food texture, self-feeding ability, COVID-19 infection and hospitalization during lockdown. A Cox model analyzed factors associated with 2-year mortality.

**Results:** Among the 315 survivors of the first COVID-19 PW (72% female, mean age 88, 48% with severe disability, 35% having contracted the COVID-19), the prevalence of malnutrition was 53% (including 28% severe malnutrition). Severe malnutrition (vs. no malnutrition) was associated with increased 2-year mortality (HR [95% CI] 1.59 [1.31–1.91]). This association remained significant after adjustment for age, severe disability and center (HR 1.31 [1.05–1.63]). Having contracted COVID-19 was not associated with 2-year mortality.

**Conclusion:** The prevalence of malnutrition and severe malnutrition was very high in nursing home residents who survived COVID-19 PW. Severe malnutrition was independently and strongly associated with 2-year mortality, but having contracted the COVID-19 infection did not. Data suggest that having contracted and survived COVID-19 does not change the predictive value of malnutrition on subsequent survival. Disclosure of Interest: None Declared Keywords: COVID-19, malnutrition, nursing homes, older adults.

## P-754

### Depressive Symptoms, and Poor Oral Health Prevents the Success of Nutritional Guidance in Older Caregivers

Sohvi Koponen (1), Irma Nyk anen (1), Roosa-Maria Savela (2), Tarja V alim aki (2), Anna Liisa Suominen (3), Ursula Schwab (1)

(1) University of Eastern Finland, Faculty of Health Sciences, Institute of Public Health and Clinical Nutrition, (2) University of Eastern Finland, Faculty of Health Sciences, Department of Nursing Science, (3) University of Eastern Finland, Faculty of Health Sciences, Institute of Dentistry

**Introduction:** Older family caregivers are a vulnerable group for compromised nutrition. Nutritional guidance has improved their dietary intake, especially protein intake, but not nutritional status. The present study aimed to determine which factors prevent the success of nutritional interventions for older family caregivers (FCs), in the form of individually tailored nutritional guidance.

**Methods:** The present study focuses on the intervention group of FCs (n = 63) of a randomized controlled trial. Older FCs ( $\geq 60$  years of age) receiving a care allowance for a home-living care recipient ( $\geq 65$  years of age) were included in the present study, which focused on nutritional interventions via individually tailored nutritional guidance provided by a clinical nutritionist. The associations between changes in protein intake (3-day food record), and Mini Nutritional Assessment (MNA) scores, as well as associated factors, for the 6-month intervention period were analyzed using generalized estimating equations.

**Results:** Intervention time, female sex, older age, higher net income, better hand grip strength, more teeth, and removable denture use were positively associated with an increase in protein intake. Fewer depressive symptoms were associated with a beneficial change in the MNA scores.

**Conclusion:** Older female FCs with higher income, and better hand grip strength, benefited most from individually tailored nutritional guidance. Depressive symptoms, and oral health should be considered when providing nutritional guidance to older FCs.

## P-755

### Effects of progressive resistance training, whey-protein and vitamin D on the risk of non-alcoholic fatty liver disease in older overweight adults with type 2 diabetes: A 6-month randomised controlled trial

Christine Freer (1), Eliza Miller (1), Elena George (1), David Dunstan (2), Deborah Kerr (3), David Menzies (4), Caryl Nowson (1), Robin Daly (1)

(1) Institute for Physical Activity and Nutrition, Deakin University, Melbourne, Australia, (2) Baker Heart and Diabetes Institute, Melbourne, Australia, (3) School of Population Health, Curtin University, Perth, Australia, (4) Pancare Foundation, Melbourne, Australia

**Introduction:** Type 2 diabetes (T2D) and non-alcoholic fatty liver disease (NAFLD) commonly co-exist. Progressive resistance training (PRT), dietary protein and vitamin D are promoted to manage T2D, but whether this combination can reduce NAFLD risk is unknown. This 6-month RCT investigated whether whey-protein + vitamin D

could augment the benefits of PRT on the fatty liver index (FLI) as a marker of NAFLD in older adults with T2D.

**Methods:** 198 adults with T2D (50–75y) were prescribed 6-months of PRT (2 d/week) and randomized to whey-protein (20g/d + 20g/d post-exercise) plus vitamin D3 (2000IU/d) (PRT + ProD, n = 98), or no supplementation (PRT, n = 100). Outcomes were FLI, liver biomarkers, glycated haemoglobin (HbA1c), appendicular lean mass (ALM) and fat mass (FM) (via DXA).

**Results:** At baseline, the overall likelihood of NAFLD (FLI  $\geq$  60) was 69% (n = 137). After 6-months, FLI decreased significantly in PRT [-2.2% (95% CI, -5.4, -1.0), P = 0.04] but not in PRT + ProD [-1.8% (-7.0, 3.3), P = 0.18]. However, there were no significant between-group differences for changes in FLI or any liver biomarker. Absolute HbA1c improved similarly by 0.17% in PRT and 0.10% PRT + ProD. There was a trend for greater gains in ALM (0.34 vs 0.14kg, P = 0.06) in PRT + ProD versus PRT, but both groups had similar losses (p < 0.05- < 0.001) in FM (-0.6 to -0.9 kg). Multiple regression revealed changes in FLI were related to FM losses and not improvements in lean mass or HbA1c.

**Conclusion:** In older adults with T2D, PRT was beneficial for improving FLI as a marker of NAFLD, but daily protein + vitamin D supplementation did not augment the benefits.

## P-756

### Diagnosis Challenges for Inflammatory Bowel Diseases in Older Adults—A Comprehensive Review

Prada Ana-Gabriela (1), Stroe Tudor (2), Gidei Monica (1), Zamfirescu Andreea (1), Aurelian Sorina Maria (1), Mihalache Ruxandra (3), Capisizu Ana (1), Diculescu Mihai Mircea (4)

(1) "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania, (2) Fundeni Clinical Institute, Gastro Dep., Bucharest, Romania, (3) Saint Luke Clinical Hospital of Chronic Diseases and Geriatrics, Bucharest, Romania and "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania, (4) Fundeni Clinical Institute, Bucharest, Romania and "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania

**Introduction:** Inflammatory bowel diseases (IBD) that include Crohn's disease (CD) and ulcerative colitis (UC), commonly present during early adulthood, but there is growing evidence of their occurrence in older population[2]. This study aims to provide a comprehensive review of diagnosis challenges for IBD in older adults.

**Methods:** This review was performed according to Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines. Online databases were accessed. Studies were identified based on several criteria: study population (country, number of subjects, age, diagnostic tests), IBD diagnosis, type of tests performed. Keywords used: "IBD", "diagnosis", "elderly", "older adults". Inclusion criteria: prospective/retrospective studies, meta-analyses, systematic reviews, patients diagnosed with IBD, age 65 or older. Exclusion criteria: studies with no evidence of diagnostic tests, editorials or reviews that did not present original data.

**Results:** A total of 41 eligible studies were identified, out of which 4 were from Romania. The reviewed articles showed that although there are various diagnostic tools available for older adults, their use in this population is limited [3], [4]. A study done in Romania showed also a delay in diagnosis of IBD in the older population compared to the younger population[5]. There have been several issues when performing diagnostic tests: accessibility, contraindications to sedation, invasive procedures in frail older people, compliance, associated neurocognitive disorders and physical disabilities.

**Key Conclusions:** Thus, diagnosis of IBD in older adults poses significant challenges related to access to healthcare, associated comorbidities, other pathologies that might mimic IBD symptoms and specific contraindications for this age group.

### References:

- [1] A. N. Ananthakrishnan, G. C. Nguyen, and C. N. Bernstein, "AGA Clinical Practice Update on Management of Inflammatory Bowel Disease in Elderly Patients: Expert Review," *Gastroenterology*, vol. 160, no. 1, pp. 445–451, 2021, doi: <https://doi.org/10.1053/j.gastro.2020.08.060>.
- [2] J. Burisch and P. Munkholm, "The epidemiology of inflammatory bowel disease," *Scand. J. Gastroenterol.*, vol. 50, no. 8, pp. 942–951, Aug. 2015, <https://doi.org/10.3109/00365521.2015.1014407>.
- [3] P. Kongon et al., "A challenge in diagnosis and management of ulcerative colitis in elderly patient with atypical presentation: A reported case," *Int. J. Surg. Case Rep.*, vol. 61, pp. 234–237, 2019, doi: <https://doi.org/10.1016/j.ijscr.2019.07.008>.
- [4] I. C. Van Walree, S. R. C. Van Tuyl, and M. E. Hamaker, "Late-onset inflammatory bowel disease in the very elderly," *Neth. J. Med.*, vol. 73, no. 1, pp. 4–9, 2015.
- [5] R. Zaharie et al., "Diagnostic Delay in Romanian Patients with Inflammatory Bowel Disease: Risk Factors and Impact on the Disease Course and Need for Surgery," *J. Crohn's Colitis*, vol. 10, no. 3, pp. 306–314, Mar. 2016, <https://doi.org/10.1093/ecco-jcc/jjv215>.

## P-757

### Association Between Type 2 Diabetes Mellitus (T2DM), Nutritional Status, Body Composition, Sarcopenia, And Myostatin Concentrations in Older Patients

Justyna Rentflejsz (1), Zyta Beata Wojszel (2)

(1) Department of Geriatrics, Hospital of the Ministry of Interior and Administration, Bialystok, Poland, (2) Doctoral School, Medical University of Bialystok, Bialystok, Poland, (2) (1) Department of Geriatrics, Hospital of the Ministry of Interior and Administration, Bialystok, Poland, (2) Department of Geriatrics, Medical University of Bialystok, Bialystok, Poland

**Introduction:** Sarcopenia is a chronic skeletal muscle disease characterized by low muscle mass and strength leading to impaired physical performance. Its prevalence is higher in patients with T2DM. Myostatin is a negative regulator of muscle growth. Fat tissue metabolism and T2DM regulatory mechanisms can impact myostatin concentrations, but studies are inconclusive. The project analyzed the association between myostatin concentrations, T2DM, nutritional status, body composition, and sarcopenia in older subjects.

**Methods:** A total of 84 patients of the Department of Geriatrics in Bialystok, Poland, took part in the study (61 (72%) females, mean age  $80.6 \pm 6.6$  years). Exclusion criteria involved cancer cachexia, hemiparesis, neuromuscular diseases, hemodialysis, and inability to consent.

**Results:** Patients with T2DM had lower levels of myostatin concentrations (1040.07 pg/ml vs. 1367.6pg/ml; p = 0.06). There was a positive correlation between myostatin concentration and skeletal muscle mass (SMM), SMM index (SMMI = SMM/height<sup>2</sup>), male sex, hand grip strength (HGS), higher scores in Barthel Index (BI), and Duke Older Americans Resources and Services Instrumental Activities of Daily Living (OARS-IADL) Scale. Furthermore, there was a negative correlation between myostatin levels, higher fat tissue percentage, and Timed Up and Go (TUG) Test results  $\geq$  the 20s. In linear regression analysis with BI, OARS-IADL, TUG  $\geq$  20s, low HGS (< 16kg in females, < 27kg in males), fat tissue percentage, sex, and low SMMI (< 6.42 kg/m<sup>2</sup> in females, < 8.87 kg/m<sup>2</sup> in

males) as covariates, T2DM was a significant, independent predictor for lower myostatin concentrations.

**Key Conclusions:** The study results indicate that myostatin might be involved in T2DM metabolic mechanisms independently of its impact on skeletal muscles.

## P-758

### Vitamin C and the aging process

Ana Capisizu (1), Andreea Zamfirescu (2), Ana Prada (2), Costina Daniela Gita (2), Monica Gidei (2), Madalina Alecu Mihai (3), Sorina Aurelian (2), Ruxandra Mihalache (2), Sorina Capisizu (4)

(1) University of Medicine and Pharmacy "Carol Davila", Bucharest Romania, (2) University of Medicine and Pharmacy "Carol Davila", Bucharest, Department of Geriatrics and gerontology "Sf. Luca" Hospital, Bucharest, (3) University of Medicine and Pharmacy "Carol Davila", Bucharest, (4) University of Medicine and Pharmacy "Carol Davila", Bucharest, Radiology Clinic Central Military Emergency University Hospital "Dr. Carol Davila" Bucharest

**Introduction:** Vitamin C is an essential nutrient of life. Ascorbic acid, the reduced form of vitamin C, is a powerful water-soluble antioxidant, not being synthesized in any human tissue. Studies have demonstrated key roles for vitamin C in neuromodulation, neuroprotection and neurodevelopment, which depend on the pharmacokinetics and pharmaco-distribution of the vitamin.

**Methods and Results:** The total storage in the body is 1500 mg and the clinical features of deficiency appear at less 350 mg. In humans, autopsy studies indicate presence of vitamin C in cerebral cortex, hippocampus and amygdala, being largely the result of the recycling of extracellular dehydroascorbic acid (DHAA). By gender, frequently show higher concentrations in women than men, with no confirmed mechanisms, possibly pharmacokinetic and/or lifestyle variability between genders. There is a direct relationship between plasma concentrations of vitamin C and the impairment of cognitive function associated with the aging process or frailty. Two meta-analyses demonstrated either that the relative risk of dementia was significantly decreased with higher vitamin C intake or that plasma levels of vitamin C were significantly lower (– 33%) in patients with Alzheimer's disease compared to healthy patients. Subjects with optimal vitamin C values ( $\geq 28 \mu\text{mol/L}$ ) demonstrated better cognitive performance compared to those with deficient levels, and vitamin C deficiency is associated 4 times more with moderate-sever frailty at the elderly.

**Conclusions:** An interdisciplinary team (geriatrician, nutritionist, geriatric nurse) has the mission of promoting awareness of nutritional deficiencies of vitamin C with the aim of reducing the prevalence of frailty among the elderly population.

## P-759

### The relationship between vitamin D and the metabolic syndrome in elderly patients

Costina Daniela Gita (1), Monica Gidei (1), Sorina Maria Aurelian (1), Andreea Zamfirescu (1), Madalina Alecu Mihai (1), Ana Prada (1), Ana Capisizu (1), Ruxandra Mihalache (1)

(1) 1. University of Medicine and Pharmacy "Carol Davila" Bucharest, Department of Geriatrics and gerontology, "Sf.Luca" Hospital

**Introduction:** Metabolic syndrome (MetS) and its consequences have become a growing health problem in the twenty-first century. On the other hand, the effects of vitamin D on bone health and the maintenance of phosphate and calcium metabolism have been widely studied and are well known today.

**Methods:** MetS is a set of risk factors, characterized by the appearance of a number of metabolic and vascular changes, such as: central obesity, arterial hypertension, dyslipidemia, hyperglycemia, insulin resistance. Recently, low concentrations of 25-hydroxyvitamin D are closely related to disorders of carbohydrate metabolism, the development of diabetes mellitus, and an increased risk of metabolic syndrome results against the background of increased frailty in the elderly population, hypovitaminosis D has a growing role in the occurrence of cognitive disorders. Although some genetic and environmental predisposing factors for metabolic syndrome have been identified, in recent years it has been proposed that vitamin D deficiency may be one of these factors. Various cross-sectional studies have supported this theory of a relationship between the presence of metabolic syndrome and vitamin deficiency. However, few prospective observational and interventional studies are available to show this relationship.

**Conclusions:** As the metabolic syndrome is a major public health problem and clinical challenge worldwide, assessing the prevalence of vitamin D deficiency in the geriatric population may have the potential to improve policy and practice in the care of older adults.

## P-760

### NCP: A Nutritional assessment Audit at Long-Term Care Facility

Alanoud Alfahaidi (1)

(1) HMC

**Introduction:** Malnutrition is associated with increased mortality and morbidity as well as functional decline. Nutritional assessment and management play a crucial role in preventing malnutrition and improving quality of life in long-term care residents. Evaluation ranges from methods such as BMI to validated tools (such as Geriatric Nutritional Index). Management requires multidisciplinary approach which may involve dietary improvements, maintaining hydration, managing multiple co-morbidities, avoiding polypharmacy, using supplements or artificial (tube) feeding appropriately. Dietitians develop, review, monitor & revise the nutritional care plan for each resident throughout the resident's admission to the long-term care facility. The Nutrition Care Process (NCP) is a Systematic process contain four-step process to aid the Dietitian in providing individual health care to a patient. All Dietitian will use this systematic approach to Provides a common language for documentation, communication, diagnose, treat, and monitor a patient. Each four-step process is divided into domains based on specific needs of the individual. Using this process in practice will aid the dietitian in providing optimum health care to a patient. The four steps are as following: Aim: To assess compliance with the policy on nutritional evaluation and management of long-term care residents.

**Methods:** It is a retrospective Audit. All new admissions to long-term care facility were identified between Jan 2022 to Jan 2023. 1500 cases were randomly selected and audited. Data was collected on documentation of assessment within five days (as per policy), BMI, hydration status, meal consumption, swallowing or chewing problems, bowel motions, review of medications, appropriate lab tests, vitamin/mineral supplements and if on artificial feeding then document type of feed, regimen and intolerance. Process: Description of selection process of nutritional charts for the audit.

**Results:** It is a retrospective Audit. All new admissions to long-term care facility were identified between Jan 2022 to Jan 2023. 1500 cases were randomly selected and audited. Data was collected on documentation of assessment within five days (This process consists of four steps; nutrition assessment, nutrition diagnosis, nutrition intervention and nutrition monitoring and evaluation as per policy), BMI, hydration status, meal consumption, swallowing or chewing problems, bowel motions, review of medications, appropriate lab tests, vitamin/mineral supplements and if on artificial feeding then document type of feed, regimen and intolerance. All Dietitians at LTC achieved 100% compliance to implement 4 steps of Nutrition Care Process (NCP).

**Conclusion:** Multimodal, multidisciplinary input with timely evaluation and appropriate management as above prevents malnutrition. - The Nutrition Care Process (NCP) is designed to improve the consistency and quality of individualized care for patients and the predictability of the patient outcomes. It is not intended to standardize nutrition care for each patient, but to establish a standardized process for providing care.

## P-761

### Associations of geriatric nutrition risk index and other nutritional risk-factors with sarcopenia in geriatric units

Alanoud Alfehaidi (1)

(1) HMC

**Introduction:** Acute geriatric units in Rumailha hospital provide care to unwell older patients with a range of complex medical condition with variable degree of severity of frailty. Sarcopenia and malnutrition are both commonly occurring conditions in elderly population, sarcopenia is a syndrome characterised by progressive and generalised loss of skeletal muscle mass, physical performance and/or strength, whereas malnutrition has been defined as a condition of an imbalance of energy, protein and other nutrients that can cause measurable negative effects. In many populations, malnutrition and sarcopenia are present simultaneously, and they appear clinically through a combination of decreased body weight and nutrient intake, along with a decrease in muscle mass and function. Moreover, malnutrition is one of the key pathophysiological causes of sarcopenia. Both entities result in numerous and substantial negative outcomes to the patients and the healthcare system, including decreased quality of life and functionality and increased healthcare costs, hospitalisation rates, morbidity and mortality. Early identification of sarcopenia would be of great clinical relevance because the loss of muscle mass and strength with ageing can be largely reversed by proper exercise and nutritional intervention. Clinicians should integrate nutritional assessment with sarcopenia screening for optimal evaluation of these two interrelated issues to help improve clinical outcomes.

**Objectives:** Early screen and detection of malnutrition and sarcopenia. Early management of malnutrition and sarcopenia.

**Methods:** A multidisciplinary team was formed to conduct a quality improvement project to screen of malnutrition and sarcopenia using “Plan-Do-Study-Act (PDSA) methodology”. All stakeholders were involved, and interventions were carried out in three steps. First step was to create Assessment screening tool which would help identify the high-risk category of malnutrition and sarcopenia (1st PDSA). Second step was to develop Multidisciplinary Team interventions of sarcopenia management (2nd PDSA). Third step was to standardizing the approach by establishing an intervention guideline to treat malnutrition and sarcopenia patients (3rd PDSA) .

**Results:** Following multimodal multifaceted intervention by the interdisciplinary team members (Physicians, Nursing and clinical

Dieticians and physiotherapy) showed malnutrition and sarcopenia guideline manage probably sarcopenia patients.

**Conclusion:** Prevention and management of malnutrition and sarcopenia in the acute care units is really challenging due to the complexity of the medical conditions. However, this project has shown malnutrition and sarcopenia treatment and prevention is possible if early screening and interventions are implemented by multidisciplinary team members. Next steps would be to Establishing Clinical Practice Guidelin (CPG) on assessment and Management of sarcopenia in older adult.

## P-762

### Free from tube: Safe transition from Enteral tube feeding to oral intake

Alanoud Alfehaidi (1)

(1) HMC

**Introduction:** Acute geriatric units in Rumailha hospital provide care to unwell older patients with a range of complex medical condition with variable degree of severity of frailty weaning patients from tube feeding to oral nutrition is a primary nutrition goal. Transitional feeding refers to the gradual progression from one mode of nutritional therapy to another while attempting to maintain adequate nutritional intake. In this case, patients are “weaned” from enteral nutrition to oral feeding. The ultimate goal of transitional feeding is that the patient’s full nutritional needs will be met with oral intake alone. Ideally, the transition will be a smooth process, which may take a few days or several weeks.

**Methods:** A multidisciplinary team was formed to conduct a quality improvement project to screen of malnutrition and sarcopenia using “Plan-Do-Study-Act (PDSA) methodology”. All stakeholders were involved, and interventions were carried out in three steps. First step was to create Assessment screening tool which would help identify the risk category of weaning from Tube feeding (1st PDSA). Second step was to develop Multidisciplinary Team interventions of safe transition and management (2nd PDSA). Third step was to developed algorithm comprises the Preparatory Phase (medical and nutritional stability, swallowing assessment and implementation of an intermittent tube feeding schedule) (3rd PDSA). Fourth step was to developed Weaning Phase (covering progress from stimulation feeds through to full oral nutrition and tube withdrawal) (4th PDSA). Fifth Step was to developed monitoring tool (monitoring for aspiration, aspiration pneumonia, % of food intake, weight, labs and dehydration) ( 5th PDSA). Sixth step was to developed Feeding and swallowing strategies, dietary modifications and behavioural and cognitive characteristics necessary for oral intake (6 PDSA). Seventh step was to standardize the approach by establishing an intervention guideline (7th PDSA) .

**Results:** Following multimodal multifaceted intervention by the interdisciplinary team members (Physicians, Nursing and clinical Dieticians and Speech therapy) showed safe transition from tube feeding to oral intake is enhance quality of life, patient comfort and may maximize options for discharge environments.

**Conclusion:** Implementing safe transition strategy in the acute geriatric care units is really challenging due to the complexity of the medical conditions. However, this project has shown excellent outcome and prevention of nutrition risk factor and malnutrition is possible if early screening and interventions are implemented by multidisciplinary team members. Next steps would be to Establishing Clinical Practice Guidelin (CPG) on safe transition from enteral tube feeding to oral feed in older adult.

## P-763

### Dietary patterns and malnutrition reversion in older adults: a multicohort study

Adrián Carballo-Casla (1), Davide Liborio Vetrano (1), Verónica Vega-Cabello (2), Michelle Marie Dunk (1), Debora Rizzuto (1), Esther Lopez-García (2), Weili Xu (1), Fernando Rodríguez-Artalejo (2), Rosario Ortolá (2), Amaia Calderón-Larrañaga (1)

(1) Aging Research Center, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet & Stockholm University, Stockholm, Sweden, (2) Department of Preventive Medicine and Public Health, Universidad Autónoma de Madrid/Idipaz, Madrid, Spain

**Introduction:** Malnutrition is a global concern in older adults, as it negatively affects morbidity, disability, and mortality. The joint effect of foods and nutrients on nutritional status is largely unknown. We studied whether dietary patterns are associated with malnutrition reversion among older adults.

**Methods:** We used pooled data from two cohorts (Seniors-ENRICA 1 in Spain and SNAC-K in Sweden) comprising 930 community-dwelling adults aged 60–96 years, malnourished or at risk of malnutrition. Four dietary patterns were considered, representing two regional diets, one international metric of diet quality, and the inflammatory potential of diet. Malnutrition was screened at baseline and two follow-up waves with the Mini Nutritional Assessment Short Form. Reversion to normal nutritional status was assessed with Cox regression models adjusted for sociodemographic and lifestyle variables, energy intake, and protein intake.

**Results:** The Southern European Atlantic Diet (SEAD), the Mediterranean Diet Adherence Screener (MEDAS), and the Global Diet Quality Score (GDQS) were associated with malnutrition reversion over 5.1-years [corresponding hazard ratios (95% confidence intervals) per 1 standard deviation were 1.15 (1.04,1.27), 1.11 (1.01,1.22), and 1.14 (1.03,1.26)]. The Inflammatory Score of the Diet (IDS) was linked to lower probability of malnutrition reversion [0.90 (0.82,0.99)]. Associations were consistent across cohorts [p for interaction = 0.78, 0.94, 0.65, and 0.70, respectively].

**Conclusions:** Higher adherence to the SEAD, the MEDAS, the GDQS, and a reduced IDS were associated with malnutrition reversion in older adults, regardless of energy and protein intake.

## P-764

### A prospective, observational study of the effect of a high-calorie and high-protein oral nutritional supplement with HMB in an older malnourished or at risk of malnutrition after hip fracture population

Teresa Pareja (1), María Carmen de Pablos Hernández (2), María Camprubí Robles (3), Andrea Martín Aguilar (4), Flavia Lorena Hünicken Torrez (5)

(1) Geriatrician in hospital universitario Guadalajara, (2) Geriatrician at 2. Hospital Universitario De Salamanca, Salamanca, (3) 3. Research Scientist, Abbott Nutrition, Granada, (4) Medical Advisor, Abbott Nutrition, Madrid, (5) Complejo Asistencial de Avila, Ávila

**Introduction:** Oral Nutrition supplementation (ONS) with  $\beta$ -hydroxy- $\beta$ -methylbutyrate (HMB) has demonstrated a decreased in mortality, accelerated wound healing and improvement in immobilization period [1–2]. The aim of the study was to evaluate the effect on nutritional status of a high-calorie and high-protein ONS with

HMB (ONS-HC-HP-HMB), for 12 weeks, in older people after a hip fracture surgery with malnutrition or at risk.

**Methods:** Multicenter study that included patients with hip fracture older than  $\geq 75$  years, malnourished or at risk (Mini Nutritional Assessment (MNA)  $\leq 23.5$ ), who were prescribed an ONS-HC-HP-HMB for 12 weeks.

**Results:** 270 patients from 17 sites were included. The mean age was  $87.3 \pm 0.3$  years and 79.3% were female. 32.9% and 67.1% with malnutrition or at risk, respectively. At week 12, 82.8% of the patients consumed at least 75% of the prescribed ONS-HC-HP-HMB. MNA score increased a mean of 2.8 points ( $p < 0.001$ ). 46.8% improved their nutritional category and 48% maintained their nutritional category. Biochemical parameters related to nutritional status improved significantly at week 12 ( $p < 0.001$ ). In addition, 62.3% presented anemia at baseline and 15.2% at week 12 ( $p < 0.001$ ) determined by hemoglobin values.

**Conclusions:** In patients after a hip fracture, ONS-HC-HP-HMB had a good product compliance and significantly improved their nutritional status over 12 weeks and reverse anemia status.

## P-765

### Do Spanish Geriatricians Know How To Properly Prescribe Vitamin D?

Francisco José Tarazona Santabalbina (1), Guillermo Martínez Díaz-Guerra (2), Íñigo Etxebarria-Foronda (3), María Jesús Cancelo-Hidalgo (4), Manuel Sosa-Enríquez (5), María Jesús Gómez de Tejada-Romero (6), Carmen Valdés Llorca (7), Óscar Torregrasa Suau

(1) Hospital Universitario de la Ribera. Alzira, València, Spain., (2) Servicio de Endocrinología. Hospital 12 de octubre. Madrid. Spain, (3) Servicio de Traumatología. Hospital Aldo Deba. Gipuzkoa. Spain., (4) Departamento de Ginecolía. hospital Alcalá de Henares. Spain, (5) Unidad de Metabolismo Óseo. hospital Insular de Las Palmas, Spain., (6) Universidad de Sevilla., (7) Centro de Salud Fuencarral. Madrid. Spain., (8) Hospital General Universitario de Elche, Spain

**Introduction:** Vitamin D (VD) synthesis is reduced in the elderly; thus, the need of managing VD deficiency is raising in the clinical practice among geriatricians. The objective of this study was to assess the knowledge of Spanish geriatricians and the characteristics of VD prescription.

**Methods:** An 8-question cross-sectional survey was completed by 698 physicians from different medical specialties. Questions about diagnosis, treatment, and monitoring of VD levels were raised.

**Results:** 95 geriatricians were surveyed (72% aged  $> 39$  years old, 52% were women) 0.91% consider very relevant to identify older adults with hypovitaminosis D; 72% always test prior to treatment initiation. 54% treat patients with VD levels  $< 30$  ng/ml, 87%  $< 20$  ng/ml, and always with values  $> 10$  ng/ml. The level of 25 (OH) D for the risk of adverse events is established above 50, 60 or 90 ng/ml by 23%, 28% and 46% of the prescribers, respectively. The respondents use preparations with cholecalciferol and calcifediol for the treatment of hypovitaminosis D, most commonly using biweekly or monthly administration schedules. Once under treatment, most geriatricians consider necessary to monitor VD levels, 68% at 4–6 months, compared to 28% between 6–12 months.

**Conclusions:** Spanish geriatricians are aware of the clinical relevance of VD deficiency and usually request VD levels before starting treatment. They usually use cholecalciferol and calcifediol. Of note, still 13% of geriatricians treat only in cases of severe VD deficiency, and allow to reach levels above 50–60 ng/ml. The lack of consensus

makes necessary to develop international clinical guidelines that provide evidence-based recommendations.

## P-766

### The association of personalized dietary advice aiming to increase protein intake on the macronutrient intake of community-dwelling older adults: a secondary analysis of the PROMISS RCT

Riikka T. Niskanen (1), Hanneke A.H. Wijnhoven (2), Kaisu H. Pitkälä (1), Marjolein Visser (2), Hannu Kautiainen (1), Merja H. Suominen (1), Hanna Öhman (3), Satu K. Jyväkorpi (1)

(1) University of Helsinki (UH), Department of General Practice and Primary Health Care, and Helsinki University Central Hospital (HUCH), Unit of Primary Health Care, Finland, (2) Department of Health Sciences, Faculty of Science, and the Amsterdam Public Health research institute, Vrije Universiteit Amsterdam (VU), The Netherlands, (3) Geriatric Medicine, University of Helsinki (UH) and Helsinki University Central Hospital (HUCH), Finland

**Introduction:** PROMISS randomized controlled trial (RCT) showed that personalized dietary advice increased protein intake among community-dwelling older adults with a low habitual protein intake. This secondary analysis evaluates how dietary advice focusing only on the intake of protein associates the intake of other macronutrients, saturated fat, sugars, and fibre.

**Methods:** A total of 260 ( $\geq 65$  years, 53% women) community-dwelling older adults in Finland and the Netherlands with a habitual low protein intake ( $< 1.0$  g/kg adjusted body weight (aBW) /day (d)) were included to this secondary analysis. The two intervention groups ( $n = 175$ ) received personalized dietary advice for 6-months to increase protein intake from the diet. The control group ( $n = 85$ ) received no intervention. Nutrient intake was evaluated with 24h recalls of a 3-day food record in baseline and follow-up.

**Results:** Macronutrient intake at baseline was similar in both groups. We observed a significant increase in the intake of carbohydrates and energy in the intervention groups compared to the control group, and a similar trend in the intake of saturated fat, sugars, and fibre (not statistically significant) during the follow-up. Increase in energy intake was associated with increase in protein intake [ $r = -0.55$  (95% CI 0.46 to 0.63)], but not with relative weight change [ $r = -0.03$  (95% CI  $-0.09$  to 0.16)].

**Key Conclusions:** Our secondary analysis shows that dietary advice focusing only on the intake of protein significantly increases energy and carbohydrate intake. In clinical settings, the overall quality of the diet should be recognized.

## P-767

### Effectiveness of A Trans-disciplinary Dietetic Intervention for Malnutrition Prevention (TDIMP) Protocol in Singapore Nursing Home

Chew Sia Tan (1), Magan Ho (1)

(1) Khoo Teck Puat Hospital

**Introduction:** The lead time for a nursing home (NH) resident to be assessed and intervened by a dietitian is approximately one month. With TDIMP protocol, NH nurses can provide early nutrition intervention for residents at risk of malnutrition while waiting for a dietitian. It is hypothesised that TDIMP Protocol (i) effectively prevents deterioration in nutritional status and (ii) is feasible to

implement in NH. This study aims to assess the effectiveness of the TDIMP protocol.

**Methods:** Residents on TDIMP protocol were identified from NH electronic medical records. Residents' body weight was collected at baseline and after implementation of TDIMP protocol. Nurses' feedback was collected using a questionnaire before study completion.

**Results:** 58 residents were on TDIMP protocol from August 2018 to February 2022. Of 30 residents who provided informed consent, the average body weight on initiation was  $41.53 \pm 10.80$  kg and  $42.33 \pm 10.45$  kg after 6 months ( $p > 0.05$ ). The average weight loss before was  $1.58 \pm 1.97$  kg vs  $0.16 \pm 2.95$  kg after TDIMP initiation ( $p > 0.05$ ). 37% had less hospitalization after TDIMP initiation ( $p < 0.05$ ). Feedback was collected from 25 NH staff. More staff now look out for residents at risk of malnutrition (before: 68%; after: 80%). 80% found the protocol easy to use and have more confidence in initiating nutrition support. More than 90% agreed that the protocol successfully prevents malnutrition, the NH should continue implementing it, and other NH should adopt it.

**Conclusion:** TDIMP protocol is effective in detecting, preventing and managing malnutrition by empowering nursing staff and healthcare assistants with the skills and confidence to provide oral nutrition support.

## P-768

### A 6-month multidomain intervention with nutritional and multicomponent exercise training reverses frailty and improves nutritional-related factors in elderly people: a randomized controlled trial (ROBUSTNES Study)

F. Millán-Domingo (1), FJ Tarazona-Santabalbina (2), L. García-Fernández (3), E. García-Tercero (3), M. Cebrián (4), C. García-Domínguez (5), G. Olaso-González (6), J. Viña (6), M.C. Gómez-Cabrera (6)

(1) Freshage Research Group, Department of Physiology, Faculty of Medicine, University of Valencia, CIBERFES, Fundación Investigación Hospital Clínico Universitario/INCLIVA & Programa Mejora S.L., Valencia, Spain, (2) Department of Geriatric Medicine, Hospital Universitario de la Ribera & Medical School, Universidad Católica de Valencia San Vicente Mártir Valencia, Spain, (3) Department of Geriatric Medicine, Hospital Universitario de la Ribera, Valencia, Spain, (4) Freshage Research Group, Department of Physiology, Faculty of Medicine, University of Valencia, CIBERFES, Fundación Investigación Hospital Clínico Universitario/INCLIVA, Valencia, Spain, (5) Freshage Research Group, Department of Physiology, Faculty of Medicine, University of Valencia, CIBERFES, Fundación Investigación Hospital Clínico Universitario/INCLIVA, Valencia, Spain & Department of Internal Medicine, Hospital Royo de Villanueva, Zaragoza, Spain, (6) Freshage Research Group, Department of Physiology, Faculty of Medicine, University of Valencia, CIBERFES, Fundación Investigación Hospital Clínico Universitario/INCLIVA, Valencia, Spain

**Introduction:** Functional decline in older populations is associated to lifestyle-related risk factors. Frailty and its transition to dependency is one of the most serious problems facing current health care systems. In Robustnes we aimed to assess a multidomain approach to reverse frailty in at-risk of malnutrition community dwelling elderly people. **Methods:** This is a prospective, randomized, clinical study. 74 community-dwelling frail and at risk of malnutrition (MNA  $< 24$  points) older adults (age  $\geq 70$ ) were recruited and divided into 3 groups: control group (CG) ( $n = 23$ ), nutritional supplemented group (SG) ( $n = 23$ ), and multidomain (exercise training and nutritional

supplemented) group (ESG) (n = 28). The intervention included a daily intake of two 200-mL bottles of a nutritional supplement (16g of protein, 25g carbs, 3.6g fats and enriched with vitamins and minerals/bottle) plus a supervised and personalized multicomponent exercise program, 3 days per week for 24 weeks.

**Results:** The frailty criteria were significantly reduced from 3 to 1 in the ESG (p < 0.0001). Number of visits to primary care centers were also reduced from 3 (previous 24 weeks) to 1 (24 weeks of intervention) in the ESG (p < 0.0001) in comparison with SG and CG. Both ESG and SG improved on the MNA scale, while the CG worsened it (p = 0.0433). The CG showed low blood folic acid and calcdiol and folic acid levels when compared to the SG and ESG (p = 0.0296; p = 0.0415).

**Key Conclusions:** Findings from this study suggest that a multidomain intervention vs a single-domain intervention or control improves significantly in terms of frailty and nutritional state.

### P-769

#### A 6-month multidomain intervention with nutritional and multicomponent exercise training improves functional parameters in elderly people: a randomized controlled trial (ROBUSTNES Study)

F. Millán-Domingo (1), F.J. Tarazona-Santabalbina (2), L. García-Fernández (3), E. García-Tercero (3), M. Cebrián (4), C. García-Domínguez (5), G. Olaso-González (6), J. Viña (6), M.C. Gómez-Cabrera (6)

(1) Freshage Research Group, Department of Physiology, Faculty of Medicine, University of Valencia, CIBERFES, Fundación Investigación Hospital Clínico Universitario/INCLIVA & Programa Mejora S.L., Valencia, Spain, (2) Department of Geriatric Medicine, Hospital Universitario de la Ribera & Medical School, Universidad Católica de Valencia San Vicente Mártir Valencia, Spain, (3) Department of Geriatric Medicine, Hospital Universitario de la Ribera, Valencia, Spain, (4) Freshage Research Group, Department of Physiology, Faculty of Medicine, University of Valencia, CIBERFES, Fundación Investigación Hospital Clínico Universitario/INCLIVA, Valencia, Spain, (5) Freshage Research Group, Department of Physiology, Faculty of Medicine, University of Valencia, CIBERFES, Fundación Investigación Hospital Clínico Universitario/INCLIVA, Valencia, Spain & Department of Internal Medicine, Hospital Royo de Villanueva, Zaragoza, Spain, (6) Freshage Research Group, Department of Physiology, Faculty of Medicine, University of Valencia, CIBERFES, Fundación Investigación Hospital Clínico Universitario/INCLIVA, Valencia, Spain

**Introduction:** Functional decline in older populations is associated to lifestyle-related risk factors. Frailty and its transition to dependency is one of the most serious problems facing current health care systems. In Robustnes we aimed to assess a multidomain approach to reverse frailty in at-risk of malnutrition community dwelling elderly people. **Methods:** This is a prospective, randomized, clinical study. 74 community-dwelling frail and at risk of malnutrition (MNA < 24 points) older adults (age ≥ 70) were recruited and divided into 3 groups: control group (CG) (n = 23), nutritional supplemented group (SG) (n = 23), and multidomain (exercise training and supplemented) group (ESG) (n = 28). The intervention included a daily intake of two 200-mL bottles of a nutritional supplement (16g of protein, 25g carbs, 3.6g fats and enriched with vitamins and minerals/bottle) plus a supervised and personalized multicomponent exercise program, 3 days per week for 24 weeks.

**Results:** ESG improved both gait speed (from 0.7 to 0.8 m/s) and Tinetti scale (from 17 to 20) (p = 0.0002; p = 0.0011). CG

significantly increased the number of falls (from 0 to 1) (p = 0.0361). In comparison with SG and CG, ESG improved Barthel (> 15 points) (p = 0.0003; p < 0.0001) and Lawton & Brody scales (> 1 point) (p = 0.0285). ESG increased the MMSE score, whereas SG and CG groups lowered it (p = 0.0102).

**Key Conclusions:** Findings from this study suggest that a multidomain intervention vs a single-domain intervention or control lowers the risk of falls, improves cognition and independence in the basic and instrumental activities of the daily living in frail older adults.

### P-770

#### A 6-month multidomain intervention with nutritional and multicomponent exercise training improves handgrip strength and body composition in elderly people: a randomized controlled trial (ROBUSTNES Study)

F. Millán-Domingo (1), F.J. Tarazona-Santabalbina (2), L. García-Fernández (3), E. García-Tercero (3), M. Cebrián (4), C. García-Domínguez (5), G. Olaso-González (6), J. Viña (6), M.C. Gómez-Cabrera (6)

(1) Freshage Research Group, Department of Physiology, Faculty of Medicine, University of Valencia, CIBERFES, Fundación Investigación Hospital Clínico Universitario/INCLIVA & Programa Mejora S.L., Valencia, Spain, (2) Department of Geriatric Medicine, Hospital Universitario de la Ribera & Medical School, Universidad Católica de Valencia San Vicente Mártir Valencia, Spain, (3) Department of Geriatric Medicine, Hospital Universitario de la Ribera, Valencia, Spain, (4) Freshage Research Group, Department of Physiology, Faculty of Medicine, University of Valencia, CIBERFES, Fundación Investigación Hospital Clínico Universitario/INCLIVA, Valencia, Spain, (5) Freshage Research Group, Department of Physiology, Faculty of Medicine, University of Valencia, CIBERFES, Fundación Investigación Hospital Clínico Universitario/INCLIVA, Valencia, Spain & Department of Internal Medicine, Hospital Royo de Villanueva, Zaragoza, Spain, (6) Freshage Research Group, Department of Physiology, Faculty of Medicine, University of Valencia, CIBERFES, Fundación Investigación Hospital Clínico Universitario/INCLIVA, Valencia, Spain

**Introduction:** Functional decline in older populations is associated to lifestyle-related risk factors. Frailty and its transition to dependency is one of the most serious problems facing current health care systems. In Robustnes we aimed to assess a multidomain approach to reverse frailty in at-risk of malnutrition community dwelling elderly people. **Methods:** This is a prospective, randomized, clinical study. 74 community-dwelling frail and at risk of malnutrition (MNA < 24 points) older adults (age ≥ 70) were recruited and divided into 3 groups: control group (CG) (n = 23), nutritional supplemented group (SG) (n = 23), and multidomain (exercise training and supplemented) group (ESG) (n = 28). The intervention included a daily intake of two 200-mL bottles of a nutritional supplement (16g of protein, 25g carbs, 3.6g fats and enriched with vitamins and minerals/bottle) plus a supervised and personalized multicomponent exercise program, 3 days per week for 24 weeks.

**Results:** ESG increased lean mass (from < 50% to > 50%) in comparison with SG and CG (p = 0.0008; p = 0.0436). This result was accompanied with an improvement in hand grip strength in ESG (more than 5kg) (p = 0.0404) and a significative difference with both SG and CG (p = 0.0030; p = 0.0053). Furthermore, CG group increased the abdominal girth, while ESG lowered it (p = 0.0293).

**Key Conclusions:** Findings from this study suggest that a multidomain intervention vs a single-domain intervention or control improves



significantly in terms of muscular strength, lean mass and abdominal girth.

## P-771

### Strenght from food for older people

Merja Suominen (1), Heli Salmenius-Suominen (2)

(1) Department of General Practice and Primary Health Care, Helsinki University Central Hospital, Helsinki, Finland, (2) Gerontological Nutrition for Older people in Finland

The nutritional problems of older people are diverse. Poor dietary quality and low protein intake are associated with declined memory function, sarcopenia and frailty. Aim was to promote good nutrition and welfare of older people living at home with inclusive methods of older participants' nutrition. Project activities included assessment of participants' diet quality with a questionnaire and protein intake with a simple test followed by feedback and follow-up (after 2–3 months) questionnaires. Tasks were suitable for independent work with nutritionist's help when needed. Lectures, group guidance, personal advice and nutrition brochures were followed. Webinars and videos with food recipes were introduced. Evaluation of the project was performed with impact chain including aims, target population, operations, results and measurements. Project was carried out with the co-operation of partners who organised rehabilitation, exercise and discussion groups for older people. In 2022 we had total 893 baseline survey respondents whose average age was 76 y and 80% female. Most of the participants (80%) ate protein less than recommended, 34% of the ate 5–6 portions of vegetables a day and the fat quality was poor or moderate. In feedback 98% had received more information on healthy diet and good protein sources. In follow-up 85% had added protein in their diets, 67% increased vegetables and 75% reported their well-being had improved as the result of dietary changes. Using inclusive methods promoting nutrition and welfare of older people seems to be simple and useful way of reaching them and giving tips in healthy nutrition.

## P-772

### Rapid malnutrition assessment with questioning anorexia of aging and weight loss: How useful are the keystones of malnutrition in older adults in detecting GLIM-defined malnutrition?

Zeynep Fetullahoglu (1), Serdar Ozkok (2), Pinar Kucukdagli (3), Cihan Kilic (2), Mehmet Akif Karan (2), Gulistan Bahat Ozturk (2)

(1) Istanbul University Istanbul Medical School Department of Internal Medicine Division of Geriatrics, (2) Istanbul University, Istanbul Medical School, Department of Internal Medicine, Division of Geriatrics, (3) Sisli Hamidiye Etfal Training and Research Hospital, Geriatrics Clinic

**Introduction:** Malnutrition is recommended to be screened at regular intervals with validated tools, to identify older adults in risk of associated adverse outcomes. Most validated tools for malnutrition screening require time and equipment and rapid assessment with simply asking about loss of weight or appetite is rather preferred when malnutrition is suspected, especially in primary care and settings with high demand. Here, we aimed to study whether the presence of at least one of these components of malnutrition is sufficient enough to detect older outpatients with malnutrition identified by the GLIM criteria.

**Methods:** This is a retrospective, cross-sectional study conducted on older outpatients  $\geq 60$  years admitted to a university hospital, between May 2018-January 2020. We assessed anorexia by using the self-reported question about decreased food intake due to loss of appetite in the past three months, digestive problems, and chewing or swallowing difficulties, and asked whether they suffered from weight loss in the past three months. We used the GLIM criteria for malnutrition diagnosis. We estimated muscle mass via Tanita BC-532 bioelectrical impedance analysis, and used population specific thresholds to identify reduced muscle mass. We calculated the sensitivity, specificity, positive (PPV), and negative predictive values (NPV) of having at least one positive component in rapid inquiry in detecting GLIM-defined malnutrition.

**Results:** We included 200 older adults (mean age:  $73.8 \pm 6.9$ , 67.5% female). According to the GLIM criteria, the malnutrition prevalence was 28%. The anorexia of aging prevalence was 15%, 16.5% had weight loss in the past three months, and 9% of them had both anorexia and weight loss. Having at least one component positive demonstrated a low performance in identifying malnutrition according to the GLIM (sensitivity: 37.6%), but showed a high level of specificity (95.1%). The PPV and NPV were 61.1% and 77.1%, respectively.

**Conclusion:** Our study suggests that rapid inquiry may overlook individuals with malnutrition according to the GLIM criteria, even if the keystones already exist. This finding can be attributed to the fact that the GLIM panel did not limit the malnutrition concept to appetite or weight loss, and offered a broader perspective by implementing muscle health or disease burden. It is envisaged that examining and removing the factors that create barriers to the optimum malnutrition screening will avoid rapid and random assessments to overlook malnourished individuals.

Keywords: GLIM, malnutrition, weight loss, anorexia.

## P-773

### Effects of a salmon-based intervention on older people in the south of the world

Carlos Márquez (1), Miguel Berr (2), Rafael Jara (2), Moisés Sandoval (1), Cecilia Albala (1)

(1) INTA, Universidad de Chile, (2) Hospital Clínico, Universidad de Chile

**Introduction:** Nutrition plays a fundamental role in achieving healthy aging. Foods such as fish (Omega3 fatty acids), have shown health benefits, however, there is little information on the benefits its frequent consumption could have in older people.

**Aim:** To evaluate the effect of salmon consumption on older people from a town on the coast of Southern Chile.

**Methods:** Randomized, non-blind, crossover clinical study. The participants are older adults from Curaco de Velez, Chiloe, without cognitive impairment and normal functionality, who participate in a day center. The intervention consisted in a lunch with 150g of cooked salmon 2times a week for 3months. Sociodemographic and health surveys were conducted, plasma fatty acid levels were determined using Omega-3 Index (Omegaquant) and high-sensitivity C-reactive protein (Hs-CRP) levels were measured in both groups at baseline and end of the intervention. Between-group and within-group comparisons were made using STATA 15.1.

**Results:** 60 participants (74% women) with a mean age of  $75.7 \pm 5.5$  years and an average schooling of 6years were recruited. At baseline, similar levels of Omega3 (6.23%), Omega6 (32.57%) and Hs-PCR  $2.95 \pm 0.08\text{mg/l}$  were found between both groups. Post-intervention we detected changes in omega3 levels of  $+ 0.23\%$  (Intervened group)

and  $-0.57\%$  (Control group)  $p < 0.05$ . The intervention group shows a decrease of  $1.13\text{mg/l}$  in hs-CRP, without variations in the control group  $p < 0.05$ .

**Conclusions:** The intervention has shown a positive effect on polyunsaturated fatty acids circulating levels and on inflammatory factors, it is necessary to evaluate how long this effect is preserved over time. Study financed by project “Envejecimiento Activo y Saludable HCUCH”.

## P-774

### Swallowing difficulties, oral symptoms, and nutrition among older people in long-term care

Lindroos Eeva (1)

(1) University of Helsinki

**Introduction:** Loss of teeth and poor oral health aggravate eating due to chewing difficulties (CD). Older people may also have swallowing difficulties (SWD), which also complicate eating and food intake. Simultaneously existing CD and SWD restrict the diet to only foods that are easy to chew and swallow. This in turn may limit variety of the diet and intake of adequate nutrients. These difficulties among residents in Long-term care (LTC) are often only considered when the resident has already become malnourished.

**Methods:** The data of the cross-sectional study consisted of two structured questionnaires in 2007 ( $N = 1466$ ) for residents in assisted living facilities (ALF) and in 2011 ( $N = 3123$ ) residents in ALF and nursing homes collected by nurses. Diagnoses and medications were retrieved from medical records and information on mortality from central registers. Resident’s nutritional status was evaluated with Mini Nutritional Assessment (MNA). In 2007 resident’s daily intake of nutrients was assessed from the food diary of voluntary residents ( $n = 345$ ). In 2011 the burden of oral symptoms (BoS) (simultaneous CD, SWD and dry mouth) of resident were assessed.

**Results:** 12–14% of residents had SWD and 26% chewing problems in 2007, and in 2011 18% and 26% respectively. CD and SWD were associated with dentition status. SWD and dentition status were associated with malnutrition, and poor dentition status with poor protein intake. Residents with BoS had more severe comorbidities and malnutrition, and they were more dependent on care.

**Key conclusion:** Burden of oral symptoms cannot be ignored when improving nutritional care in LTC.

## P-775

### Determining critical outcomes for a Core Outcome Set for nutrition intervention studies in older adults with and at risk of malnutrition: a Delphi Study

Nuno Mendonça (1), Sibel Çavdar (2), Christina Avgerinou (3), Tommy Cederholm (4), Alfonso J. Cruz Jentoft (5), Gabriel Torbahn (6), Cornel Sieber (7), Hanna M. Siebentritt (7), Eva Kiesswetter (8), Dorothee Volkert (7), Marjolein Visser (9)

(1) EpiDoC Unit, Comprehensive Health Research Center, NOVA Medical School, Universidade Nova de Lisboa, Portugal, (2) Division of Geriatrics, Department of Internal Medicine, Ege University Hospital, Izmir, Turkey, (3) Research Department of Primary Care and Population Health, University College London, London, UK, (4) Department of Public Health and Caring Sciences, Clinical Nutrition and Metabolism, Uppsala University, Uppsala, Sweden and Theme Inflammation and Aging, Karolinska University Hospital, Stockholm,

Sweden, (5) Servicio de Geriatria, Hospital Universitario Ramón y Cajal (IRYCIS), Madrid, Spain, (6) Department of Pediatrics, Paracelsus Medical University, Nürnberg, Germany, (7) Institute for Biomedicine of Aging, Friedrich-Alexander-Universität Erlangen-Nürnberg, Nürnberg, Germany, (8) Institute for Evidence in Medicine, Medical Centre-University of Freiburg, Faculty of Medicine, University of Freiburg, Freiburg, Germany, (9) Department of Health Sciences, Faculty of Science, Vrije Universiteit Amsterdam, Amsterdam Public Health Research Institute, Amsterdam, The Netherlands

**Introduction:** We aim to develop a Core Outcome Set (COS) for future nutritional intervention studies in older adults with/ at risk of malnutrition. We report on the second phase—a Delphi study.

**Methods:** Outcomes from a scoping review and patient reported outcomes (PROs) were reviewed by the steering group and patient and public involvement representatives. These were incorporated into a two-round, modified Delphi study. Researchers and healthcare professionals experienced in malnutrition in older adults were invited to take part in an online survey to rate 30 to 38 (depending on the round) selected outcomes on a nine-point Likert scale ranging from ‘not important’ to ‘critical’. Consensus for inclusion in the COS was reached when  $\geq 75\%$  (or  $\geq 60\%$  if it was a PRO) of the participants scored the outcome as ‘critical’ and  $< 15\%$  as ‘not important’.

**Results:** Ninety-three participants from different settings and backgrounds responded and 72 participated in both Delphi rounds. Ten outcomes met criteria for inclusion: malnutrition status, dietary intake, body weight (loss) /BMI, muscle strength, muscle mass, functional performance, frailty, functional limitations, quality of life, and acceptability of the intervention. No significant differences between settings (community and hospital) were observed.

**Conclusions:** These 10 outcomes will be discussed in an online consensus meeting to determine the final outcomes to be included in the COS. Subsequently, the project will focus on establishing the appropriate methods for measuring these outcomes. The resulting COS will inform the selection of outcomes in nutritional intervention studies for older adults with/at risk of malnutrition.

## P-776

### Nutritional Disorders and Vascular Risk Factors in the Elderly

Sinziana-Georgeta Moscu (1), Gabriela Cristina Chelu (1), Catalina-Raluca Nuta (1), Ovidiu Lucian Bajenaru (1), Gabriel-Ioan Prada (1), Nicolae Ovidiu Penes (1), Anna Marie Hergelegiu (1)

(1) University of Medicine and Pharmacy “Carol Davila”, Bucharest, Romania

**Introduction:** Incidence of cardiovascular diseases more than doubles from age 40 years to those over 80 years, exceeding 85% in the latter. Study objective was to evaluate characteristics of vascular risk factors in elderly with nutritional disorders.

**Materials and Methods:** A total of 738 subjects, randomly selected, age range 50–95 years, with obesity have been investigated. Patients were divided into two categories according to age: 331 adults (50–64 years) and 407 elderly (70 + years).

**Results:** Prevalence of obesity was higher in elderly with low income and the difference compared to adults reached statistical significance ( $p < 0.05$ ). For patients over 70 years of age with obesity, prevalence of diabetes and behavioural risk factors was almost double in men than in women from the same age group, but the differences did not reach statistical significance, while the prevalence of anxiety was higher in older women, differences being statistically significant ( $p < 0.05$ ). Prevalence of diabetes mellitus and anxiety was higher in obese older people from urban area, regardless of gender. Highest

prevalence of a combination of multiple vascular risk factors was found in obese elderly patients, being 3 times higher than in adults, predominantly in male gender, for the latter we noticed higher prevalence of coexistence of at least 7 vascular risk factors, differences being statistically significant ( $p < 0.05$ ).

**Conclusions:** Obesity itself represents an important vascular risk factor. When associated with old age it could have significant influence on the pattern of other vascular risk factors.

**Key words:** obesity, vascular risk factors, elderly.

## P-777

### Metabolomic And Micronutrient Profiles Of Diseases In The Heterogeneity Of Ageing

Verena Rhebaum (1), Anna Maria Meyer (1), Birgül Soleymani Nouri (1), Ulla Matthiessen (1), Katharina Dencker (1), Leopold Rupprecht (1), Nicole Warmer (1), Matthis Janning (1), Lena Wenrich (1), Hannah Weigert (1), Johannes Sittig (1), Alexander Thimm (1)

(1) Ageing Clinical Research, Department II of Internal Medicine and Center for Molecular Medicine Cologne, University of Cologne, Faculty of Medicine and University Hospital Cologne, Cologne, Germany, (2) Ageing Clinical Research, Department II of Internal Medicine and Center for Molecular Medicine Cologne, University of Cologne, Faculty of Medicine and University Hospital Cologne, Cologne, Germany; Cologne Excellence Cluster on Cellular Stress-Responses in Aging- Associated Diseases (CECAD), University of Cologne, Faculty of Medicine and University Hospital Cologne, Cologne, Germany, (3) Ageing Clinical Research, Department II of Internal Medicine and Center for Molecular Medicine Cologne, University of Cologne, Faculty of Medicine and University Hospital Cologne, Cologne, Germany; Cologne Excellence Cluster on Cellular Stress- Responses in Aging- Associated Diseases (CECAD), University of Cologne, Faculty of Medicine and University Hospital Cologne, Cologne, Germany; Systems Biology of Ageing Cologne, University of Cologne, Cologne, Germany, (4) Cologne Excellence Cluster on Cellular Stress- Responses in Aging- Associated Diseases (CECAD), University of Cologne, Faculty of Medicine and University Hospital Cologne, Cologne, Germany; Max-Planck Institute for Biology of Ageing, Cologne, Germany

**Introduction:** Complexity of ageing is increasingly under investigation. Computational biology and omics-analysis enable to understand much of metabolism and ageing as far as frailty-development is concerned. Few studies addressed metabolic profiles of nutrition and multimorbidity risk with increasing heterogeneity of ageing.

**Methods:** To capture heterogeneity of aging, 221 ( $75.6 \pm 6.7$  years, 47% F) persons across the continuum community dwellers–Emergency Department admission underwent a comprehensive geriatric assessment, physical evaluation, collection of medical history, main diagnoses (MD) and comorbidities, as well as blood withdrawal for the analysis of circulating micronutrients (five carotenoids,  $\alpha$ -tocopherol and retinol) by HPLC and metabolomics by high-throughput NMR. Complex interactions at baseline and in relation to the health status at one year follow up were analysed by network visualisation (Cytoscape).

**Results:** The preliminary analysis shows a group of 50 metabolites associated with the large majorities of the 22 MD identified, while 79 associated preferentially to specific MD. While retinol was associated with eight MDs (including Cancer and Diabetes), carotenoids preferentially associated with Polyneuropathy or Atrial Fibrillation and tocopherol with Diabetes. Retinol and  $\alpha$ -tocopherol were associated with the large majority of 30 metabolites.

**Key Conclusions:** At the time of abstract submission, analysis are ongoing aimed at identifying new biomolecular profiles of MDs in advanced age. Special attention is being dedicated to those metabolites and micronutrients associated to majority of MDs, as they might play an important common role in relation to the majority of the established hallmarks of ageing.

## P-778

### Loneliness As A Contributing Factor In Elderly Persons' Nutritional Status

Rachel Fitzgerald (1), Isweri Pillay (1)

(1) Cork University Hospital

Poor nutritional status is influenced by health and environmental factors. The SOLINUT study established a relationship between loneliness and nutritional status, concluding that screening could prevent isolated persons from failing to maintain adequate nutrition. Comprehensive Geriatric Assessments (CGAs) were performed by an inter-disciplinary team between January-December 2022. Data included age, gender, clinical frailty score (CFS), lives with, loneliness, depression and the Malnutrition Screening Tool (MST). This data was entered onto Excel and analysed using descriptive statistics. 587 patients' details were collected. N = 73 excluded based on incomplete data or age under 75 years. 39% (N = 200) lived alone, with a mean (SD) age of 84 (5.7) years, Female:Male equals 2.5:1 and a mean (SD) CFS of 5 (1.2). There was no difference for those who lived with others (N = 300). In 14% (N = 72) reporting loneliness, 61% (N = 44) lived alone and 33% (N = 24) had depression, contrasting with the 60% (N = 312) who reported not being lonely, 40% (N = 123) lived alone and 8.6% (N = 27) with no history of depression. 2% (N = 9) living alone reported both depression and loneliness with a mean (SD) CFS = 5 (1.2), mean age (SD) = 84.5 (5.8) years, and a Female:Male ratio = 8:1. Loneliness was most prevalent in females who lived alone (6%, N = 33). 36% (N = 12) had a history of depression. The mean (SD) MST was 1 (1.4) in all datasets. Although loneliness was more prevalent in those living alone, this was not reflected in MST scores. CGAs identify elderly patients at risk of malnutrition. Next steps include formalising pathways to maintain nutritional status.

## P-779

### The optimum body-mass index and waist circumference cut-offs that predict high fat percentage in Turkish older adults

Serdar Ozkok (1), Zeynep Fetullahoglu (1), Cihan Kilic (1), Mehmet Akif Karan (1), Gulistan Bahat (1)

(1) Department of Internal Medicine, Division of Geriatrics, Istanbul University, Istanbul Medical School, 34,093, Istanbul, Türkiye

**Introduction:** Recent guidelines recommend measurement of fat mass percentage for obesity diagnosis. However, equipments for fat percentage measurement are not readily available in all settings. The use of other familiar and practical screening methods like body mass index (BMI) harbor limitations in geriatrics as the thresholds for body composition are uncertain. Here we aimed to reveal the best BMI and waist circumference (WC) thresholds that predict high fat percentage in older adults, for the aim of their practical use in the settings with limited access to the necessary equipment.

**Methods:** This is a retrospective, cross-sectional study including older outpatients  $\geq 60$  years admitted to a university hospital

between June 2016–August 2022. We measured the weight and height of the participants with a standardized stadiometer to the nearest 0.1 kg and 0.1 cm, to calculate BMI (weight divided by height<sup>2</sup>). We measured waist circumference with a flexible tape at the midpoint between the lower rib and upper margin of the iliac crest. We estimated fat percentage via Tanita BC-532 bioelectrical impedance analysis. We used the Turkish population-specific thresholds for obesity diagnosis according to the fat percentage (i.e., > 27% and > 41% for males and females, respectively). We performed ROC analysis to find out the optimum BMI and WC thresholds for obesity in older adults.

**Results:** We included 449 older adults (mean age: 74.0 ± 6.6, 69.5% female). The obesity prevalence was 46.1% according to the fat percentage method. The ideal BMI thresholds for high fat percentage were > 31.9 kg/m<sup>2</sup> and > 28.7 kg/m<sup>2</sup> for females and males, respectively (AUCs = 0.917 and 0.857). The optimum cut-offs for WC were calculated as > 98 cm for females and > 99 cm for males (AUCs = 0.858 and 0.841).

**Conclusion:** This study suggests that the WHO and NIH-recommended thresholds for BMI and WC seems suboptimal in identifying obesity in Turkish older adult population. Our suggested thresholds may be used as a surrogate of fat percentage in settings without any available equipment for a more accurate obesity diagnosis. Further studies will reveal whether these thresholds work well in defining obesity and are better associated with adverse obesity-related outcomes in older adults.

## P-780

### Malnutrition Awareness In Older Adults: Development And Application Of A Novel Questionnaire

Marjolein Visser (1), Eva Leistra (1), Martine Sealy (2), Marian de van der Schueren (3), Eva Naumann (3), Harriët Jager-Wittenaar (2)

(1) Vrije Universiteit Amsterdam, (2) Hanze University of Applied Sciences, (3) HAN University of Applied Sciences

**Introduction:** Qualitative studies suggest that malnutrition awareness is poor in many older adults. We aimed to develop and apply a questionnaire to quantitatively assess malnutrition awareness in community-dwelling older adults aged 60 + years.

**Methods:** The Malnutrition Awareness Scale (MAS) was developed based on the awareness phase of the Integrated-Change model and consists of four domains: knowledge, perceived cues, risk perceptions, and cognizance. Items were piloted in 10 Dutch older adults using the Thinking Aloud method to optimise wording. In a feasibility study, annoyance, difficulty and time to complete the MAS and its comprehensibility were tested. After final revisions, MAS was applied to a large sample to test its psychometric properties using SPSS and identify subgroups with lower awareness.

**Results:** The feasibility study (n = 42, 55% women, 19% 80 + y) showed that the MAS takes 12 ± SD6 minutes to complete. Most participants found it not (at all) annoying (81%) and not (at all) difficult (79%) to complete it, and found it (very) comprehensible (83%). Psychometric analyses (n = 216, 63% women, 28% 80 + y) showed no redundant items but three items correlated negatively/low with other items and were removed (Cronbach's alpha 0.66). Mean MAS score based on the final 23 items was 14.8 ± 3.2 (range 6 to 22). Those with poorer self-reported health (p < 0.001), lower education (p = 0.008) and men (p = 0.05) had a lower score indicating lower malnutrition awareness.

**Key Conclusions:** The Malnutrition Awareness Scale is a feasible and reliable tool to assess malnutrition awareness in community-

dwelling older adults and can be used to identify subgroups with lower awareness.

## P-781

### Effect of milk fat globule membrane and protein containing snack product on physical performance of older women—a randomized controlled trial

Satu Jyväkorpi (1), Riikka Niskanen (1), Marianna Markkanen (1), Karoliina Salminen (1), Timo Sibakov (2), K-M Lehtonen (2), Susanna Kunvik (3), Anu Turpeinen (2), Kaisu H Pitkälä (1), Merja H Suominen (1)

(1) University of Helsinki, (2) Valio Ltd, (3) Satakunta University of Applied Sciences Pori

**Introduction:** Sarcopenia is common in people 70 + years of age, its prevalence increasing with further aging. Insufficient energy and protein intake accelerate muscle loss, whereas sufficient protein intake and milk fat globule membrane (MFGM) may suppress age-associated deterioration of muscle mass and strength. Our objective was to test whether a snack product high in MFGM and protein would improve physical performance in older women.

**Methods:** In this 12-week randomized controlled trial women ≥ 70 years, with protein intake < 1.2 g/body weight (BW) kg/day (d), were randomized into intervention (n = 51) and control (n = 50) groups. The intervention group received a daily snack product containing ≥ 23 g of milk protein and 3.6–3.9 g of MFGM. Both groups were advised to perform a 5-movement exercise routine. The primary outcome was change in five-time-sit-to-stand-test between the groups. Secondary outcomes included changes in physical performance, cognition, hand grip strength and health-related quality of life.

**Results:** The change in five-time-sit-to-stand-test did not differ between the intervention and the control groups. The change in the total SPPB score differed significantly favoring the intervention group (p = 0.020), the balance test showing the largest difference. Protein intake increased significantly in the intervention group (+ 14 g) compared to the control group (+ 2 g). No other significant changes were observed.

**Conclusions:** Our results indicate that the combination of MFGM and protein may improve physical performance related balance of older women.

## P-782

### Is Chin tuck against resistance with feedback to improve swallowing, eating and drinking in frail older people admitted to hospital with pneumonia feasible

David G Smithard (1), Salma Ayis (2), Aicha Goubar (3), Alberto Gambaruto (4), Dharinee Hansjee (5), Stefan T Kulnik (6), Elizabeth Lloyd-Dehler (7), Lydia Morgan (8), William Oliff (5), Aoife Stone-Ghariani (9)

(1) Queen Elizabeth Hospital, Lewisham and Greenwich NHS Trust; CEAR, University of Greenwich, (2) CTU, King's College, London., (3) CTU, King's College, London, (4) University of Bristol, (5) University of Greenwich, (6) Ludwig Boltzmann Institute for Digital Health and Prevention, (7) London, (8) Southmead Hospital, North Bristol NHS Trust, (9) Queen Elizabeth Hospital, Lewisham and Greenwich NHS Trust

**Introduction:** Pneumonia in frail older adults is frequently associated with swallowing difficulties. Exercises to strengthen anterior neck and

suprahyoid muscles, including chin tuck against resistance (CTAR), can improve swallowing and the amount eaten. We have conducted a feasibility study of a CTAR intervention (CTAR-SwiFt), incorporating real-time feedback via the ExerPhager device (pressure sensor attached to a rugby ball and connected to a mobile application via Bluetooth) to achieve a pre-set target (PST) effort.

**Methods:** Patients > 75 years, admitted with pneumonia, were recruited, and randomised to either standard care, low (once daily) or high intensity (twice daily) CTAR-SwiFt exercises (compressing a ball to PST). CTAR-SwiFt exercises were conducted for 12 weeks. All participants were followed-up until 24 weeks. Outcomes included rates of participant recruitment, retention, and exercise regime completion. Chin Tuck Strength (CTS), quality of life, food intake and swallow were assessed at regular intervals.

**Results:** Twenty-one participants were randomised. Recruitment rate was 1/month. 32% of those approached were willing to participate; 45.8% completed the study. There was a trend to an improvement in quality of life in the low intensity intervention group; and swallowing in all groups. Mean (SD) CTS increased by approximately 21% from 3.8 (2.2) to 4.6 (2.4) kg after 12 weeks. Maintaining the PST effort improved from within a mean of  $\pm 22\%$  to  $\pm 16\%$  at week 12.

**Conclusions:** Participants were able to follow the CTAR-SwiFt protocol and use the ExerPhager. A future study, to understand clinical benefits is planned, recruiting participants following hospital discharge. This study was supported by a grant from NIHR PB-PG-1217-20005. ISRCTN 12813363.

## P-783

### Modification Role of Body Mass Index in the Interaction between Cognitive Decline and Physical Decline in Older Adults

Shu Zhang (1), Giovanni Sala (2), Yukiko Nishita (1), Rei Otsuka (1)  
(1) National Center for Geriatrics and Gerontology, (2) University of Liverpool

**Introduction:** Body mass index (BMI) is associated with cognitive and physical function in older adults. However, the modifying effects of BMI on the interaction between cognitive and physical function changes remain uncertain.

**Methods:** The study included 1,607 individuals (aged 62–95 years) from the National Institute for Longevity Sciences-Longitudinal Study of Aging. All participants underwent a baseline assessment and at least one follow-up survey, and had a baseline Mini-Mental State Examination (MMSE) score  $\geq 24$  and no history of dementia. At baseline and during follow-up (up to 20.6 years), cognitive tests (MMSE) and physical assessments (grip strength (kg) and walking speed (m/s)) were repeated. Multivariate Latent Growth Curve models were employed to examine the modifying effect of BMI on the interaction between MMSE and physical function in terms of rate of change (slope), controlling for relevant factors.

**Results:** BMI ( $\text{kg}/\text{m}^2$ ) negatively correlated with the slope of MMSE ( $r = -0.130$ ,  $p = 0.033$ ), grip strength ( $r = -0.078$ ,  $p = 0.036$ ), and walking speed ( $r = -0.100$ ,  $p = 0.008$ ). Significant slope correlations between MMSE and physical functions were observed (grip strength:  $r = 0.473$ ,  $p < 0.001$ ; walking speed:  $r = 0.308$ ,  $p = 0.007$ ). Additionally, the association between MMSE and grip strength slope strengthens with increasing BMI (non-significant in BMI < 18.5;  $r = 0.411$ ,  $p = 0.002$  in BMI 18.5–< 25;  $r = 0.613$ ,  $p = 0.005$  in BMI  $\geq 25$ ).

**Key Conclusions:** BMI modifies the interaction between cognitive and physical decline in older adults.

## P-784

### Predictive Factors For The Occurrence And Severity Of Pressure Ulcers In Hospitalized Elderly Patients

Silvia Ottaviani (1), Eleonora Rondanina (1), Floriana Arnone (2), Virna Brucato (2), Massimo Della Bona (2), Roberto Campigli (2), Ennio Ottaviani (3), Alessio Nencioni (4), Fiammetta Monacelli (4)

(1) 1. Section of Geriatrics, Department of Internal Medicine and Medical Specialties (DIMI), University of Genoa, Genoa 16132, Italy, (2) 3. ASL5 Ospedale San Bartolomeo, Sarzana, Italy., (3) 4. Department of Mathematics (DIMA), University of Genoa, Genoa 16132, Italy., (4) 1. Section of Geriatrics, Department of Internal Medicine and Medical Specialties (DIMI), University of Genoa, Genoa 16132, Italy

**Introduction:** The pathogenesis of pressure ulcers (PU) is a multifactorial process, requiring a multidimensional approach to prevent its occurrence. The present retrospective study has two objectives: to identify the main predictors of PU development in a population of over-65 admitted to a Geriatric Unit and to evaluate the predictors of PU severity.

**Methods:** The population consisted of 316 patients, admitted to the Geriatric Unit and Transitional Care of San Bartolomeo Hospital in Sarzana (Italy) from February to July 2022. Collected information included anamnestic and laboratory data. A comprehensive geriatric assessment was performed, including also anthropometric and physical performance measurements. Thereafter, a binary classification test was set up through logistic regression. In the subsequent ordinal classification test of injury severity levels, the target variable was defined according to the NPUAP-EPUAP scale (I-IV), adapting the statistical classification techniques already employed to the multi-class case.

**Results:** Within the population, 152 subjects (48%) developed PU at different levels of severity. The results showed that age, Braden scale (subscales of mobility and friction/shear), Clinical Frailty Scale, Mini Nutritional Assessment, hemoglobin, and albumin are predictors associated with the development of PU, with an AUC of about 85%. Regarding the identification of predictive factors for PU severity, 4AT also emerges as potentially relevant.

**Key Conclusions:** assessment of the subject's nutritional status and degree of clinical frailty allows the Braden scale to be effectively integrated into identifying patients most at risk of developing PU.

## P-785

### Understanding Factors Influencing Behaviour Change to a Healthier, Environmentally Sustainable Diet for Healthier Ageing in over-40s within the TwinsUK Cohort

Paz Garcia (1), Genevieve Lachance (1), Claire Steves (1)

(1) TwinsUK, King's College London

**Introduction:** Climate change and frailty in an ageing population are major challenges for health. In high-income countries, most individuals over 40 consume unhealthy and environmentally unfriendly diets. These adults have the greatest potential health gains from sustainable diets, through reduced obesity and multimorbidity. We wanted to understand factors that influence behaviour change towards consuming a healthier, environmentally sustainable diet in over-40s in the UK.

**Methods:** The questionnaire was sent online to 1,124 twins (562 pairs) selected from TwinsUK. The questions were mapped onto the Capability, Opportunity, Motivation–Behaviour (COM-B) model for analysis.

**Results:** 828 participants responded: mean age 64 years (range 40–91); 89% female; 68% monozygotic, 30% dizygotic; 92% white, 3% Black, 2% mixed, 2% Asian ethnicity; 48% up to high school education, 50% university educated. Capability: 91% (756) agreed that what they eat has an impact on their health and 80% (660) on climate change. Opportunity: 82% (678) are the main food shopper in their household. 79% (656) control most of their own food prep. Motivation: Improving health was the top motivator for changing diet, selected by 70% (584). 75% (617) would prefer to buy food with a low environmental impact.

**Conclusions:** TwinsUK members are well-informed and motivated to change their diet to improve long-term health and sustainability. Behaviour change interventions can be designed to encourage this transition, to support healthier ageing. TwinsUK overall represents a relatively structurally advantaged population in a high income country and so may have different needs to the wider 40 + population internationally.

## P-786

### Four-week administration of an energy and protein dense oral nutritional supplement improves micronutrient concentrations but does not completely correct deficiencies in institutionalized malnourished older adults

Manuel Sanchez (1), Pauline Courtois-Amiot (2), Audrey Capdepon (3), Nathalie Neveux (4), Julien Gautry (5), Béatrice Dorigny (5), Ludovic Brossault (6), Olivier Bouillanne (7), Christian Aussel (8), Agathe Raynaud-Simon (9), Luc Cynober (4)

(1) Department of Geriatric Medicine, APHP.Nord Bichat Beaujon Bretonneau Hospitals, Paris, France and Faculty of Medicine, Paris Cité University, Paris, France, (2) Department of Geriatric Medicine, APHP.Nord Bichat Beaujon Bretonneau Hospitals, Paris, France, (3) Nestlé Health Science, Issy les Moulineaux, France and URP 4466, Faculty of Pharmacy, Paris Cité University, France, (4) URP 4466, Faculty of Pharmacy, Paris Cité University, France and Clinical Chemistry Laboratory, APHP Cochin Hospital, Paris, France, (5) Nestlé Health Science, Issy les Moulineaux, France, (6) Soladis Group, Lyon, France, (7) Department of Geriatrics, APHP Emile Roux Hospital, Limeil Brevannes, France and URP 4466, Faculty of Pharmacy, Paris Cité University, France, (8) Clinical Chemistry Laboratory, APHP Saint-Antoine Hospital, Paris, France and URP 4466, Faculty of Pharmacy, Paris Cité University, France, (9) Department of Geriatrics, APHP Bichat Hospital, Paris, France and Faculty of Medicine, Paris Cité University, Paris, France

**Rationale:** Poor food intake is common among elderly living in nursing home, leading to micronutrient deficiency (MD). There are no recommendations for the management of MD in malnourished older adults.

**Methods:** We conducted a single arm, open-label, multicenter interventional study in institutionalized malnourished older adults to describe the effect of a 4-week daily energy and protein dense oral nutritional supplementation (ONS, 600 kcal, 30g protein per unit) containing 50% of the recommended daily micronutrient intake on micronutrient status. Plasma concentrations of vitamins (A, B9, B12,

C, E), magnesium (Mg), selenium (Se) and zinc (Zn), and erythrocyte vitamin B9 were measured at baseline and after 4 weeks.

**Results:** Forty-six participants completed the study (age 87.4 ± 6.6). At baseline, the most frequent MD were Se (48%), Zn (35%), Mg (24%) and vitamin C (24%). Plasma concentrations of vitamins B9, B12, C and E, Mg, Se and Zn significantly increased and the proportion of subjects with at least one MD decreased ( $p = 0.006$ ). However, after 4 weeks, 40% of subjects still had at least one MD.

**Conclusions:** ONS consumption improved micronutrient status but did not correct MD in all participants. Vitamin, mineral and trace element supplements should be prescribed in combination with ONS in institutionalized older adults.

Disclosure of Interest: M. Sanchez: None Declared, P. Courtois-Amiot: None Declared, A. Capdepon: None Declared, N. Neveux: None Declared, J. Gautry Other: Nestle Health Science Employee, B. Dorigny Other: Nestle Health Science Employee, L. Brossault: None Declared, O. Bouillanne Consultant for: Nestle Health Science France, C. Aussel: None Declared, A. Raynaud-Simon Consultant for: Nestle Health Science France, L. Cynober Consultant for: Nestle Health Science France, Speakers Bureau of: Citrage Company, Shareholder of: Citrage CompanyKeywords: Micronutrient–Vitamin–Magnesium–Selenium–Zinc–Older Adult–Malnutrition–Nursing Home.

## P-787

### Does the Simplified Nutritional Appetite Questionnaire (SNAQ) actually capture reduced appetite?

Pia Scheufele (1), Dorothee Volkert (1), Marjolein Visser (2)

(1) Institute of Biomedicine of Aging, Friedrich-Alexander-University Erlangen-Nürnberg, Nürnberg, Germany, (2) Department of Health Sciences, Faculty of Science, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands

Appetite is a subjective feeling and therefore difficult to capture. There is no standard method to assess appetite in older adults but SNAQ is widely used. The aim of the present study is to examine the overlap of the SNAQ score with its first question about appetite. Data from 913 Dutch community-dwelling participants of the Longitudinal Aging Study Amsterdam, aged  $\geq 65$  years with available appetite data were analysed. Appetite was assessed by SNAQ (4 questions about appetite, fullness, taste and number of meals, score 4–20). SNAQ score  $\leq 14$  is regarded as reduced appetite (RA, SNAQ-score). Of the first SNAQ question either the answer options “very poor” and “poor” (SNAQ-1a) or additionally “average” (SNAQ-1b) were defined as RA. Sensitivity and specificity were calculated and agreement was checked using McNemar test. Nine participants (0.1%) rated their appetite “very poor”, 1.3% “poor”, 16.9% “average”, 68.7% “good” and 13.0% “very good”. Appetite was categorised as reduced in 11.0% (SNAQ-score), 1.4% (SNAQ-1a) and 18.3% (SNAQ-1b). The proportion of RA is significantly different between the three assessment methods ( $p < 0.001$ ). In relation to SNAQ-score, sensitivity was 100% (SNAQ-1a) and 47.1% (SNAQ-1b), specificity was 90.3% and 97.2% respectively. Depending on the assessment method, the prevalence of RA differed greatly and agreement was rather poor. “Very poor” or “poor” appetite were very rare in the examined population. Regarding also persons with average appetite as RA classifies individuals into RA whose appetite

is not reduced based on SNAQ-score. Definition and determination of reduced appetite require further research.

## P-788

### Sarcopenic Obesity and Health Outcomes: An Umbrella Review of Systematic Reviews with Meta-analysis

Saverio Francesco Ragusa (1), Emanuele Cereda (2), Francesco Pegreff (3), Ligia Dominguez (1), Giusy Vassallo (1), Anna Fazzari (1), Mario Barbagallo (1), Nicola Veronese (1)

(1) University of Palermo, (2) IRCCS San Matteo Pavia, (3) University of Bologna

**Background:** Many studies supported that sarcopenic obesity (SO) could be considered as a potential risk factor for negative health outcomes. However, these results have been inconsistent and, to the best of our knowledge, no umbrella reviews exist regarding this topic.

**Objective:** The aim of this work was to assess the strength and credibility of the evidence derived from SO considered as potential risk factor for other health outcomes.

**Design:** Several databases until to 01st March 2023 were searched for systematic reviews with meta-analysis of observational studies. For each association, random-effects summary effect sizes, with correspondent 95% confidence intervals (CIs) were evaluated using the Grading of Recommendations, Assessment, Development and Evaluation (GRADE) tool.

**Results:** Among 201 papers initially screened, only nine systematic reviews with meta-analysis were included with a total of 384,710 participants. In any population, compared to non SO, SO increased the prevalence of cognitive impairment ( $k = 3$ ; OR = 3.46; 95% CI 2.24–5.32; high certainty of evidence), coronary artery disease ( $k = 2$ ; 95% CI 2.48; 95% CI 1.85–3.31) and dyslipidaemia ( $k = 3$ ; OR = 2.50; 95% CI 1.51–4.15) (both moderate certainty of evidence). However, when compared to sarcopenia or obesity, the results were conflicting. The association between SO and other negative outcomes in prospective studies was supported by low/very low certainty of evidence and limited to a few conditions.

**Conclusion:** SO could be considered as risk factor only for a few conditions (e.g., the prevalence of cognitive impairment, coronary artery disease and dyslipidaemia) with a literature mainly based on cross-sectional and case-control studies addressing risk estimates compared to non-SO.

## P-789

### Vitamin D Deficiency In Patients Of The Geriatrics Ward—Should We Not Reconsider Our Approach To Vitamin D3 Supplementation Promotion In The Older Population?

Maksymilian Lech (1), Marcin Warpechowski (1), Aleksandra Wojszel (1), Justyna Rentflejsz (2), Marta Swietek (3), Zyta Beata Wojszel (4)

(1) Interdisciplinary Student Scientific Circle at the Department of Geriatrics, Medical University of Białystok, Białystok, Poland, (2) Doctoral School, Medical University of Białystok, Białystok, Poland, (3) Department of Geriatrics, Hospital of the Ministry of Interior and Administration, Białystok, Poland, (4) Department of Geriatrics, Medical University of Białystok, Białystok, Poland

**Introduction:** A nationwide cross-sectional study, PolSenior2, showed the high prevalence of vitamin D deficiency in older adults in Poland. This study did not include hospitalized older people and

residents of long-term care. Therefore, we aimed to evaluate 25 (OH) D status in multi-morbid, disabled patients of a geriatric ward and its association with age, gender, body mass index, and use of vitamin D supplements.

**Material and Methods:** The study included 240 out of 250 patients over the age of 60 consecutively admitted to the UMB Department of Geriatrics in May–December 2019, in whom 25 (OH) D levels were determined—including 177 (73.8%) women, 193 (80.4%) people over 75 years of age.

**Results:** The study group's median 25 (OH) D level was 22.95 (IQR, 13.7–33.0) ng/ml. Only 18.4% of the subjects took vitamin D supplements at hospital admission. A total of 67.5% of patients had vitamin D deficiency (level < 30ng/ml), with similar frequency in both gender and age groups (< 75 and 75 + years), significantly more often in the group of patients not taking supplementation (70.9% vs. 52.3%,  $p = 0.02$ ) and with BMI  $\geq 30$  kg/m<sup>2</sup> (76.2% vs. 59.2,  $p = 0.007$ ). The deficiency was profound in 15% of cases, i.e., < 10 ng/ml.

**Conclusions:** Although recommendations for vitamin D supplementation aimed at preventing its deficiency have been in place for over a decade, the percentage of seniors admitted to the geriatric ward with vitamin D3 deficiency remains alarmingly high. It correlates with low adherence to the recommendation of continuous prophylactic supplementation. This indicates the need for further action to counter this negative trend.

## P-790

### Can food intake monitoring help to identify those with unreported weight loss? Reflection on Nutrition Day in the University Hospital in Krakow

Anna Rudzińska (1), Paulina Wójcik (2), Barbara Gryglewska (1), Karolina Piotrowicz (1), Jerzy Gąsowski (1)

(1) Department of Internal Medicine and Gerontology, Jagiellonian University Medical College, Krakow, Poland, (2) Faculty of Medicine, Jagiellonian University Medical College, Krakow, Poland

**Introduction:** Nutrition Day is a worldwide nutritional audit that takes place once a year to spread awareness on the importance of malnutrition screening and improving nutritional care. This was the first time that the University Hospital in Krakow participated in the initiative. One of the aims of participation was to assess the reasons why patients did not eat a whole meal on the day of the audit.

**Methods:** Patients were recruited on December 8th, 2022 while hospitalized in internal medicine wards of the University Hospital in Krakow. Data were obtained using hospital documentation and questionnaires.

**Results:** We included 41 patients. We identified 25 patients who did not consume a whole portion of their main meal the day the audit took place. Among them 9 stated that they ate none of the provided hospital food. We recorded 43 reasons for meal rejection. The most common were that portions in hospital were bigger than what they were used to (11 reports) or low acceptance for the type of food served in hospital or its taste/smell (10). 6 patients indicated that they were not allowed to eat. Of those who had not eaten a full meal, 16 stated that they had unintentionally lost weight in the last three months of which in only 5 cases was this documented in their medical history.

**Conclusion:** Weight loss is underreported in hospital settings. Paying attention to the amount of food left on plates may facilitate a discussion on appetite loss and risk of malnutrition.

**P-791****Higher values of the TyG index predict better survival in the oldest-old with poor nutritional status**

Aleksander J. Owczarek (1), Jakub Ciesielka (2), Magdalena Olszanecka-Glinianowicz (1), Katarzyna Wieczorowska-Tobis (3), Jerzy Chudek (2)

(1) Health Promotion and Obesity Management Unit, Department of Pathophysiology, Faculty of Medical Sciences in Katowice, Medical University of Silesia, Poland, (2) Department of Internal Medicine and Oncological Chemotherapy, Faculty of Medical Sciences in Katowice, Medical University of Silesia in Katowice, Poland, (3) Department of Palliative Medicine, Poznan University of Medical Sciences, Poland

**Introduction:** Poor nutritional status (PNS) is a heterogeneous condition interfering with successful aging, and reflecting the shift in medical attention from metabolic syndrome to malnutrition in older adults. This analysis aimed to test the predictive value of the triglyceride-glucose (TyG) index in PNS community-dwelling older adults.

**Methods:** This sub-analysis of a PolSenior study on aging in Poland and enclosed 3546 subjects (52.4% women), aged  $> = 65$  yrs. The study group was divided into tercile (8.39 and 8.83) of the triglyceride-glucose index (TyG) and then according to nutritional status (based on the Mini Nutritional Assessment–Short Form) and age ( $<$  and  $> = 80$  yrs). In addition, BMI, visceral obesity, and adiposity index (VAI), as well as comorbidities, including lipid profile and statin usage were assessed.

**Results:** PNS (MNA-SF  $< 12$  pts.) was significantly ( $p < 0.001$ ) more common in the oldest-old subgroups for all TyG tercile groups (from the lowest: 48.6% vs 70.6%; 40.8% vs 65.8% and 38.2% vs 62.2%, respectively). There were no differences in 5-year survival between TyG tercile groups in subgroups with normal nutritional status, independent of age, as well as in a younger subgroup with PNS. On the opposite, the oldest-old subjects with PNS in the lower tercile of TyG had a 21% lower chance of survival than those in the upper tercile group and had less often obesity, visceral obesity, diabetes, hypertension, hypercholesterolemia, hypertriglyceridemia, and lower values of VAI.

**Conclusions:** TyG index may be a predictor of survival in the oldest-old with poor nutritional status.

**P-792****Can Zinc Twice a Day, Keep the Hospital Away?—Project ZOOM: A Protocol for a Cluster Randomized Controlled Trial**

Pernille Holm Ellegaard (1)

(1) Department of Medicine, Copenhagen University Hospital, Herlev and Gentofte, Denmark

**Introduction:** Zinc is essential for a well-functioning immune system and zinc deficiency is associated with increased tendency of infections. Less than half of the free-living older adults have a sufficient zinc intake. Previous small studies have showed a positive tendency towards a beneficial effect of zinc supplements on infections among community dwelling elders and larger studies including older hospitalized patients are needed. MethodThis project includes two sub-

studies: 1) ZOOM out: A Cluster Randomized Controlled Trial (N = 4000). Clusters will be time each 45 min, which will randomly assign patients 1:1 to intervention with zinc supplementation (22 mg twice daily for 1 year) or not. Exclusion criteria: receiving zinc supplementation, parenteral nutrition, or dialysis. Primary outcomes: Use of antibiotics in 1 year. Secondary outcomes: 1-year mortality and readmission. 2) ZOOM in: Will investigate the effect of zinc supplementation on physical function, number of infections and quality of life, in a smaller subpopulation (N = 240). Differences in effect on zinc supplements depending on nutritional intake, plasma zinc levels with and without adjustments for albumin will be evaluated.

**Results/Status:** Permits and funding is currently being applied for. Inclusion is set to start in 2024.

**Key Conclusion:** In essence our main research question is: Can zinc twice a day, keep the hospital away? If so, the result of this study could be of huge societal interest, and important for a global strained hospital service.

**P-793****Diet-related inequalities among family caregivers: evidence from the LENTO (LifEstyle, NutriTion, and Oral health in caregivers) study**

Roosa-Maria Savela (1), Irma Nykänen (2), Sohvi Koponen (2), Anna Liisa Suominen (3), Ursula Schwab (2), Tarja Välimäki (1)

(1) Department of Nursing Science, University of Eastern Finland, Kuopio, Finland, (2) Institute of Public Health and Clinical Nutrition, School of Medicine, University of Eastern Finland, Kuopio, Finland, (3) Institute of Dentistry, School of Medicine, University of Eastern Finland, Kuopio, Finland

**Introduction:** Some family caregivers experience financial vulnerabilities, which may affect their ability to afford nutritious food. Therefore, this research assessed the extent to which there are diet-related disparities among family caregivers of older adults in Finland.

**Methods:** Data on family caregivers' health, nutritional status, and sociodemographic factors were collected at their households between June 2019 and December 2019. The associations and predictors of diet-related disparities were assessed using the Independent Samples t-test,  $\chi^2$ -test, and binary logistic regression. First, we assessed the sociodemographic factors associated with family caregivers' inadequate diet. Then, we evaluated diet-related health disparities.

**Results:** A total of 125 family caregivers from Eastern Finland (mean age 74) were included. The preliminary results show that those family caregivers experiencing subjective poverty were less likely to consume two or more portions of fruit and vegetables per day (odds ratio = 0.11; 95% confidence interval 0.02–0.72;  $p = 0.021$ ) and were more likely to be overweight. Furthermore, family caregivers' inadequate diet (i.e., lack of daily fruit and vegetables and risk of malnutrition) was further associated with several health conditions, including comorbidity, depression, diabetes (including type I and II), and osteoporosis.

**Key Conclusions:** Family caregivers have diet-related inequalities, which may lead to health inequalities. We must assess the root causes of diet-related disparities among family caregivers of older adults in Finland and the broad consequences to find solutions to narrow the inequalities.



**P-794****The Importance Of Geriatric Patients' Self-Defined Chewing Difficulty In Screening Of Malnutrition**

Ezgi Pinar (1), M.Esra Bozkurt (1), Zeynep Fetullahoglu Durmus (1), Humeyra Ozalp (1), Cihan Kilic (1), Tugba Erdogan (2), Serdar Ozkok (3), Mehmet Akif Karan (1), Gulistan Bahat (1)

(1) Istanbul University, Istanbul Medical Faculty, Division of Internal Medicine, Subdivision of Geriatrics, (2) Tekirdag Dr. İsmail Fehmi Cumalioglu City Hospital, (3) Hatay Education And Research Hospital

**Introduction:** In the elderly population, health issues related to malnutrition could be prevented by adequate nutritional intake. Oral cavity diseases, problems of gums or teeth might cause chewing difficulties and malnutrition[1,2].

**Aim:** In this study, we aim to overview the risk of malnutrition in elderly with chewing difficulties and its relationship with other geriatric syndromes.

**Methods:** The data of 2013 patients aged  $\geq 58$  who applied to Geriatrics' outpatient clinic of a tertiary hospital are provided, from November 2012 to August 2022, were retrospectively analyzed. 827 participants with chewing difficulties were included. Age, gender, educational status, marital status, physical activity, chewing difficulties, urinary/fecal incontinence, constipation and fragility of the participants were scanned. The Mini Nutritional Test short form (MNA-SF) was used to screen for malnutrition. Those who scored  $\leq 11$  were considered as malnutrition. Frailty was screened with the FRAIL scale. Patients scoring  $\geq 3$  were defined as frail.

**Results:** Of the 827 chewing data, with a median age of  $75.8 \pm 7.0$  (58–99), 31.1% (257) of the participants were male. 155 (18.2%) of the patients stated of having difficulty while chewing. According to MNA-SF, malnutrition was detected in 213 (26.3%) of the patients; 67 of these patients (30.7%) had chewing problems ( $p = < 0.001$ ). Logistic regression analyzes were performed with univariate analyzes to demonstrate the factors independently associated with chewing difficulty (malnutrition, educational status, marital status, physical activity, urinary/fecal incontinence, constipation, fragility). Independently correlated factors in participants with chewing difficulties were age [OR = 1.034, 95% CI (1.003–1.067),  $p = 0.032$ ], educational status [OR = 0.871, 95% CI (0.761–0.998),  $p = 0.047$ ], malnutrition [OR = 1.789, 95% CI (1.188–2.692),  $p = 0.005$ ], urinary incontinence [OR = 1.239, 95% CI (0.825–1.860),  $p = 0.009$ ], fecal incontinence [OR = 2.427, 95% CI (1.155–5.102),  $p = 0.019$ ] and constipation [OR = 2.557, 95% CI (1.747–3.743),  $p = < 0.001$ ].

**Conclusion:** In our study, it was shown that malnutrition frequency is increased in the geriatric population with chewing difficulties ( $p = < 0.001$ ). In the presence of advanced age, education level, marital status, incontinence and constipation, it was emphasized that people with chewing difficulties should be examined more carefully in terms of malnutrition.

**References:**

1. Padilha DM, et al. *J Gerontol A Biol Sci Med Sci* 2008;63:739–44.
2. Petersen PE, et al. *Bull World Health Organ* 2005;83:661–9.

**P-795****Lifestyle and dietary group guidance through mobile application (mHealth) : randomised controlled trial**

Heli Salmenius-Salmenius (1), Merja Suominen (2)

(1) M.Sc., Society for Gerontological Nutrition in Finland, (2) PhD, ad. prof., Department of General Practice and Primary Health Care, University of Helsinki, Society for Gerontological Nutrition in Finland

**Background:** Changes in diet and at least 5% weight loss may prevent or delay several obesity-related chronic diseases. Technical tools such as mobile health (mHealth) applications seem to be effective in weight loss interventions.

**Methods:** Overweight and obese (BMI 25–40 kg/m<sup>2</sup>), 50–65 years adults ( $n = 73$ ) were recruited for 6-month intervention period. Participants in the intervention group ( $n = 31$ ) used a smartphone application to keep visual food journal, share their meals with their peer group members and receive virtual coaching from nutritionist. The control group ( $n = 24$ ) received no intervention. Self-efficacy, habit strength and health related quality of life was assessed. Blood fasting glucose, lipids, weight, and waist circumference was measured. Food intake was measured on three-day food diary and eating behaviours with Three-Factor Eating Questionnaire R18. Overall interaction with the application was measured continuously throughout the study period.

**Results:** In the intervention group, 45% of the participants lost weight and 58% of the control group participants. Waist circumference decreased 55% of the intervention group participants and 38% in the control group. The use of vegetables and fruits was increased based on entries made to the application.

**Conclusions:** This study provides information about the use of mHealth for weight loss and helps to identify the markers for successful lifestyle changes. Intervention is easily scalable, and it can provide new methods to be used in healthcare. More detailed results will be published later.

**P-796****Expedited Dietary evaluation and interventions within 24 h of acute geriatric admissions leading to better outcomes**

Alanoud Alfehaidi (1)

(1) HMC

**Objectives:** To optimize nutritional status of an acutely unwell older adult with early dietary interventions within 24 h. of admission. To complement medical management of acute and chronic diseases by addressing nutritional issues.

**Background:** Elderly presenting to the acute geriatric units (AGU) have significant co-morbidities with multiple risk factors for malnutrition associated with poorer health outcomes and complications in acutely unwell patients. Prompt assessments and management of patients upon admission would significantly improve the general health thus minimizing the hospitalization. According to the policy, clinical dietitian review is acceptable to take place up to 36h from the time of referral following which dietary interventions may be placed which can be up to 36–72h from the time of admission aim was to

establish Medical nutrition evaluation and interventions within 24 h of all admissions on AGU.

**Methods:** Prompt evaluation and implementation of medical nutrition interventions within 24 h of admission followed by daily monitoring of dietary parameters. Comprehensive geriatric care plans were created by virtue of direct feedback of dietary issues and recommendations to the multidisciplinary teams (MDT) during daily morning reports on medical management of acute and chronic diseases.

**Results:** All patients were seen promptly ranging from 1 to 16 h. Dietary interventions were implemented within 24 h of dietary evaluation. All patients admitted to the AGU had nutritional issues ranging from malnutrition, dehydration, poor oral intake, dietary deficiencies, and bowel habit disturbance. Malnutrition score improved from severe to moderate, Fluid management requires detailed evaluation and collaborative intervention working in close conjunction with MDT to prevent dehydration and fluid overload. Thorough evaluation, intervention and monitoring has led to significant improvements in oral intake from 30% on admission to 70% upon discharge with perseverance and innovative strategies. Early identification and management of micronutrient deficiencies has led to quicker recovery. Bowel habit disturbance managed efficiently with dietary interventions, patients open bowels within 24 h of admission. By virtue of early interventions, the length of stay consistently remains around 6 days.

**Conclusion:** Early dietary interventions leads to quicker resolution of acute and chronic medical issues in older people. Unique method of collaborative care model was developed wherein clinical dietitians became an integral part of the team.

### P-797

#### The Refeeding Syndrome: a neglected but potentially serious condition for geriatric in acute units

Alanoud Alfahaidi (1)

(1) HMC

**Introduction:** Acute geriatric units in Rumailha hospital provide care to unwell older patients with a range of complex medical condition with variable degree of severity of frailty. Refeeding syndrome (RFS) is widely considered to be a common problem among the elderly, Refeeding syndrome is defined as severe, (and potentially fatal) electrolyte and fluid shifts associated with metabolic abnormalities in malnourished patients undergoing refeeding, whether orally or enterally risk of RFS is usually neglected or overlooked among hospitalized patients and is not well recognized due to lack of a screening tool to identify risk of the refeeding syndrome. Currently there are no well recognized protocols /CPG for refeeding screening risk assessment tool or prevention and management of refeeding syndrome guideline available in HMC.

**Objectives:** Early screen and management of refeeding syndrome using a rule of thumb by involving multidisciplinary team from 0 to 95% at geriatric units between July to Dec 2023. Early detection of Refeeding syndrome by using Refeeding syndrome risk assessment tool. Early assessment and management in individuals with Low, High and very high risk of refeeding syndrome.

**Methods:** A multidisciplinary team was formed in May 2022 to conduct a quality improvement project to prevent Refeeding

syndrome using “Plan-Do-Study-Act (PDSA) methodology”. All stakeholders were involved, and interventions were carried out in three steps. First step was to create Assessment screening tool which would help identify the high-risk category (1st PDSA). Second step was to develop Multidisciplinary Team interventions of Refeeding syndrome management (2nd PDSA) and standardizing the approach by establishing an intervention guideline. Third step was to pilot in two units of the acute care units to analyze the effectiveness of this initiative (3rd PDSA).

**Results:** Following multimodal multifaceted intervention by the interdisciplinary team members (Physicians, Nursing and clinical Dietitians) showed refeeding syndrome manage probably in the pilot units.

**Conclusion:** Prevention and management of refeeding syndrome in the acute care units is really challenging due to the complexity of the medical conditions. However, this project has shown refeeding syndrome treatment and prevention is possible if early screening and interventions are implemented by multidisciplinary team members. Next steps would be to Establishing Clinical Practice Guidelin (CPG) on assessment and Management of Refeeding syndrome.

### P-798

#### Fluid overload and Association of hidden fluid administration: Improve fluid assessment and management using “FAM” Protocol at Acute geriatric Units

Alanoud Alfahaidi (1)

(1) HMC

**Introduction:** Acute geriatric units in Rumailha hospital is a 30 bedded provide care 24 h to patients who have multiple comorbidities and behavioral problems, all are high risk of dehydration. On artificial feeding, IV fluids may need to be given urgently and fluid intake through feeding tube will need to be appropriately amended as per the requirements. If managed improperly then it is associated with increased risk of mortality and morbidity.

**Methods:** A multidisciplinary team was formed to conduct a quality Improvement project to improve fluid management using “Plan-Do-Study-Act (PDSA) quality improvement methodology”. All stakeholders were involved and interventions were carried out in three steps. First step was to establish a FAM (Fluid Assessment & Management) protocol which outlined use of a standard fluid deficit calculator and accordingly manage with appropriate fluid and quantity (1st PDSA), Second step was to educate physicians and early involvement of dietitians and monitoring by nurses (2nd PDSA) and Final step was directed towards family who were also involved in feeding (3rd PDSA).

**Results:** Following multimodal multifaceted intervention by the interdisciplinary team members (Physicians, Nursing, Dietitians) showed compliance with use of a standard protocol from 0 to 35% within 1 month and subsequently increased to 100%, dietitians were involved in all cases started on IV fluid and establishing a guideline on management of fluids.

**Conclusion:** Multidisciplinary approach using standard tools in calculating fluid deficits and managing it with appropriate quantity of fluid replacement has led to better outcomes with no iatrogenic complications.

**P-799****Nutrition and dementia care: developing an evidence-based model for nutritional care at long term care**

Alanoud Alfehaidi (1)

(1) HMC

**Introduction:** Long term care facilities provides care for people who are Diagnosis with Dementia.. Currently there are 23 patients diagnose as Dementia (13 on oral Intake, 8 on NGT and 3 on PEG). elderly suffering from dementia are at increased risk of malnutrition due to various nutritional problems, and the question arises which interventions are effective in maintaining adequate nutritional intake and nutritional status in the course of the disease.

**Methods:** A quality Improvement project is conduct by using “Plan-Do-Study-Act (PDSA) quality improvement methodology”. All stakeholders were involved and interventions were carried out in three steps. First step was to establish Management of Weight Loss in the Elderly protocol (1st PDSA), Second step to Provide Provision of adequate food according to individual Dysphagia Levels and needs with respect to personal preferences (2nd PDSA), Third step was use of Oral Nutrition Supplement to improve nutritional status.

**Results:** Following WHO multimodal improvement strategy (build it, teach it, check it, sell it and live it) showed all patients gaining weight after Dietitian Intervention by increase calorie, Protein and add Oral Dietary Supplement, there is significant improvement of oral intake comparing 6 months ago to present. This resulted to progressive increase in BMI and improve albumin level.

**Conclusion:** Nutrition intervention is important in order to address the feeding concerns that are present in different stages of Dementia. This is to ensure that patient is adequately fed and to achieve a healthy weight. However, this project has shown prevent weight loss is possible if early interventions are implemented by Dietitian.

**P-800****Effective of L-arginina, glutamine and HMB: Evidence-Based Nutritional Interventions in Wound Care management**

Alanoud Alfehaidi (1)

(1) HMC

**Introduction:** Older adults are more likely to have chronic wounds and the effect on quality of life is particularly profound in this population. Optimal wound healing requires adequate nutrition. Nutrition deficiencies impede the normal processes that allow progression through stages of wound healing. Malnutrition has also been related to decreased wound tensile strength and increased infection rates. Nutrition plays an essential role in wound healing, wound care practices, and nutritional support needs to be considered a fundamental part of wound management.

**Methods:** A quality Improvement project is conduct by using “Plan-Do-Study-Act (PDSA) quality improvement methodology”. All stakeholders were involved and interventions were carried out in four steps. First step was to establish a nutrition management protocol which outlined use of an amino acid (Arginine glutamine and beta-hydroxy-beta-methylbutyrate (1st PDSA), Second step to refer all wound cases to dietitian to assess and prescribe amino acids (2nd PDSA), Third step was to pilot in units of the long-term care facility to analyze the effectiveness of this initiative (3rd PDSA), Fourth step to Calculate percentage of wound healing and reassess by dietitian (4th PDSA).

**Results:** Following WHO multimodal improvement strategy (build it, teach it, check it, sell it and live it) showed all wound healed 100% in long term by given the resident L-Arginina as supplement to accelerate healing and to reduce the cost.

**Conclusion:** Treat chronic wound in the long term care facility is really challenging due to the complexity of the medical conditions. However, this project has shown healed chronic wound is possible if interventions are implemented by Dietitian and multidisciplinary team members.

**Old Age Psychiatry****P-801****Mental Health Assessment In Community-Dwelling Elderly In Czech Republic**

Radka Kozáková (1), Radka Bužgová (1), Katka Bobčíková (1), Petr Šilhán (2), Petr Dostálek (2)

(1) Department of Nursing and Midwifery, Faculty of Medicine, University of Ostrava, Czech Republic, (2) Psychiatric department, University hospital, Ostrava, Czech republic

**Introduction:** The purpose of our cross-sectional study was to assess the aspects of mental health (depression, anxiety, self-esteem, sense of coherence in older adults living in the community in the Czech Republic.

**Methods:** This cross-sectional study was conducted from May 2021 until May 2022. The sample included older adults living in the community 60 years and older in the Czech Republic (n = 1174). The self-reported Geriatric Depression Scale: Short form (GDS-15), Geriatric Anxiety Inventory (GAI), The Sense of Coherence Scale (SOC-13), and the Rosenberg Self-Esteem Scale (RSES) were used to measure the primary outcomes: mental health.

**Results:** Study subjects (n = 1174) had a mean age of 72.28 (SD ± 6.15) and were predominantly female (n = 831, 70.8%). Participants' average scores on self-reported measures of anxiety were 4.69 (SD ± 5.19) and depression 3.04 (SD ± 3.03). Moderate depression has been found in 139 elderly (11.8%) and severe depression in 43 elderly (3.7%). Symptoms of depression (GDS>5) were found more frequently in women (p = 0.049) and people with lower self-esteem (p = 0.012). Participants' average scores on self-reported self-esteem measures were 19.48 (SD ± 3.39) and sense of coherence: 62.16 (SD ± 9.87). Statistically significant correlations have been found between depression score and anxiety score (r = 0.552; p < 0.001), self-esteem (r = -0.437; p < 0.001), and sense of coherence (r = -0.503; p < 0.001). The self-esteem score was significantly positively correlated with the sense of coherence (r = 0.524; p < 0.001).

**Key Conclusions:** Early identification of mental health problems is the key to limiting their negative impacts. For selected elderly, interventions to improve mental health were recommended by a community nurse.

**P-802****Fear of COVID-19 and attitudes towards COVID-19 vaccines among older adults in Poland: a preliminary study**

Mateusz Cybulski (1), Zyta Beata Wojszel (2), Aleksandra Wojszel (3), Elzbieta Krajewska-Kulak (1)

(1) Department of Integrated Medical Care, Medical University of Bialystok, Bialystok, Poland, (2) Department of Geriatrics, Medical University of Bialystok, Bialystok, Poland, (3) Student's Scientific Society at the Department of Geriatrics, Medical University of Bialystok, Bialystok, Poland

**Background:** The fear of being infected with the SARS-CoV-2 has become widespread, especially among older adults. Information campaigns to promote mass vaccination against COVID-19 are the most important element in controlling and preventing the spread of the COVID-19 pandemic. However, their success primarily depends on vaccination coverage in a given population. Aim: The aim of this study was to assess the severity of COVID-19 anxiety and attitudes towards COVID-19 vaccines among older adults in Poland on the example of seniors from Bialystok.

**Methods:** This preliminary study was conducted among a total of 127 participants, including 108 students (85%) of Third Age Universities in Bialystok and 19 patients (15%) of the Department and Clinic of Geriatrics of the Hospital of the Ministry of Internal Affairs and Administration in Bialystok. The study used four standardized psychometric tools: The Fear of COVID-19 Scale (FCV-19S), Coronavirus Anxiety Scale (CAS), The Drivers of COVID-19 Vaccination Acceptance Scale (DrVac-COVID19S), and Scale to Measure the Perception of SARS-CoV-2 Vaccines Acceptance (The VAC-COVID-19 Scale).

**Results:** COVID-19 vaccination coverage in the study group was 88.2%, with three doses in most cases. We found a negative vaccination status only in women taking part in the study. Men scored significantly higher on DrVac-COVID19S and its Value subscale, and markedly lower on FCV-19S. We did not observe significant differences in the scales' scores between age groups. Respondents recruited from the Third Age Universities had significantly higher scores than geriatric patients in the Knowledge subscale of DrVac-COVID19S. In the case of FCV-19S, no correlation with the results obtained in other scales used in the study was found. Additionally, no correlation was found between CAS scores and the following scales: DrVac-COVID19S (total), DrVac-COVID19S Knowledge (K) subscale, DrVac-COVID19S Autonomy (A) subscale and VAC-COVID-19-Scale-positive subscale. The other scales were strongly correlated with each other—the correlations were statistically significant.

**Conclusions:** Subjective COVID-19 anxiety in the study group was moderate. Seniors were more likely to show positive vaccine attitudes, as confirmed by the percentage of respondents vaccinated against COVID-19 with at least one dose. However, there is still a percentage of unvaccinated individuals in the population of seniors; therefore, measures should be taken to motivate this age group and encourage preventive vaccination against COVID-19. Furthermore, representative studies on COVID-19 anxiety and attitudes towards the COVID-19 vaccine among Polish seniors are needed to determine a more precise prevalence of these phenomena and potential correlations on a national level.

**P-803****The Multi-layer Agony: A Story of Revealing And Healing**

Shuang Jin (1), Yonghong Huang (2), Min Gu (2), Jingyu Li (2)

(1) Department of Geriatrics, Peking Union Medical College, Chinese Academy of Medical Sciences, (2) The First Affiliated Hospital of Chongqing Medical and Pharmaceutical College

**Case report:** A 74-year-old woman was admitted to the hospital due to facial disfigurement, which prevented her from passing the facial recognition verification for social insurance annual checks. She complained of facial skin pain (NRS 4–6) and only moisturized her eyelids with water for cleaning, causing dirt accumulation through the years. Physical examination showed thick black-brown crusts covering the patient's head and face, fulfilling a diagnosis of cutaneous dirt-adherent disease. However, the patient denied the diagnosis and refused the dermatologist's treatment. Further comprehensive geriatric assessment showed 11/15 in GDS-15 and 0/6 in ADL. Though with highly likely depression, she refused to be seen by a psychologist. Soon the ward was in quarantine because of COVID-19, and we had a chance to stay together and talk thoroughly. She confessed that, as a former doctor, she had "performed too many abortions in the time of strict family planning, so now she was suffering from the consequences and couldn't face people". We listened to her stories attentively without judgement. One day, the patient accepted a trial to treat her skin lesion. With the help of Lithospermum oil, the crusts on her face peeled off gradually. She learned to clean her face daily and apply moisturizing cream to prevent recurrence. Six months later, the patient's pain was reduced (NRS 1–3), GDS-15 score was 5, and there were no more crusts on her face. Now she can finally "face people" and accepts friends' visits.

**P-804****Negative Campaigning, Political Group Participation, and Depressive Symptoms among Older Adults**

Y.C. Lin (1), H.T. Yan (2)

(1) Department of Chinese Medicine, CMUH, Taichung City, Taiwan, (2) Institute of Political Science, AS, Taipei City, Taiwan

**Introduction:** The claim that political group attendance is associated with poorer mental health among older adults may be conditioned on characteristics of electoral districts. This study examines the electoral contexts under which political participation is causing an epidemic of depression.

**Methods:** The 11-year follow-up data from the Taiwan Longitudinal Study on Ageing, covering 5,334 persons aged 50 years and older, were analysed using random-effects panel logit models. Depressive symptoms were assessed using 10 items from the Center for Epidemiologic Studies Depression Scale. Participants were asked to indicate whether they were members of different types of social groups. Negative campaigning was measured as any criticism levelled by one candidate against another during a campaign, using text analysis. We modelled depressive symptoms as a function of political group participation (the independent variable) and negative

campaigning (the moderators), adjusting for individual-level characteristics.

**Results:** Respondents in political groups were more likely to report depressive symptoms than those in non-political groups (adjusted odds ratio [AOR] = 1.90, 95% confidence interval [CI] = 1.34–2.68). For those who remained politically engaged, living in districts with higher levels of negative campaigning was associated with a higher likelihood of depression (AOR = 3.20, 95% CI 1.57–6.53); this conditional effect was not prevalent among those who were solely engaged in non-political groups (AOR = 0.94, 95% CI 0.77–1.14).

**Key Conclusions:** Political group attendance can have potentially harmful effects on mental health outcomes among older adults living in districts where candidates rely heavily on negative campaigning.

## P-805

### Prevalence And Associations Of Frailty And Depression Among Hospitalized Older Patients: A Retrospective Observational Study

Marta Calcagnile (1), Renata Pennisi (1), Giulia Voltarel (1), Giulio Bartoli (2), Giuseppe Castiglia (2), Paolo De Colle (2), Michela Zanetti (1)

(1) Department of Medical Sciences, University of Trieste, Italy, (2) Geriatric Clinic, Maggiore Hospital, Azienda Sanitaria Universitaria Giuliano Isontina, Trieste, Italy

**Background:** Depression is a common mood disorder in the geriatric population. Previous studies demonstrated an association between depression and frailty as measured with Multidimensional Prognostic Index (MPI). The objective of this study is to measure prevalence of depression and frailty in a hospital ward and to describe the associations between depression and MPI domains as well as demographic, clinical, laboratory and outcome variables.

**Methods:** Prevalence of depression, explored through the 15-item Geriatric Depression Scale (GDS), and of frailty (evaluated through MPI) was investigated in a cohort of 1050 older patients hospitalized from January 1st 2018 to December 31st 2019 at the Geriatric Division of Trieste, Italy. Cognitively impaired patients with Short Portable Mental Status Questionnaire (SPMSQ) > 4 were excluded. The correlations were studied with the Spearman coefficient ( $\rho$ ); chi-square test was employed for categorical variables.

**Results:** Among 677 patients the prevalence of mild to moderate and severe depressive symptoms was respectively 28.08% and 4.28%. Females were more represented in the higher GDS classes ( $p < 0.05$ ). The analysis showed a positive correlation between GDS score and Activities of Daily Living (ADL), Instrumental ADL, Exton Smith Scale, SPMSQ and Mini Nutritional Assessment and with length of stay (LOS) ( $p < 0.0001$ ). A strong correlation ( $p < 0.0001$ ) with MPI was confirmed.

**Key Conclusions:** In a hospital setting, depressive symptoms appear to be more severe among females and to be correlated with MPI. The MPI domains that showed a significant correlation with depression appeared to be those related to functional, nutritional, cognitive status, living condition and LOS.

## P-806

### Ethnic Differences in Parkinson's Disease in Older Chilean Adults

Moisés H. Sandoval (1), Marcela Alvear Portaccio (2), Cecilia Albala (1)

(1) University of Chile, (2) National Administrative Department of Statistics (DANE), Colombia

**Introduction:** Parkinson's disease (PD) is a common neurodegenerative disease of advanced age. In Chile, 12% of the population is indigenous, but little is known about ethnic differentials in health and, in specific, in Parkinson's disease. Thus, we aimed to determine the association between ethnicity and Parkinson's disease in older adults ( $\geq 60$  years) in Chile.

**Methods:** We used data from the Demographic, Aging and Health Survey 2022 applied to a representative sample ( $n = 831$ ) of indigenous and non-indigenous older. This survey includes a question on previous Parkinson's diagnosis. We compared the difference in PD between the indigenous group by Chi-squared test. Then, we estimated a series of unadjusted and adjusted logistic regression models (for sex, age, area and region of residence and socioeconomic status).

**Results:** The mean age of respondents was 70.8 years (7.9), 47.5% were indigenous and 5.1% reported having been diagnosed with PD. The results suggest the existence of significant differences in PD ( $p < 0.05$ ) between indigenous and non-indigenous older adults. In fact, the unadjusted model allows us to visualize that older Mapuche adults have a 92% higher chance of PD ( $p < 0.05$ ) compared to non-indigenous adults. Even controlling for sex, age, area and region of residence, and education, the association between ethnicity and PD remains of similar size and significance (OR: 1.92; 95% CI 1.00–3.74;  $p < 0.05$ ).

**Key Conclusions:** Although the cause of PD remains unknown, environmental factors are suspected. Exposure to air pollution may be one of the causes of the ethnic differences in PD detected here.

## P-807

### Antidepressant Deprescribing in Older Adults—Information Available in Key Information Sources for Healthcare Professionals

Isanora Engström (1), Marja Airaksinen (1), Sirkka-Liisa Kivelä (2), Niina Mononen (1)

(1) University of Helsinki, (2) University of Turku

**Introduction:** Long-term antidepressant use has increased significantly among older adults. Deprescribing is an important part of medicines optimisation and management of long-term diseases. Healthcare professionals (HCPs) need appropriate guidance for stopping antidepressants. This study examined the information available in key sources for HCPs about antidepressant deprescribing.

**Methods:** A qualitative content analysis was conducted on statutory Summary of Product Characteristics (SmPCs,  $n = 15$ ) of the five most used antidepressants (citalopram, escitalopram, mirtazapine, sertraline, venlafaxine), three national depression clinical practice guidelines (Finland, UK, US) and one deprescribing tool (MedStopper).

**Results:** In all sources, antidepressants were recommended to be discontinued by gradually reducing the dose, but the recommended duration of reduction varied. A detailed reduction program was found in only one guideline (UK) and the MedStopper tool. Actions for severe discontinuation symptoms were provided in most of the

sources and actions for relapse were found in all guidelines. None of the examined sources provided guidance on how to distinguish discontinuation symptoms from relapse, mentioned benefits related to antidepressant deprescribing or contained instructions on deprescribing for older adults. Only one guideline (UK) discussed deprescribing barriers.

**Key Conclusions:** Key sources for HCPs provide limited guidance on antidepressant deprescribing and manners to support this process. The sources did not include specific recommendations for older adults. Further research is needed to develop more extensive evidence-based guidelines on antidepressant deprescribing, and to prevent unnecessary long-term antidepressant use and exposure to possible adverse drug effects. Older adults should be taken into consideration as a specific group.

## P-808

### Ethnic Differences in Parkinson's Disease in Older Chilean Adults

Moisés H. Sandoval (1), Marcela Alvear Portaccio (2), Cecilia Albala (3)

(1) INTA, University of Chile, (2) National Administrative Department of Statistics (DANE), Colombia, (3) Inta, University of Chile

**Introduction:** Parkinson's disease (PD) is a common neurodegenerative disease of advanced age. In Chile, 12% of the population is indigenous, but little is known about ethnic differentials in health and, in specific, in Parkinson's disease. Thus, we aimed to determine the association between ethnicity and Parkinson's disease in older adults ( $\geq 60$  years) in Chile.

**Methods:** We used data from the Demographic, Aging and Health Survey 2022 applied to a representative sample ( $n = 831$ ) of indigenous and non-indigenous older. This survey includes a question on previous Parkinson's diagnosis. We compared the difference in PD between the indigenous group by Chi-squared test. Then, we estimated a series of unadjusted and adjusted logistic regression models (for sex, age, area and region of residence and socioeconomic status).

**Results:** The mean age of respondents was 70.8 years (7.9), 47.5% were indigenous and 5.1% reported having been diagnosed with PD. The results suggest the existence of significant differences in PD ( $p < 0.05$ ) between indigenous and non-indigenous older adults. In fact, the unadjusted model allows us to visualize that older Mapuche adults have a 92% higher chance of PD ( $p < 0.05$ ) compared to non-indigenous adults. Even controlling for sex, age, area and region of residence, and education, the association between ethnicity and PD remains of similar size and significance (OR: 1.92; 95% CI 1.00–3.74;  $p < 0.05$ ).

**Key Conclusions:** Although the cause of PD remains unknown, environmental factors are suspected. Exposure to air pollution may be one of the causes of the ethnic differences in PD detected here.

## P-809

### Loneliness in old age with dramatic consequences

Ulrich Neumayer (1), Dilek Cenesiz (1), Marie-Therese Laschinger (2), Klaus Fassbender (1), Johannes Ratermann (3)

(1) UKS Homburg, (2) Caritas Klinik Lebach, (3) Klinik für Geriatrie St. Hedwig Illingen

**Introduction:** We report on a geriatric patient who was still living independently in his home before admission to hospital. After spinal

surgery, he lost his autonomy due to immobility. Due to a lack of social environment, he could not return to his home and fell into a severe depression.

**Method:** During the 8-week inpatient stay, behavioural observation and neuropsychological testing were carried out. BDI and GDS were used to assess the severity of depressive symptoms. The patient received individual psychological counselling, antidepressants and anxiolytics. In addition, he received socio-medical counselling regarding post-inpatient care.

**Result:** The psychopathological findings revealed a severe depressive syndrome (GDS: 12, BDI-II: 30). The organic diagnosis did not show any pathologies. Antidepressant and anxiolytic medication as well as individual psychological counselling stabilised the patient's mood and the pain improved under opioids. Due to continuing physical and psychological impairments, as well as a lack of social environment, a legal guardianship was established. Due to physical limitations and lack of social support, it was impossible to discharge the patient to his own home. The patient had to be discharged to a nursing home. We were told by the patient's legal guardian that the patient suicided a few weeks later.

**Conclusion:** The lack of a social environment and support from relatives is a problem especially in old age; the patient's realisation that a return home was impossible as well as the loss of independence and autonomy had thrown him into a severe depression.

## P-810

### What happens to patients one year after being discharged from a neuropsychiatric unit?

Irene Herranz Llano (1), Priscila Matovelle (2), Carmen Espinosa Val (2), Wendi Cossio (1), Nesly Catolin (1), Juan Ayuso Ayala (1), María Concepción Ortíz Domingo (2)

(1) 1. Geriatrics Department, San Juan de Dios Hospital, Zaragoza, Spain; (2) 1. Geriatrics Department, San Juan de Dios Hospital, Zaragoza, Spain; 2. Geriatrics Department, Zaragoza University, Zaragoza, Spain

**Introduction:** Dementia or major neurocognitive disorder is a progressive acquired disorder characterized by deficits in one or more cognitive domains. Its prevalence increases with age and due to increased life expectancy, its prevalence is increasing. The average survival of people with dementia ranges from 5 to 9 years.

**Methods:** Retrospective descriptive study of patients discharged from a psychogeriatric unit and followed for one year of their evolution. We collected variables such as age, sex, reason for admission, dementia diagnosis (following DSM-IV criteria), evolutionary status (Global Deterioration Scale-GDS), functional capacity-Barthel index (BI), delirium and eating disorders.

**Results:** We included 159 patients, 54.7% women. Mean age 81.3 years. The 40.9% had a diagnosis of Alzheimer's disease and 25% had mixed profile dementia. The 71.7% were in stage 6–7 of GDS. The 76.7% had oropharyngeal dysphagia. At discharge, 78.6% of patients were receiving at least 1 psychopharmaceutical. At one year follow-up, 30.8% of the patients died, 55% of whom were women. The 85% of the deceased patients had a GDS  $> 6$ . The 62% of them had a previous fall in the last year. The 80% had dysphagia. Of the patients with delirium, 50% had died within one year. The mean of the BI was 25/100 of the deceased compared to 45/100 in the other group ( $p < 0.001$ ).

**Conclusion:** Patients who die in the first year are those with worse functional status, more severe dementia and dysphagia. Delirium increases mortality.

**P-811****Diogenes Syndrome and comorbidities: the case of a 71-year-old patient with a complex health condition**

Ben Romdhane Rim (1), Minouflet Alexis (1), Dadakpete Joseph (1), Mechighel-Collot Aurore (1), Hamouchi Khelifa (1), Attier Jadwiga (1)

(1) Geriatric, Hospital Center, Saint-Quentin

Diogenes Syndrome (DS) is a behavioral disorder marked by extreme hoarding (syllomania), social isolation, and unsanitary living conditions. It is especially challenging for geriatricians, particularly when paired with other diseases. A 71-year-old DS patient, admitted to a geriatric care unit due to recurring falls and health deterioration, provides a case in point. She lived in a dilapidated, cluttered house without basic amenities and rejected offers of assistance, worsening her condition due to denial, neglect, and social isolation. She had chronic alcoholism, leading to repeated emergency visits due to trauma and falls. Her treatment involved alcohol withdrawal and vitamin supplementation. She also had a history of deep right Sylvian stroke but showed favorable recovery and did not exhibit major neurocognitive disorder. She was transferred for suitable medical and social care. Administrative procedures were initiated for a safer home return, and anxiety treatment was implemented. Despite these measures, her first night home led to another emergency visit due to a fall, highlighting the difficulty of maintaining adequate care for DS patients. This case emphasizes the challenges of treating DS patients with comorbidities like chronic alcoholism. Even with efforts to enhance health and living conditions, hurdles persist, underlining the need for comprehensive, multidisciplinary approaches for these vulnerable individuals. Geriatricians should carefully assess cognitive abilities and psychosocial factors of DS patients, implementing support measures for healthier reintegration. Collaborations with professionals like social workers and psychologists are vital to meet their unique needs.

**P-812****Association Between Depression and 4-Month Functional Outcome in Older Adults with Hip Fracture**

Francesca Remelli (1), Caterina Trevisan (1), Federico Triolo (2), Martino Belvederi Murri (3), Maria Cristina Ferrara (4), Giuseppe Bellelli (4), Stefano Volpato (1)

(1) Department of Medical Science, University of Ferrara, Ferrara, Italy, (2) Aging Research Center—Karolinska Institutet, Stockholm, Sweden, (3) Department of Neurosciences and Rehabilitation, University of Ferrara, Ferrara, Italy, (4) School of Medicine and Surgery, University of Milano-Bicocca, Milan, Italy

**Introduction:** Depression is a common psychiatric disorder in old age associated with multiple adverse outcomes [1]. However, its impact on functional recovery in older adults following hip fracture remains unclear. We aimed to assess the association between depression and the 4-month functional recovery of older people who were hospitalized for hip fractures.

**Methods:** This longitudinal cohort study was part of a multicenter Italian network of orthogeriatric services (Gruppo Italiano di Ortogeriatría—GIOG). We included older patients with hip fracture consecutively admitted to the Orthogeriatric Unit of the University

Hospital of Ferrara, Italy, between January 2021 and February 2022. Depression was retrospectively assessed through the medical history and/or an ongoing antidepressant therapy on clinical records. After 4 months from discharge, patient's functional status was evaluated using a telephone-administrated interview based on the Cumulated Ambulation Score; a score < 4 was considered indicative of poor outcome.

**Results:** The mean age of 156 participants was 81.9 years; 71.8% were females. Patients with depression were 25.0%. Depression was associated with more than twice higher odds of poor functional outcome at 4 months from hip fracture (OR = 2.77, 95% CI 1.09–7.34), also after adjusting for multiple potential confounders (age, sex, education, marital status, basic activities of daily living, number of comorbidities, post-operative delirium).

**Key Conclusions:** Depression may influence the functional recovery of older people after hip fracture. The assessment and treatment of depression should be prioritized to foster physical recovery in orthogeriatric patients.

**Reference:**

1) Kohn R, *Curr Psychiatry Rep* 2006.

**P-813****Depression in Geriatric Patients: Prevalent, Recurrent and Life-Threatening Illness**

Romik Mendez Baldeon (1), Miranda Doz Arcas (1), Natalia Rodríguez Osto (1), Raquel Condón Martínez (1), Carmen Cánovas Pareja (1)

(1) Hospital Nuestra Señora De Gracia

**Introduction:** Depression in elderly people is underestimated therefore is important to know its prevalence for make approach strategies.

**Methods:** Preliminary and retrospective study to detect the risk of suicide in the elderly. Includes patients admitted to a Geriatric Service for five months. From his medical history, we collected demographic variables, the Barthel and Charlson index, a history of chronic pain, dementia, depression and insomnia, antidepressant, neuroleptic and benzodiazepine treatment, all on admission and discharge.

**Results:** 469 patients, 72.3% women, mean age 88.67 years, 53.5% with dementia, 42.6% with depression. 45% had antidepressant treatment on admission. 21% take escitalopram. 1.7% of the patients were diagnosed with depression in hospital. 44.2% of the singles, 43.3% of the married and 42.9% of the widowed have depression (p = 0.98). 49.8% of the patients have dementia and depression (p = 0.001) 0.28.1% of the independents suffered from depression, 34.9% of the mildly dependent, 54.2% of the moderate and 38.8% of the severely dependent (p = 0.002). 62.5% of patients with chronic pain have depression. 57.1% of patients with depression have insomnia (p = 0.001). On admission, of the depressives, 46.2% take benzodiazepines (p = 0.233). 49.1% neuroleptics (p = 0.121) 0.48.9% of depressed patients have low comorbidity, 43.7% of those with high comorbidity have depression (p = 0.186). **Conclusions:** Almost half of the patients admitted to Geriatrics have or have had depression or take antidepressants, associated with pain and insomnia. Depression and functional capacity are associated. The high prevalence of depression in hospitalized geriatric patients forces us to look for warning signs of suicide risk.

## P-814

### Assessment Of Loneliness In A Geriatric Population: How Much Remains To Be Discovered?

Silvia Ottaviani (1), Stefania Peruzzo (1), Mariya Muzyka (1), Luca Tagliafico (1), Ennio Ottaviani (2), Alessio Nencioni (1), Fiammetta Monacelli (1)

(1) Section of Geriatrics, Department of Internal Medicine and Medical Specialties (DIMI), University of Genoa, Genoa 16132, Italy., (2) 3. Department of Mathematics (DIMA), University of Genoa, Genoa 16146, Italy

**Introduction:** loneliness is a multidimensional construct that reflects a mismatch between the desired and perceived quality of social relationships. It is distinguished from social isolation, which denotes a lack of social connections. The present study aims to evaluate loneliness in a sample of geriatric outpatient population, to understand whether it that can be entirely explained in terms of depressive symptoms and social isolation, or not.

**Methods:** 269 patients, attending our memory clinic in Genoa, Italy, underwent a comprehensive geriatric assessment. Loneliness was measured using UCLA 3-item scale. The population was then stratified based on the presence or absence of loneliness (UCLA > 3). Finally, we ran a multivariate logistic regression for interpretive purposes towards the loneliness phenomenon.

**Results:** Multivariate logistic regression, adjusted for the degree of frailty and the severity of cognitive impairment, confirmed the contributory role of depressive symptoms, (OR 3.97,  $p < 0.001$ ), alcohol consumption (OR 2.05,  $p = 0.013$ ), and multimorbidity (OR 30.47,  $p = 0.006$ ) toward loneliness. There appears to be no association with social isolation or the presence of BPSD. However, the AUC of the model lands at 69%, indicating that the phenomenon is only partially explained.

**Key Conclusions:** Although loneliness is a relevant phenomenon in the elderly population, it remains too little investigated. It is distinct from social isolation and has a close association with depression. However, there still is a gray area that deserves to be explored, as not only physical frailty but also psychological and social functioning act as risk factors for age-related decline.

## P-815

### Off-label Use of Antipsychotics Among Community Dwelling Old Population

Jenni Silvan (1), Marianne Haapea (2), Tanja Nordström (3), Jouko Miettunen (1), Anna-Maija Tolppanen (4), Sirpa Hartikainen (4), Erika Jääskeläinen (2)

(1) Research Unit of Population Health, University of Oulu, Oulu, Finland. Medical Research Center Oulu, Oulu University Hospital and University of Oulu, Oulu, Finland., (2) Research Unit of Population Health, University of Oulu, Oulu, Finland. Medical Research Center Oulu, Oulu University Hospital and University of Oulu, Oulu, Finland. Department of Psychiatry, Oulu University Hospital, Oulu, Finland., (3) Research Unit of Population Health, University of Oulu, Oulu, Finland. Medical Research Center Oulu, Oulu University Hospital and University of Oulu, Oulu, Finland. Northern Finland Birth Cohorts, Arctic Biobank, Infrastructure for Population Studies, Faculty of Medicine, University of Oulu, Oulu, Finland., (4) School of Pharmacy, University of Eastern Finland, Kuopio, Finland

**Introduction:** Off-label use of antipsychotics (APs) has increased in recent years. Most of the APs use in aged persons is off-label use.

Still, this topic has been studied little, and in selected study populations. The aim of this study is to describe APs off-label use and examine associations of it with somatic comorbidities and mental health, concomitant use of other psychotropics, age, sex and hospital districts in older adults with and without Alzheimer's disease (AD).

**Methods:** The Medication use and Alzheimer's disease (MEDALZ) study includes 70,718 Finnish residents who were diagnosed AD between years 2005–2011 and their age, sex and hospital district-matched comparison persons without AD ( $n = 209,346$ ). Information on comorbidities and medication purchases were gathered from national registers. Data includes information about psychiatric diagnosis and somatic illnesses. Off-label use was defined as purchase of AP medication, but not having diagnosis with indication for APs.

**Results:** Based on preliminary analyses, 40% of persons with AD had purchased APs but didn't have diagnosis of psychosis or bipolar disorder. Among persons with AD, 33% had used risperidone and 21% quetiapine. Among persons without AD the prevalence of APs off-label use was 12.8%. Most commonly used APs were risperidone (7% of the persons without AD) and quetiapine (5%). In further analysis we will explore factors associating to APs off-label use.

**Key Conclusions:** Our data indicates high prevalence of APs off-label use among old persons in large population based sample. Our study is important to increase knowledge about factors associating with APs off-label use and that may help to understand increasing use of APs.

## P-816

### Depressive Symptoms and Medical Diseases in Older People

Gabriel Ioan Prada (1), Ovidiu Lucian Bajenaru (1), Catalina Raluca Nuta (1), Ioana Dana Alexa (2), Ana Gabriela Prada (1), Adina Carmen Ilie (2), Andrei Kozma (3), Sinziana Georgeta Moscu (1), Gabriela Cristina Chelu (1), Anna Marie Herghelegiu (1), Nico

(1) University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania, (2) University of Medicine and Pharmacy "Gr.T. Popa", Iasi, Romania, (3) Anthropology Institute of Romanian Academy "Fr.I.Rainer", Bucharest, Romania

**Introduction:** Depression may occur due to or concomitantly with a general medical condition, but clear guidelines for making the distinction are lacking. Aim of the study was to identify specific characteristics of depression in the context of comorbidities in elderly.

**Material and Methods:** A retrospective, observational, case-control study was carried out. We analyzed 937 older patients, 43% men, 67% women, women mean-age 75.35, men 73.24 years; 71% subjects from urban area; 68% with income above poverty level; 419 adults (48–64 years) and 518 elderly ( $> / = 75$  years). All diagnosed with depression.

**Results:** Highest prevalence of depression was noticed in older women with osteoporosis and menopause between 40 and 45 years, differences being statistically significant ( $p < 0.05$ ). Prevalence of diabetes mellitus in patients with depression was highest in older people, predominantly in men, differences being statistically significant ( $p < 0.05$ ). Prevalence of stroke in past medical history of patients with depression was higher in elderly, especially in men, differences reaching statistical significance ( $p < 0.05$ ). Anxiety was more prevalent in depressive older people from urban area, irrespective of gender, differences being statistically significant ( $p < 0.05$ ). Sleep disorders in older people with depression had highest prevalence, especially women from rural area, with statistically significant differences ( $p < 0.05$ ). Cumulative presence of diabetes mellitus, heart disease and osteoarthritis had the highest prevalence in older women with depression ( $p < 0.05$ ).



**Conclusions:** Depression in older people is often undiagnosed due to somatization of symptoms and differential diagnosis is complicated by high prevalence of comorbidities.

**Key words:** depression, older people, comorbidities.

## Perioperative Care

### P-817

#### Improving the management of opioid-related complications at an elective orthopaedic hospital

Aditi Rajgopal (1), Rachel Tan (1), Ku Shah (1)

(1) Oxford University Hospital

**Introduction:** Opioids are commonly used for post-operative pain [1]. Opioid-related adverse events, such as constipation and respiratory depression, lead to increased patient mortality and morbidity [1]. Incidents related to opioid excess at an elective orthopaedic hospital prompted this project. To reduce such events, naloxone and regular laxatives should be routinely prescribed for all patients initiating strong opioids [2,3].

**Methods:** A retrospective audit was conducted at Nuffield Orthopaedic Centre, Oxford. All post-operative patients prescribed regular opioids on 31st October 2022 were identified and their drug charts reviewed to record the route of administration as well as recording whether naloxone and laxatives were co-prescribed. The auditing standards of a 100% rate of naloxone prescribing for patients on strong opioids via intravenous (IV), patient-controlled analgesia (PCA) or epidural routes and a 100% rate of regular laxative prescribing for patients on regular opioids were not met. To address this, a teaching session, aimed at junior doctors, was delivered by a perioperative Geriatrician. Another cycle, looking at the same parameters was then collected on 28th February 2023.

**Results:** Prior to the intervention, 70.0% of patients prescribed opioids via IV, PCA or epidural routes were prescribed naloxone. 77.1% of patients who were prescribed regular opioids were prescribed regular laxatives. Following the intervention, 87.5% of patients prescribed opioids via IV, PCA or epidural routes were prescribed naloxone. 58.0% of patients on regular opioids were prescribed regular laxatives.

**Key Conclusions:** Teaching interventions have been effective at improving co-prescribing of naloxone with strong opioids but appears to have reduced co-prescribing of laxatives with regular opioids.

#### References:

[1] Urman RD, Khanna AK, Bergese SD, Buhre W, Wittmann M, Le Guen M, Overdyk FJ, Piazza FD, Sagger L. Postoperative opioid administration characteristics associated with opioid-induced respiratory depression: Results from the PRODIGY trial. *Journal of Clinical Anaesthesia*. 2021 (70). Available from: <https://doi.org/10.1016/j.jclinane.2021.110167>.

[2] National Institute for Health and Care Excellence. Palliative care for adults: strong opioids for pain relief. London; 2016 Aug.

[3] Medicines Management and Therapeutics Committee. Patient Safety in Adults: How to use Naloxone to Manage Opioid Induced Respiratory Depression. Oxford; 2016 Apr.

### P-819

#### Improving hospital care of older patients in peri-operative orthogeriatric units: a mixed method study

Visade Fabien (1), Havet Simon (1), Robinet Pierre (1), Maciejasz Pierre (1), Cristian Preda (1)

(1) Lille catholic institute

**Introduction:** Orthogeriatric units (OGU) provide multi-professional care for older patients with fractures, to reduce the consequences in terms of individual and public health. The objective of the study was to look for possible areas of improvement in the care of older patients in OGU.

**Methods:** This was a mixed-methods study with a convergent design. The first phase consisted of a retrospective analysis of patient data hospitalized in the OGU of the Catholic Institute of Lille (CIL), to have a general vision of the proposed care activity. In parallel, a second phase of the study consisted of sending a questionnaire to general practitioners (GPs) and general medicine residents (GMRs) in the Lille area, to explore their feelings about the care provided in OGU. A third phase allowed us to cross-reference, compare and discuss the data of the first two phases to identify improvement areas.

**Results:** In the CIL's OGU, the average age of the patients was 87 years (Sd = 5.8), with a predominance of women (n = 292, 82%). Femoral surgery was most frequently performed (n = 240, 68%). Patients presented poor nutritional status (n = 226, 64%), vitamin D deficiency (n = 247, 70%), and osteoporosis (n = 13, 4%). The multi-professional management included the presence of a physiotherapist for 79% of the stays (n = 281), a social worker for 53% of the stays (n = 189), and speech therapists for 10% (n = 36). In phase 2, 31 GPs responded to the questionnaire (25, 75% were under 40), and 20 GMRs (18, 90% were under 30). The analysis in phase 3 highlighted two areas for improvement: (i) improving the integration of patients into osteoporosis follow-up; (ii) improving exchanges with ergotherapists during the stay in OGU.

**Conclusion:** Cross-referencing the opinions of the GPs and GMRs with the patient data made it possible to identify two significant areas for improvement in the management of patients in the OGU. The GPs remain the pillar of outpatient follow-up and their involvement, whether for the follow-up of osteoporosis or ergotherapeutic care, are interesting perspectives of this work.

### P-820

#### PBM in hip fracture anemia: benefits of multidimensional approach

Teresa Pareja Sierra (1), Irene Bartolome Martin (1), Juan Jose Archederra (1), Esther Hoyos Alcañiz (2), Miguel Torralba González de Suso (1)

(1) University Hospital of Guadalajara, (2) Pere Virgili Hospital.Barcelona

**Objective:** Patient Blood Management (PBM) protocols designed for surgical anemia are not extrapolable to hip fracture. The object of this study is to evaluate the effect of a multifactorial approach to anemia in hip fracture of elderly patients to avoid transfusions and optimize functional recovery.

**Methods:** Prospective study of 305 patients over 75 admitted for osteoporotic hip fracture surgery in 2019. We evaluated the effects of a protocol, based on use of intravenous iron (IVI), individualized transfusion therapy, simultaneous nutritional support and folic acid/B12 replacement in terms of need of blood support, acute complications and physical recovery, compared with a historical sample.

**Results:** Medium age 87. Required transfusion 163 patients (53%) and IVI, 191 (63%). Transfused patients had worse functional and nutritional status prior to fracture, more cardiac and respiratory complications and more delirium than non-transfused (p < 0.005). IVI administration and nutritional support resulted in a lower requirement of blood transfusions (0.3 units less), specially in sub capital fractures (p 0,005). Patients that received IVI had better

ambulation capacity (FAC) 3 and 6 months after fracture ( $p < 0.002$ ;  $p < 0.002$ ). In multivariate analysis, transfusion was related independently to longer hospital stay (1.95 days) and worse walking capacity 6 months after the fracture than non-transfused (FAC2.8 vs 1.32) ( $p < 0.002$ ). Compared with a similar historical sample of 2010 with no PBM protocol, transfusion rate was 15% less in 2019.

**Key Conclusion:** Multifactorial approach with individualized transfusion therapy, IVI and nutritional support seem to be the best treatment for anemia in elderly patients with hip fracture.

## P-821

### Prilocaine in the elderly: A new solution on local anesthetics

Gonçalo Sarmento (1)

(1) Centro Hospitalar Entre Douro e Vouga

**Introduction:** With the ambulatory surgery advent, significant improvements have been conquered regarding the elderly complications during and after surgery. Although those achievements, intraoperative events and analgesics needed are often related to early discharge delays. New anesthetic drugs as prilocaine, with short action duration have been recently introduced in Portugal in neuroaxial anesthesia.

**Methods:** We analyzed (IBM SPSS Statistics vs 29 (IBM Corp, Armonk, NY, USA) 2 groups of patients ( $n = 114$ , with 28 patients with 65 or more years old). Intraoperative events have been collected (hypotension and bradycardia) and rescue analgesia have been counted (metamizole, tramadol) in patients submitted to ambulatory surgery with bupivacaine or prilocaine. A Chi-Squared test and/or Fisher test has been applied in qualitative measures and a Mann-Whitney test in the quantitative variables.

**Results:** There was no difference regarding intraoperative events and supplemental analgesia between the elderly population and under 65 patients ( $P > 0.05$ ). Though the elderly treated with prilocaine seemed to have less intraoperative events and needed less medication to suppress pain, the results were not statistically different ( $P > 0.05$ ). Ambulatory regimen is a preferable method to elderly patients under surgery, and new anesthetic such as prilocaine may be helpful to prevent perioperative complications on this population, further studies are needed to confirm it.

## P-822

### A Multimodal Prehabilitation Program Improves Preoperative Functional Capacity and Nutritional Status in Older Patients Undergoing Abdominal Cancer Surgery: Preliminary Experience From a Tertiary Care Hospital

Giuseppe Dario Testa (1), Francesca Livi (2), Lorenzo Foti (2), Camilla Fiorindi (3), Anita Nannoni (3), Giovanni Mansueto (3), Fiammetta Cosci (3), Sara Romanazzo (3), Fabio Cianchi (4), Stefano Scaringi (4), Guido Ferratini (5), Luca Zaina (5), Francesc

(1) Department of Geriatric and Intensive Care Medicine, Careggi Hospital, Florence, Italy, (2) Department of Anesthesia and Critical Care, Careggi Hospital, Florence, Italy, (3) Department of Health Science, Careggi Hospital, Florence, Italy, (4) Department of Experimental and Clinical Medicine, Careggi Hospital, Florence, Italy, (5) University of Florence, Florence, Italy, (6) Psychiatric Unit, AOU Careggi Hospital, Florence, Italy, (7) Antismoking Centre, Careggi Hospital, Florence, Italy, (8) Rehabilitation Service, Careggi Hospital, Florence, Italy

**Introduction:** Multimodal prehabilitation (MP), consisting of physical and nutritional optimization, aims to improve the functional capacity of older patients before cancer surgery to ensure functional recovery and reduce complication rates. This abstract aims to describe the impact of a recently implemented institutional MP program for high-risk older candidates for abdominal cancer surgery.

**Methods:** Patients deemed at high-risk were referred to the MP clinic. The six-minute walk test (6mwt), the short physical performance battery (SPPB), the Timed Up and Go test (TUG), and Patient-Generated Subjective Global Assessment (PG-SGA) were used to assess baseline physical and nutritional status. Frailty was assessed using Fried criteria. A personalized 4-week MP program was then prescribed, and patients were evaluated at baseline and a few days before surgery.

**Results:** Thirty patients older than 70 yo (mean age 78 yo) completed the MP program with good adherence to exercise intervention ( $> 75%$ ). At baseline, only 20% of patients were defined as fit. The SPPB mean score (points), the 6mwt mean distance (meters), TUG time (seconds), and the PG-SGA score (points) were 9, 411, 9.25, and 5.3, respectively. After the MP program, the mean 6mwt distance increased by around 28 m, TUG time decreased by 1.8 s and SPPB score increased by 0.8. On the nutritional level, the PG-SGA score decreased by 3.4 points. Finally, frail patients showed greater relative improvement than fit patients.

**Conclusions:** MP improved the functional capacity and nutritional status of older patients, particularly frail ones, who were candidates for abdominal cancer surgery.

## P-823

### Evidence-based recommendations for geriatric trauma care: initial results of a systematic analysis of clinical practice guidelines

Thomas Kocar (1), Marina Fotteler (2), Jana Willems (3), Christoph Leinert (1), Dhayana Dallmeier (4), Michael Denking (1)

(1) 1. Institute for Geriatric Research Ulm University Medical Center, Ulm, Germany; 2. Geriatric Center at AGAPLESION Bethesda Clinic Ulm, Ulm, Germany, (2) 1. Institute for Geriatric Research Ulm University Medical Center, Ulm, Germany; 3. DigiHealth Institute, Neu-Ulm University of Applied Sciences, Neu-Ulm, Germany, (3) 4. Section of Health Services Research and Rehabilitation Research (SEVERA), Institute of Medical Biometry and Statistics (IMBI), University Medical Center Freiburg, Freiburg, Germany, (4) 2. Geriatric Center at AGAPLESION Bethesda Clinic Ulm, Ulm, Germany; 5. Department of Epidemiology, Boston University School of Public Health, Boston, MA, United States

**Introduction:** Incorporating geriatric expertise into trauma care of older adults can improve overall outcomes. Clinical practice guidelines (CPG) can support treatment with recommendations on geriatric syndromes and diseases. In the present work, a systematic guideline review was performed to provide an overview of all evidence-based recommendations relevant in geriatric trauma care.

**Methods:** MEDLINE Ovid and eight guideline databases (G-I-N, AWMF, leitlinien.de, Guideline Central, ECRI, NICE, SIGN, BIGG) were searched on Dec 18th, 2021. CPG published after Jan 1st, 2016, in German or English, that included an evidence assessment (e.g., GRADE), and reported at least one recommendation for older patients ( $\geq 60$  years, frail, or with dementia/delirium) applicable in an acute inpatient trauma setting were included. Screening and data extraction were performed independently by two researchers; discrepancies were resolved by a third person. The following results are preliminary.

**Results:** After screening and full text review, 125 out of 12,106 records were selected for the analysis. From these CPG, 989 recommendations were extracted. Most recommendations focused on delirium and dementia (26%), adverse drug reactions and deprescribing (14.7%), and fluid balance, nutrition, and sarcopenia (11.2%). The level of evidence for the extracted recommendations was “high” in 34.5%, “moderate” in 25.6%, “low” in 25.8%, and “very low” in 14.1%. While all 125 CPG included recommendations for the older adults, only 34 CPG focused exclusively on older adults.

**Key Conclusions:** The presented review summarizes evidence-based recommendations for trauma care in older adults and presents them in a harmonized form to improve the treatment of geriatric patients.

## P-824

### Improving AMTS score documentation in geriatric patients undergoing orthopaedic surgery

Mohamad Tayyara (1), Ku Shah (1), Aditi Rajgopal (1)

(1) Oxford University Hospitals NHS Foundation Trust

**Introduction:** The Abbreviated Mental Test Score (AMTS) is a tool introduced in 1972 to aid in the assessment of cognitive impairment. It is a 10-point score testing orientation, recall and current knowledge. Locally it is used to assess patients for chronic and acute cognitive impairment and is well integrated into our electronic health record system. The authors undertook a quality improvement project with the goal of improving documentation of AMTS in the context of the perioperative care of patients undergoing surgery at a tertiary orthopaedic centre.

**Methods:** This was a 2-cycle audit (1st 10/11/2022–10/12/2022 n = 134, 2nd 10/02/2023–10/03/2023 n = 134), separated by 2 interventions (teaching sessions) aimed at incoming doctors and pre-operative assessment nurses. During both cycles data was collected to assess documentation of AMTS scores (pre- and post-operatively). Incidence of post-operative delirium, length of stay and clinical frailty scoring was also collected. Patients aged > 65 undergoing elective and urgent orthopaedic surgery were included. Data was collected by auditing electronic patient records retrospectively.

**Results:** During the 1st cycle, 16% of patients had pre-operative AMTS scores and 20% had post-operative AMTS scores. Average score was 9/10 and mean length of stay was 7 days. After interventions pre-operative rates increased to 40% and post-operative rates increased to 26%. There was no difference in average length of stay (7 days) between the cohorts. The incidence of post-operative delirium was 7% pre-intervention 6% post-intervention.

**Conclusion:** The AMTS is an important screening tool available to perioperative clinicians. Targeted interventions were able to increase scoring rates, which allows for early identification of post-operative delirium for respective teams.

## P-825

### Collaborative project between General Surgery Service and Geriatrics Service within University Hospital Marqués de Valdecilla (HUMV)

Jimmy Omar Flores Valderas (1), Zoilo Yusta Escudero (1), Lisa Avert Deweirder (2), Irune Torres Ortiz de Urbina (2)

(1) Geriatrician, (2) General Practitioner

**Objectives:** There is a rising implication of geriatricians in the concern about the elderly who are admitted in the context of surgical

abdominal pathology (whether it's acute or elective). We must not forget that these are patients with an important amount of comorbidities and tendency to frailty, whom are going to be subjected to a stressful procedure like abdominal surgery. For that matter we will describe the collaborative model that has been taking place in HUMV.

**Material and Methods:** We collect the jointly work methodology that is being developed between the General Surgery Service (GSS) and the Geriatrics Service (GS). Since 2016 a collaboration is being performed between both services, in which through a consultation a follow-up of the patients is taking place according to GSS criteria, whether they present severe comorbidities at the admission, medical or functional emerging complications during hospitalization, global assesment before a surgery or any other reason that requires a combined monitoring between both services. Furthermore and as part of the ERAS colorectal program patients who are going to be submitted to colon surgery due to malignant neoplasia in an elective way are also evaluated in external consultations or during the admission, going through a prehabilitations and follow-up through the hospitalization.

**Results:** We have retrospectively collected all the patients admitted in GSS and whom had a combined follow-up between both GSS and GS during the period of January 2020 to April 2022, with a total of 174 patients. Demographic data, hospital stays, mortality, complications and patient functionality levels after surgery data have been analysed. The results obtained speak of a less mortality when combined follow-up is forged since the beginning of the patient's hospital admission, decrease of complications, less functional decline and reduction in hospital stay.

**Conclusions:** It is necessary to keep involving both services jointly to achieve an improvement in the care of the elderly submitted to abdominal surgery. Our aim is to conclude in a formal way a more wide and systematized partnership.

## P-826

### Shared care between the General Surgery Service (GSS) and the Geriatrics Service (GS) of the Marqués de Valdecilla University Hospital (HUMV)

Jimmy Flores Valderas (1), Zoilo Yusta Escudero (1), Irune Torres Ortiz de Urbina (2), Lisa Avert Deweirder (2)

(1) Geriatrician, (2) General Practitioner

**Objectives:** Shared assistance between surgical and clinical services aims to achieve greater effectiveness and efficiency at the level of clinical, functional and economic objectives, in the elderly who need to undergo abdominal surgery.

**Material and Methods:** During the period from January 2020 to April 2022, we have retrospectively collected the care data for older adults who were admitted to the GSS, who urgently or electively required a surgical procedure and who were treated jointly with the GS.

**Results:** A total of 174 patient data were collected. Early care data is valued, assessing a mean number of days from admission to geriatric assessment of 5 days. Likewise, the time from the interconsultation to discharge is valued (taken it as an indicator of efficiency) with an average of 8 days. The average of stay time is 14 days, understanding that they are complex patients undergoing abdominal surgery. The main complications during admission were heart failure (95 cases), delirium (63), bronchial aspiration (19) and acute urinary retention (17 cases). In-hospital mortality (47 of the cases) and 30 days after discharge (15 cases) are also assessed. As a quality of care data, and understanding the importance of continuing to monitor the patients

upon discharge, 58 of them have been treated in the Geriatrics outpatient clinic after discharge.

**Conclusions:** The results obtained in the assistance show a decrease in hospital time, a lower number of complications despite the complexity and the assessment of the patients at the moment in which there is an acute complication, less functional deterioration at discharge and a decrease in mortality one month after surgery.

## P-827

### Patient's profile of the shared medical assistance between General Surgery Service (GSS) and Geriatrics Service (GS) from University Hospital "Marqués de Valdecilla" (HUMV)

Zoilo Yusta Escudero (1), Jimmy Omar Flores Valderas (1), Lisa Avert Deweirder (2)

(1) Geriatrician, (2) General Practitioner

**Objectives:** The improvement in population's quality of life, as well as the development of surgical techniques has made it possible for many patients who a few years ago were not included in the surgical conditions (either because of age or previous clinical complexity) to go through surgery efficiently. However, these patients possess important comorbidities, which makes more necessary to share the medical assistance between the surgical professional and the physician.

**Material and Methods:** We have retrospectively collected all the patients admitted in GSS and whom had a combined follow-up between both GSS and GS during the period of January 2020 to April 2022. Demographic data, hospital stays, mortality, complications and patient functionality levels after surgery data have been analyzed.

**Results:** During the period described, data of 174 patients has been collected. The average age is 85,3 years old, being 56,32% women and 43,68% men. 151 patients lived at their home and the 23 left at a nursing home. The Barthel rate average is 86 points. The percentage of patients without senile dementia at the hospitalization is 55,17%. 70,1% of the patients were in a polypharmacy situation (more than 3 drugs at the hospital admission). Within the pathology that leads to the hospital admission, it is provided like this: Diagnostic Number of Patients Operated acute cholecystitis 22 Non-operated acute cholecystitis (conservative) 28 Colon Neoplasm with emergent surgery 13 Colon Neoplasm with elective surgery 26 Intestinal obstruction caused by bridles 13 Others 70.

**Conclusion:** Shared medical assistance between surgical services and a medical service who can conduct a global assessment of patients is becoming increasingly necessary. It brings a combined follow-up, counselling about surgical indications, prevention and approach of the main complications, as well as prevention of functional impairment as one of the assistance quality rate and a proper follow-up of these patients.

## P-828

### Record-based frailty and Days Alive and Out of Hospital within 90 days after radical cystectomy in older patients with bladder cancer: Preliminary results from a retrospective cohort study

Katharina Skovhus Prior (1), Bente Thoft Jensen (2), Merete Gregersen (3), Marianne Ørum (3), Jørgen Bjerggaard Jensen (4)

(1) Department of Urology and Department and Geriatric Medicine, Aarhus University Hospital. Aarhus University, (2) Department of

Urology, Aarhus University Hospital, (3) Department of Geriatric Medicine, Aarhus University Hospital, (4) Department of Urology, Aarhus University Hospital and Department of Clinical Medicine, Aarhus University

**Introduction:** Days Alive and Out of Hospital (DAOH) 90 days postoperatively is a valid marker for cumulative morbidity and mortality after radical cystectomy (RC) in older patients with muscle-invasive bladder cancer (MIBC). Comorbidity is an independent risk factor for reduced DAOH. Frailty increases risk of adverse events after RC, but the association between frailty and DAOH following RC has not yet been investigated. This study aimed to examine the association between frailty and 90-day DAOH in older patients undergoing RC.

**Methods:** Patients aged  $\geq 65$  years with MIBC and undergoing RC in 2018 at a single tertiary university hospital were rated according to a level of frailty by the record-based Multidimensional Prognostic Index (r-MPI), a validated retrospective frailty assessment tool, using data from electronic patient records. DAOH and Length Of Hospital Stay (LOS) were dichotomized according to the median. The current data are preliminary, unadjusted results.

**Results:** In total, 45 patients were assessed. Mean age was 74 years (SD  $\pm 5$ ), and 69% were male. 30 (67%) patients were categorized as non-frail (r-MPI-score 0.0–0.25), 15 (33%) as moderately-severely frail (r-MPI-score  $> 0.25$ ). Median DAOH was 82 days (IQR 79–83), median LOS 7 days (IQR 7–9). DAOH was significantly lower (RR 2.2 (95% CI 1.2–4.0)  $p = 0.03$ ), and LOS significantly higher (RR 2.4 (95% CI 1.3–4.6)  $p = 0.01$ ) in patients who were moderate-severe frail compared to non-frail.

**Conclusion:** Preliminary results indicate that the level of frailty might be associated with reduced DAOH in older patients undergoing RC. Modification of frailty could potentially increase DAOH.

## P-829

### Predictors and outcome variables for successful continuity of care in older inpatients: A scoping review from the SURGE-Ahead study

Leinert Christoph (1), Fotteler Marina (2), Beissel Lisa (3), Kocar Thomas (1), Dallmeier Dhayana (4), Denking Michael (1)

(1) 1. Institute for Geriatric Research Ulm University Medical Center, Ulm, Germany; 2. Geriatric Center at AGAPLESION Bethesda Clinic Ulm, Ulm, Germany, (2) 1. Institute for Geriatric Research Ulm University Medical Center, Ulm, Germany; 3. DigiHealth Institute, Neu-Ulm University of Applied Sciences, Neu-Ulm, Germany, (3) 1. Institute for Geriatric Research Ulm University Medical Center, Ulm, Germany, (4) 2. Geriatric Center at AGAPLESION Bethesda Clinic Ulm, Ulm, Germany; 4. Department of Epidemiology, Boston University School of Public Health, Boston, MA, United States

**Introduction:** Ensuring adequate continuity of care (COC) is essential for older inpatients. In health care systems with different intersectoral options, such as inpatient or outpatient geriatric or specialist rehabilitation, nursing home care, or supported care at home, the selection of the appropriate care can be challenging. In a scoping review, predictors and outcome variables for successful COC will be identified. The results will be integrated into a Clinical Decisions Support System (CDSS) developed within the SURGE-Ahead project. **Methods:** The online databases Medline, Embase, Cochrane Central Register of Controlled Trials, PsycINFO, CINAHL, and Emcare were searched on Feb 25th, 2022. Publications that examined predictors or outcome parameters for COC of acute inpatients aged  $\geq 65$  were included. Due to the heterogeneity of terms and study types (including 'discharge planning', 'transition of care', 'coordination of care',

‘rehabilitation eligibility’), a scoping review approach was adopted. Screening and data extraction is performed independently by two persons (split between MF, LB, CL); discrepancies are resolved with a third person.

**Results:** A total of 21,329 records were screened, of which 471 are currently undergoing full text screening. During data extraction, predictors and outcome variables of successful COC are recorded and grouped regarding different follow-up options. Descriptive analyses will be performed, and the results will be qualitatively summarized and presented at the congress.

**Key Conclusions:** The results of this review will provide an overview of predictors and outcome variables for successful COC in older patients, and may subsequently be used in machine learning algorithms, e.g., for a CDSS.

## P-830

### The Early Postoperative Outcomes of Laparoscopic Cholecystectomy in Geriatric Population

Ismail Tirnova (1), Ahmet Serdar Karaca (1)

(1) Baškent University

**Introduction:** Cholelithiasis is one of the most common surgical pathology in general population. And laparoscopic cholecystectomy (LC) is the gold standard treatment for symptomatic gallstones. The concern that laparoscopic surgery has a high complication risk due to comorbidities in the elderly patient population is accepted by some surgeons. In this study, we aimed to evaluate the short-term postoperative outcomes of laparoscopic cholecystectomy in geriatric population in comparison to younger adults.

**Methods:** A total of 1582 patients who underwent elective or emergent LC for gallbladder stoen were included. Patients were divided into two groups: Group 1 (18–64 years old) and Group 2 ( $\geq 65$  years old). The early postoperative outcomes were analyzed and compared in both groups.

**Results:** There were 987 (62.3%) patients in Group 1 and 595 (37.6%) patients in Group 2. Group 2 had higher ASA Scores ( $p = 0,037$ ), longer operating time ( $p = 0,041$ ), longer hospitalization duration ( $p = 0,016$ ) than younger group. Age  $\geq 65$  years was independent risk factor for prolonged (+ 3 day) hospitalization. the conversion rates were similar in both groups. Claivien-Dindo complication rates were also similar in both groups.

**Conclusion:** Our results revealed that LC can be safely performed in geriatric population.

## P-831

### An audit of the inpatient management of Parkinson’s disease medication in a level four Hospital in 2018

Tom Farrell (1), Chris Reidy (1), Cathy Naylor (1), Millie O’Gorman (1), John Cooke (1), George Pope (1), Niamh O’Regan (1), Riona Mulcahy (1)

(1) University Hospital Waterford, Waterford, Ireland

**Background:** Parkinson’s Disease (PD) is a neurodegenerative condition requiring time sensitive medications to treat its motor symptoms. Treatment strategies, including the precise prescription

and delivery, are essential in the inpatient setting. Previous work presented at this meeting showed a dearth of knowledge surrounding PD and its medications in a level four Irish hospital.

**Methods:** Data were collected from a retrospective chart analysis of PD admissions in 2018. HIPE data identified 83 PD admissions. 10 patients were randomly selected from medical, surgical, and orthopaedic admissions (38 admissions). Exclusion criteria included no PD medications, or no available drug Kardex (29 kardexes). Data was analysed using Microsoft Excel.

**Results:** 100% of patients had levodopa prescriptions. 100% of patients missed levodopa doses in the emergency department (ED). 55% had prescription errors on admission (incorrect drug [ $n = 9, 31\%$ ], timing error [ $n = 7, 24\%$ ]). 175 doses of levodopa missed across 29 admissions. 22% were missed due to patient being nil by mouth (NPO), while 10% had no reason documented. 55% had doses of levodopa delayed by more than an hour, with 78% being in the perioperative period. 10% received antidopaminergic medications.

**Conclusion:** This review identified multiple areas for improvement in the inpatient medication management of PD in this hospital. As a result, we have introduced guidelines for the management of patients with PD who are NPO, particularly in the perioperative period. Education sessions are ongoing. We will reaudit practices to assess the impact of the guidelines in 6 months.

## P-832

### Outcome and impact of hip fracture patients admitted to an acute orthogeriatric unit: a 1-year experience

Yanett Rossana Davila Barboza (1), Edison Hugo Azaña Fernandez (2)

(1) Hospital Universitario de Leon, (2) Hospital San Juan de Dios Leon

**Introduction:** Hip fracture is a major health care problem, associated with significant mortality, morbidity and loss of function.

**Method:** Retrospective study. All patients  $\geq 75$  years admitted to an acute orthogeriatric unit for the surgical treatment of all related hip fracture in 2020 were analyzed.

**Results:** One hundred and forty four patients were included, median patient age was 88.03 years. 76.2% were female. 31% were living in a nursing home prior to fracture. Katz index: A: 13.8%; B: 19.4%; C: 21.5%; D: 16.6%; E: 7.6%; F:17.3%; G:3.4% Mean number of prescription medicines: 6.4. Vitamin D levels: Normal: 9.02%; Mild deficiency: 27.08%; Moderate deficiency: 23.6%; Severe deficiency: 40.2%. Mean length of hospital stay was 11,09 days. Preoperative stay was 3.7 days. Postoperative complications: Severe anemia:33%; Delirium: 29.1%; Urinary Tract infection: 10.4%; Heart failiure: 6.9%; Pneumonia: 6.2%; Gastrointestinal bleeding: 2.08%; Pulmonary embolism: two patients. Hospital discharge to nursing home: 34.7%. In-hospital mortality: 4.8%.

**Conclusions:** Acute orthogeriatric units shows an improvement in outcomes in the fractured elderly, with reduced preoperative stay and mortality. Polypharmacy and vitamin D deficiency were highly prevalent on admission,.

## Pharmacology

### P-833

#### Deprescribing Benzodiazepine Receptor Agonists in Older Adults: Adaptation of the Canadian D-PRESCRIBE Intervention to the Belgian Community Setting

Catherine Péteïn (1), Nathalie Dujardin (2), Manon de Montigny (3), Evelyne Dewez (4), Anne Spinewine (5), Séverine Henrard (6)

(1) Clinical Pharmacy research group, Louvain Drug Research Institute, Université catholique de Louvain, Avenue Emmanuel Mounier 72, 1200 Brussels, Belgium, (2) Academic Center for Pharmaceutical Care, Faculté de Pharmacie et des Sciences Biomédicales, Université catholique de Louvain, Avenue Emmanuel Mounier 73, 1200 Brussels, Belgium, (3) Academic center of General Medicine, Faculté de Médecine et Médecine dentaire, Université catholique de Louvain, Avenue Hippocrate 57, 1200 Brussels, Belgium, (4) Ligue des Usagers des Services de Santé, Avenue Sergent Vriethoff 123, 5000 Namur, Belgium, (5) Clinical Pharmacy research group, Louvain Drug Research Institute, Université catholique de Louvain, Avenue Emmanuel Mounier 72, 1200 Brussels, Belgium & Pharmacy Department, Université Catholique de Louvain, CHU UCL Namur, Rue Dr Gaston Therasse 1, 5530 Yvoir, Belgium, (6) Clinical Pharmacy research group, Louvain Drug Research Institute, Université catholique de Louvain, Avenue Emmanuel Mounier 72, 1200 Brussels, Belgium & Institute of Health and Society (IRSS), Université Catholique de Louvain, Clos Chapelle-aux-Champs 30, 1200 Brussels, Belgium (\*Anne Spinewine and Séverine Henrard are equally contributing authors)

**Introduction:** The Canadian pharmacist-led D-PRESCRIBE intervention comprised the distribution of an educational brochure (EMPOWER) to the patient and the sending of a pharmaceutical opinion (PO) to the prescriber. Due to its demonstrated efficacy and cost-effectiveness in benzodiazepine receptor agonists deprescribing among community-dwelling older adults, we aimed to adapt this intervention to the Belgian community setting.

**Methods:** We followed recommendations from the ADAPT guidance and the Medical Research Council framework. Group discussions and interviews were conducted with stakeholders (patients, general practitioners (GP), and pharmacists) to assess the acceptability and need for adaptation of the D-PRESCRIBE components. As the PO would be fully innovative in Belgium, GP (n = 46) and pharmacists (n = 91) were surveyed on the first version of the adapted PO. Final decisions were taken by a committee involving stakeholders and researchers.

**Results:** The brochure was positively received. The adaptation included minor changes in the vocabulary, wording, photos and icons, aiming at making the patient feel concerned by the brochure, softening some messages, and providing additional information on tapering. Interviews revealed mixed perceptions of the PO: pharmacists and GP were mostly positive, but patients were mostly negative. Its name, layout, and content were adapted to enhance its acceptability and fit with the Belgian context, practices, and guidelines. The survey helped to refine the tool and to better understand the potential barriers and facilitators to its implementation.

**Key Conclusions:** The Canadian D-PRESCRIBE intervention was adapted following a thorough process. The feasibility of the adapted intervention is currently being tested in a pilot study.

### P-834

#### Comorbid conditions which exacerbate dementia: Hip Fractures and PIMs

Taro Kojima (1), Masahiro Akishita (1)

(1) Department of Geriatric Medicine, The University of Tokyo

**Introduction:** To examine the factors which are related to exacerbation of dementia in older people, it is necessary to examine various factors such as disease and drug use.

**Methods:** Data such as age, gender, diseases, drugs, and long-term care needs were obtained from medical and long-term care insurance claims from Kure City, Hiroshima Prefecture (April 2017–April 2019). The diagnosis and severity of dementia was obtained from the long-term care insurance data and the severity of cognitive function was categorized in rank I (slight) to rank IV (severe). The exacerbation of dementia was diagnosed if the rank got worse in April 2019 compared to April 2017. In addition to gender and age group, chronic diseases (hypertension, diabetes, osteoporosis, heart failure), admission from April 2017 to April 2019 was also considered as independent factors. Polypharmacy was defined if the patient was taking 5 or more drugs at 2017, and PIMs were defined by STOPP-J. **Results:** 4,722 people (women, 72.7%) had dementia and were still alive at 2019. The mean age was yrs, and polypharmacy and PIM use were seen in 54.4% and 48.6%, respectively. The exacerbation of dementia was observed in 19.9% and a multivariate logistic regression analysis revealed that statistically significant factors ( $p < 0.05$ ) were women (OR 1.24 95% CI 1.04–1.48), admission due to hip fracture (OR 1.27, 95% CI 1.02–1.58) and use of  $\geq 1$  PIMs (OR 1.16, 95% CI 1.01–1.35).

**Conclusion:** More attentions should be paid to the PIM use and osteoporosis/hip fractures for dementia care.

### P-835

#### Risks of treatment with low molecular weight heparin in elderly patients. About a case

Sara Blanco Yáñez (1), María Gebauer Campos (1), Esther Espinosa Gimeno (1), Miriam Fernández Cid (1), Sergio Herrero Casillas (1), Luis Daniel Mujica Chumbes (1), María Isabel González Ibarguren (1), Ignacio Nieto Fernández (1), Adolfo Fabián Fernández R

(1) Hospital Universitario de Guadalajara

**Medical history:** Male, 85. Dyslipidaemia. Patent foramen ovale with right-left shunt and right heart dilatation. Chronic thromboembolic pulmonary disease since 2013 with severe pulmonary hypertension treated with Acenocoumarol. Chronic obstructive pulmonary disease, chronic respiratory failure (CRF) with oxygen therapy. Independent for activities of daily living and instrumental, moderate dyspnea, no cognitive impairment.

**Description:** After a hospitalization in Pulmonology due to an exacerbation of CRF caused by Covid 19 infection, the patient started treatment with Enoxaparin 80mg/12h 5 days + Acenocoumarol. After 4 days is hospitalized because a spontaneous rectus sheath hematoma (SRS)H). The anticoagulant treatment is retired and the patient had two strokes. The etiological study wasn't conclusive, with high suspicion of cardioembolic etiology. At hospital discharge we reintroduced anticoagulant treatment with Apixaban, without new thromboembolic nor hemorrhagic events.

**Discussion:** SRSH is a complication of the use of low molecular weight heparin, which usually occurs on the fifth day of treatment. The main risk factors are: advanced age, decreased kidney function, dose of enoxaparin close to 1 mg/kg and concomitant administration of drugs that interfere hemostasis. The etiology could be a valsalva maneuver due to a coughing fit or bad heparin injection technique. Special care must be taken when prescribing enoxaparin in elderly, assessing the increased risk of bioaccumulation, and adjusting to real weight (not estimated) and renal function. Furthermore, it's difficult to decide the ideal moment to restart anticoagulation after SRSH. The complexity increases in the elderly, since the associated comorbidities may imply a greater bleeding or thrombotic risk.

## P-836

### AKI-ng Headway: A Quality Improvement Initiative on the Medication 'Sick Day Rule' in Patients Over 65 with Acute Kidney Injury

Caomhe McManus (1), Rita Neves (1), Mandira Rajan (1)

(1) University Hospital Waterford

The successful mitigation of Acute Kidney Injury (AKI) among older patients is contingent on meticulous medication management, specifically adherence to the medication "sick day rule". These rules, recommended by the National Institute for Health and Care Excellence (NICE) in their guidelines "Acute kidney injury: prevention, detection and management", involves the temporary cessation of certain medications during episodes of acute illness. However, suboptimal adherence to this rule presents a considerable challenge in clinical practice. This quality improvement project aimed to address this issue, seeking to enhance adherence to the sick day rule among patients over the age of 65 admitted with AKI. Data collected over a five-day period revealed that of the 92 patients over 65 admitted, 27 met the AKI criteria. 23 of these 27 AKI patients were on medications that could exacerbate their AKI, while only 6 had all appropriate medications held. This trend extended to specific medication categories: only 8/19 patients on ACE inhibitors/ARBs, 1/5 on SGLT2 inhibitors, and 4/9 on metformin had their medication held. However, both patients on NSAIDs had their medication held, indicating a better adherence rate. Our intervention involved the distribution of information cards that clearly detailed the NICE guidelines for temporary medication cessation during acute illness. The cards were displayed prominently in key medical admission areas and could attach to doctors' identification badges, thereby reinforcing best practice guidelines. We also provided education at our hospital Grand Rounds. The goal of this quality improvement initiative is to bolster adherence to the medication sick day rule, thereby potentially reducing the incidence and severity of AKI in our older patient population. We plan to re-audit in the coming weeks to assess the impact of our intervention, affirming our ongoing commitment to improving patient outcomes through evidence-based quality improvement strategies.

## P-837

### Analysis of Urinary Tract Infections in an Intermediate Care Hospital

Wendy Fuentes-Ramos (1), Christian Ruiz-Rodriguez (1), Alicia Cambra-López (1), Anna Murgadella-Sancho (2), Marta Fernández-Esteban (1), María Alejandra Zambrano-Gustin (1), Benito Fontecha-Gómez (1)

(1) Geriatrics Department Consorci Sanitari Integral, (2) Pharmacy Department Consorci Sanitari Integral

**Introduction:** Urinary tract infections (UTI) have a high prevalence in both community and hospital settings, being more common in individuals over the age of 65. The objective of the study is to analyze the type of UTI, microorganism involved, and the prescribed treatments.

**Methods:** Observational, descriptive, and retrospective study. All UTIs diagnosed from May 2022 to May 2023 were reviewed. The collected variables included: age, gender, type of UTI, microorganism, prescribed treatment, and whether treatment followed the hospital guidelines.

**Results:** A total of 111 patients were diagnosed with UTI. The mean age was  $82.1 \pm 13.8$  years. 50.5% were women. The types of UTIs observed were: uncomplicated cystitis (31.5%), complicated cystitis (24.2%), UTI associated with indwelling urinary catheter (17.2%), pyelonephritis (13.5%), asymptomatic bacteriuria treated as UTI (9.9%), and acute prostatitis (3.7%). Isolated microorganisms included *Escherichia coli* (27.0%), Extended-spectrum beta-lactamase (ESBL)-producing *Escherichia coli* (11.7%), *Klebsiella pneumoniae* (9.9%), ESBL-producing *Klebsiella pneumoniae* (18.9%), *Enterococcus faecalis* (8.1%), and others (24.4%). Among the patients, 28.8% had indwelling urinary catheters, with ESBL-producing *Klebsiella pneumoniae* being the most common pathogen. The prescribed treatments included ceftriaxone (22.5%), ertapenem (17.1%), ciprofloxacin (14.4%), cefuroxime (12.6%), fosfomicin (9.9%), and others (23.5%). Among uncomplicated cystitis cases, 38.2% were caused by *Escherichia coli*. In the case of UTIs caused by ESBL producing bacteria 41.7% were treated with carbapenems.

**Conclusions:** The use of carbapenems was mainly associated with being a carrier of ESBL-producing microorganisms. The main area for improvement that we have identified is the use of fosfomicin in uncomplicated cystitis cases of non-ESBL carriers.

## P-838

### Medication Use and Health-Related Quality Of Life In Multimorbid Older People With Polypharmacy

C.M. Falke (1), Dr. F. Karapinar (2), Prof. M. Bouvy (3), Prof. M.H. Emmelot (4), S.V. Belitser (3), Prof. B. Boland (5), Prof. D. O'Mahony (6), Dr. K. Murphy (6), Dr. M.L. Haller (7), Dr. P. Salari (8), Dr. M. Schwenkglens (8), Prof. N. Rodondi (7), Pro

(1) UU, Netherlands, (2) MUMC, The Netherlands, (3) UU, The Netherlands, (4) UMCU, The Netherlands, (5) UCL, Belgium, (6) UCC, Ireland, (7) UBERN, Switzerland, (8) UNI BASEL, Switzerland

Medications should ideally enhance quality and/or duration of life, but may have adverse effects. We aimed to evaluate whether medication use is associated with health-related quality of life (HRQoL) in an older multimorbid population with polypharmacy. This cross-sectional study was conducted using baseline data from the intervention arm of the OPERAM trial (patients > 70 years with polypharmacy). HRQoL was assessed using the EuroQol questionnaire (EQ-5D-5L), consisting of a visual analogue scale (EQ-VAS) and EQ-5D index score. Patients were classified as low or high HRQoL based on the median. Medication use included number, type, drug burden, medication complexity, appropriateness and adherence. Multivariable logistic regression analysis was used to assess the association of medication use with lower EQ-VAS and EQ-5D. 955 patients with complete HRQoL data at index hospitalisation were included (mean age 79.3 years, 46% female). The median EQ-VAS was 60, median EQ-5D was 0.60. Medication complexity (aOR 1.65, 95% CI 1.14–2.38) and use of anti-depressants (aOR 1.53, CI 1.03–2.28) were associated with a lower EQ-VAS. Low adherence

(aOR 2.14, CI 1.23–3.72) and use of antibiotics (aOR 1.97, CI 1.02–3.83) or benzodiazepines (aOR 2.24, CI 1.29–3.91) were associated with a lower EQ-5D. The use of opioids was associated with both a lower EQ-5D and EQ-VAS (aOR EQ-5D: 2.39, CI 1.46–3.93, EQ-VAS: 2.1, CI 1.34–3.33). In conclusion, we found an association between medication use and lower HRQoL. Healthcare professionals should be mindful in older multimorbid patients with high medication complexity, low adherence and using opioids, anti-depressants, benzodiazepines, or antibiotics, as these factors were associated with lower HRQoL in this study.

## P-839

### Polypharmacy in Patients over 75 years of age in a Primary Care Setting in Aragón, Spain. Preliminary results

Priscila Matovelle (1), Irene Fraile Peñaranda (2), Bárbara Oliván-Blázquez (3), Alberto Turón Lanuza (4), Rosa Magallón Botaya (5)

(1) 1. Geriatrics Department, San Juan de Dios Hospital, Zaragoza, Spain; 2. Geriatrics Department, Zaragoza University, Zaragoza, Spain, (2) 3. Department of Preventive Medicine Unit, Lozano Blesa University Clinical Hospital, Zaragoza, Spain., (3) Department of Psychology and Sociology, University of Zaragoza, Zaragoza, Spain., (4) Department of Applied Economics, Zaragoza University, Zaragoza, Spain., (5) 6. Department of Primary Care University of Zaragoza, Zaragoza, Spain

**Introduction:** Polypharmacy, is generally defined as the concurrent use of  $\geq 5$  medications. Excessive polypharmacy is known as the use of  $\geq 10$  or more medications. The prevalence of polypharmacy varies widely due to differences in study inclusion criteria and can range from 4% to more than 80%.

**Methods:** We conducted a retrospective, descriptive, longitudinal study that analyzed demographic and clinical variables of all elderly patients over 75 years of age who were seen at the Arrabal Health Center (Zaragoza, Spain) in the period 2019 to 2021.

**Results:** A total of 1928 patients were included, 69% were women. The mean age was  $(83.5 \pm 0.30)$  years, 63.38% were female. 37.3% of the study population was between 75 and 79 years old. The mean number of drugs dispensed was  $9.31 \pm 0.15$ . There is an increasing tendency for women to be prescribed more medications than men. The total number of drugs dispensed during the study period according to age groups is 15.7, 16.0, 15.6 and 15.5 in those aged 75–79, 80–84, 85–89 and  $> 90$  years, respectively ( $p < 2.2$ ). The mean number of pathologies for each year was 6.22 in 2019, 6.42 in 2020, and 6.51 in 2021. The number of patients with Excessive polypharmacy were 375, 390 y 409 patients in every year.

**Conclusions:** Multimorbidity leads to polypharmacy in old population at the Primary Care center. We should keep in mind that medication reconciliation would be important in this age group.

## P-840

### Pattern of Potentially Inappropriate Medication Prescribing in Elderly Patients: A Retrospective Study in a Portuguese Hospital

João Fonseca (1), Sara Bravo (1), Raquel Vieira (1), Paula Mesquita (1), Leonor Rodrigues (1), Daniela Alves (1)

(1) Centro Hospitalar Baixo Vouga (Portugal)

**Introduction:** Portugal is one of the countries in the world with a higher aging index. Paradoxically, geriatric medicine is not

recognized by its national entities as a specialty. In a recent publication, Portugal is one of the 3 countries with the highest polypharmacy rates in Europe [1], making this issue a priority in terms of public health.

**Objectives:** To evaluate the pattern of potentially inappropriate medication (PIM) prescribing in elderly patients in a Portuguese hospital.

**Methods:** A retrospective descriptive study based on computer records of all patients aged  $\geq 65$  years, admitted between July 2021–June 2022.

**Results:** We analyzed 10,152 hospitalizations in 6,579 patients (mean age 80.1 years, 52.6% females). They were mostly admitted through the emergency department (77.9%), with an average length of stay of 9.6 days, a mortality rate of 15.2%, and polypharmacy ( $\geq 5$  drugs) of 82.1%. The majority were admitted to the internal medicine department (38.9%), followed by surgery (13.61%) and orthopedics (12.69%). In the top 10 most prescribed drug classes (total number of administrations/average number of administrations per hospitalization), we highlight: Proton pump inhibitors (85,676/8.4); Antipsychotics (64,717/6.4); Anxiolytics and sedatives (41,413/4.1); Antidepressants (24,780/2.4). The prescription of specific PIM was high, such as: Haloperidol (28,150/2.8); Alprazolam (11,172/1.1); Amitriptyline (2,018/0.2); Hydroxyzine (1,974/0.2).

**Conclusion:** This study confirms the frequent use of PIM in Portuguese hospitals. The computerized methods to reduce the adverse effects of PIM (SENATOR [2], OPERAM [3]) failed to achieve the main outcomes. However, they could likely make a difference in countries where geriatrics is still developing.

#### References:

[1] Midão L, Giardini A, Menditto E, Kardas P, Costa E. Polypharmacy prevalence among older adults based on the survey of health, ageing and retirement in Europe. Arch Gerontol Geriatr. 2018 Sep-Oct;78:213–220. <https://doi.org/10.1016/j.archger.2018.06.018>.

[2] O'Mahony D, Gudmundsson A, Soiza RL, Petrovic M, Jose Cruz-Jentoft A, Cherubini A, Fordham R, Byrne S, Dahly D, Gallagher P, Lavan A, Curtin D, Dalton K, Cullinan S, Flanagan E, Shiely F, Samuelsson O, Sverrisdottir A, Subbarayan S, Vandaele L, Meireson E, Montero-Erasquin B, Rexach-Cano A, Correa Perez A, Lozano-Montoya I, Vélez-Díaz-Pallarés M, Cerenzia A, Corradi S, Soledad Cotorruelo Ferreira M, Dimitri F, Marinelli P, Martelli G, Fong Soe Khioe R, Eustace J. Prevention of adverse drug reactions in hospitalized older patients with multi-morbidity and polypharmacy: the SENATOR\* randomized controlled clinical trial. Age Ageing. 2020 Jul 1;49 (4) :605–614. <https://doi.org/10.1093/ageing/afaa072>.

[3] Crowley EK, Sallevelt BTGM, Huibers CJA, Murphy KD, Spruit M, Shen Z, Boland B, Spinewine A, Dalleur O, Moutzouri E, Löwe A, Feller M, Schwab N, Adam L, Wilting I, Knol W, Rodondi N, Byrne S, O'Mahony D. Intervention protocol: OPTimising thERapy to prevent avoidable hospital Admission in the Multi-morbid elderly (OPERAM) : a structured medication review with support of a computerised decision support system. BMC Health Serv Res. 2020 Mar 17;20 (1) :220. <https://doi.org/10.1186/s12913-020-5056-3>.

## P-841

### Increased Anticholinergic Burden Increases Short and Long-term Mortality in Older Adults

Zeynep Özge Özdemir (1), Serdar Ceylan (2), Didem Karaduman (2), Merve Güner (2), Arzu Okyar Baş (2), Zeynep Kahyaoglu (2), Cafer Balcı (2), Burcu Balam Doğu (2), Mustafa Cankurtaran (2), Meltem Gülhan Halil (2)

(1) Hacettepe University Faculty of Medicine, Department of Internal Medicine, (2) Hacettepe University Faculty of Medicine, Department of Internal Medicine, Division of Geriatrics



**Introduction:** The anticholinergic burden refers to the cumulative dose of one or more medicines with anticholinergic effects [1]. This study aimed to investigate the association between anticholinergic burden and 1- and 5-year mortality in older adults attending the outpatient clinic.

**Methods:** A cross-sectional retrospective study was conducted in the geriatric outpatient clinic of a university hospital. This study includes data from 2801 patients who deceased over a 7-year period. Medications prescribed during the initial geriatric clinic visit were assessed, and their anticholinergic burdens were calculated using the Anticholinergic Burden Classification (ABC) and Anticholinergic Cognitive Burden (ACB) scales.

**Results:** The study included a total of 2801 patients and a median age of 79.8 (IQR, 74.0–85.2) years. The median duration from clinic visit to death was 17.4 (IQR, 5.6–33.7) months. A Cox proportional hazard regression analysis revealed a significant association between a high ABC score and an increased risk of mortality. The HRs were 1.20 (95% CI 1.02–1.41,  $p = 0.03$ ) and 1.16 (95% CI 1.05–1.29,  $p = 0.005$ ) for the 1-year and 5-year periods, respectively. Similarly, the ABC score was also significantly associated with mortality risk, with HRs of 1.21 (95% CI 1.02–1.43,  $p = 0.03$ ) and 1.26 (95% CI 1.13–1.41,  $p < 0.001$ ) for the 1-year and 5-year periods, respectively.

**Conclusion:** Our study underscores the negative impact of higher anticholinergic burden on survival in older adults. Clinicians must consider the risks associated with anticholinergic burden when prescribing for older adults.

#### Reference:

1. Nishtala PS, Salahudeen MS, Hilmer SN. Anticholinergics: theoretical and clinical overview. *Expert Opin Drug Saf.* 2016;15 (6):753–68. <https://doi.org/10.1517/14740338.2016.1165664>.

## P-842

### Patient-reported satisfaction with thyroid hormone replacement therapy for subclinical hypothyroidism in older adults

Janneke Ravensberg (1), Rosalinde Poortvliet (1), Robert Du Puy (2), Nicolas Rodondi (3), Manuel Blum (3), Patricia Kearney (4), Vera Mc Carthy (5), Terrence Quinn (6), Olaf Dekkers (7), Wouter Jukema (8), Simon Mooijaart (9), Jacobijn Gussekloo (10)

(1) Department of Public Health and Primary Care, Leiden University Medical Center, Leiden, Netherlands; LUMC Center for Medicine for Older people, Leiden University Medical Center, Leiden, Netherlands., (2) Department of Public Health and Primary Care, Leiden University Medical Center, Leiden, Netherlands, (3) Department of General Internal Medicine, Inselspital, Bern University Hospital, University of Bern, Bern, Switzerland; Institute of Primary Health Care (BIHAM), University of Bern, Bern, Switzerland., (4) School of Public Health, University College Cork, Cork, Ireland., (5) School of Nursing and Midwifery, University College Cork, Cork, Ireland., (6) The Academic Section of Geriatric Medicine, School of Cardiovascular and Metabolic Health, University of Glasgow, Glasgow, United Kingdom, (7) Department of Endocrinology and Metabolic Disorders, Leiden University Medical Center, Leiden, Netherlands., (8) Department of Cardiology, Leiden University Medical Center, Leiden, Netherlands., (9) Department of Internal Medicine, Section of Gerontology and Geriatrics, Leiden University Medical Center, Leiden, Netherlands; LUMC Center for Medicine for Older people, Leiden University Medical Center, Leiden, Netherlands., (10) Department of Public Health and Primary Care, Leiden University Medical Center, Leiden, Netherlands; Department of Internal Medicine, Section of Gerontology and Geriatrics, Leiden University Medical Center, Leiden, Netherlands; LUMC Center for Medicine for Older people, Leiden University Medical Center, Leiden, Netherlands

**Introduction:** Treatment of subclinical hypothyroidism (SCH) with levothyroxine is a long-debated subject, particularly in older adults. Treatment satisfaction can provide valuable insights into treatment-related decision-making and may reveal treatment effects that have not been captured by frequently used formal end-point measurements such as thyroid-related symptoms or quality of life. This study aimed to compare treatment satisfaction between older adults with SCH using either levothyroxine or placebo.

**Methods:** Combined data from two randomized placebo-controlled trials investigating levothyroxine treatment for adults aged  $\geq 65$  years with SCH, were analyzed ( $n = 536$ ). Participants were randomly assigned to placebo or levothyroxine. Treatment satisfaction was defined as, first, effectiveness, side effects, convenience, and global satisfaction, measured by the multi-domain Treatment Satisfaction Questionnaire for Medication; second, the participants' desire to continue trial medication after the trial.

**Results:** At baseline, the median [IQR] age was 74.9 [69.7–81.4] years, and 292 (54.5%) participants were women. The median [IQR] TSH level was 5.8 mIU/L (5.1–7.0) in both the levothyroxine and placebo group. The treatment groups did not differ in any domain of satisfaction [effectiveness ( $p = 0.63$ ), side effects ( $p = 0.75$ ), convenience ( $p = 0.35$ ), global satisfaction ( $p = 0.77$ ), nor in the desire to continue trial medication [levothyroxine vs. placebo: continue 35% vs. 27%; stop 27% vs. 30%; don't know 37% vs. 43%;  $p = 0.14$ ].

**Conclusion:** Treatment satisfaction for SCH did not differ between older adults receiving either levothyroxine or placebo. This is important information to guide treatment-related decision-making, and further supports to refrain from prescribing levothyroxine in older adults with SCH (TSH  $< 10$ mIU/L).

## P-843

### Effects of discontinuation of levothyroxine treatment in older adults: protocol for a self-controlled trial

Janneke Ravensberg (1), Rosalinde Poortvliet (1), Robert Du Puy (1), Olaf Dekkers (2), Simon Mooijaart (3), Jacobijn Gussekloo (4)

(1) Department of Public Health and Primary Care, Leiden University Medical Center, Leiden, Netherlands., (2) Department of Endocrinology and Metabolic Disorders, Leiden University Medical Center, Leiden, Netherlands, (3) Department of Internal Medicine, Section of Gerontology and Geriatrics, Leiden University Medical Center, Leiden, Netherlands., (4) Department of Public Health and Primary Care, Leiden University Medical Center, Leiden, Netherlands; Department of Internal Medicine, Section of Gerontology and Geriatrics, Leiden University Medical Center, Leiden, Netherlands

**Introduction:** Many older persons use the thyroid hormone levothyroxine which is often continued for life. Scientifically, there is much uncertainty whether simple continuation is the optimal approach. First, the physical need for levothyroxine can decrease with age thereby posing a higher risk of overtreatment and adverse effects. Second, large trials in subclinical hypothyroidism have shown no benefit for the use of levothyroxine. Interestingly, guidelines do not address re-evaluation of the indication. This self-controlled trial aims to determine the effects of discontinuation of levothyroxine treatment in older adults.

**Methods:** Participants are community-dwelling subjects aged  $\geq 60$  years using levothyroxine continuously at a stable dosage of  $\leq 150$   $\mu\text{g}$  and a level of thyroid-stimulating hormone (TSH)  $< 10$  mIU/L. After a control period of 12 weeks, levothyroxine treatment is discontinued gradually using a stepwise approach with regular monitoring of thyroid function guided by their GP. The primary

outcome is the proportion of participants withdrawn from levothyroxine while maintaining a free T4 level within the reference range and a TSH level < 10 mU/L, 52 weeks after the start of discontinuation. Secondary outcomes are compared with the control period (self-controlled) and include among others, the effects on thyroid-specific and general health-related quality of life. Furthermore, patients' attitudes towards deprescribing and regret regarding discontinuing levothyroxine treatment will be recorded. A total of 513 participants will be recruited to estimate the expected proportion of 50% with a 95% CI ranging from 45 to 55%.

**Results:** The trial is still ongoing. Baseline measurements will be completed at the time of the conference.

## P-844

### The Effect Of Angiotensin-Converting Enzyme (ACE) Inhibitors And Beta Blockers On Severity Of Pneumonia

Heledd Thomas (1), Yuki Yoshimatsu (2), Trevor Thompson (3), David Smithard (2)

(1) Elderly Care, Queen Elizabeth Hospital, Lewisham and Greenwich NHS Trust; Centre for Exercise Activity and Rehabilitation, University of Greenwich, UK, (2) Elderly Care, Queen Elizabeth Hospital, Lewisham and Greenwich NHS Trust, UK; Centre of Exercise Activity and Rehabilitation, University of Greenwich, UK, (3) University of Greenwich, UK

**Introduction:** Understanding the impact of pharmacological therapy on pneumonia severity, is crucial for effective clinical management. The potential protective effects of angiotensin-converting enzyme inhibitors (ACEi) and beta blockers (BB) on dysphagia are well-documented; however, their impact on pneumonia severity remains unknown, highlighting the need for further study.

**Methods:** Retrospective study examined older patients ( $\geq 75$  years) admitted with community-acquired pneumonia (CAP) in 2021. Effect of ACEi and BB therapy on pneumonia severity was documented using CURB-65 and pneumonia severity index (PSI) scores. Descriptive statistics and multivariable linear regression were used to analyse effects of BB therapy, ACEi therapy, their combination, or neither (control group).

**Results:** 803 patient records were examined, 382 (47.6%) were male and 421 (52.4%) were female. Sample sizes for each group were as follows: control (n = 492), BB only (n = 185), ACE only (n = 68), and BB + ACE (n = 58). Distribution of aspiration pneumonia (AP) vs non-AP within each group, respectively was: control (21.1% vs 78.9%), BB only (9.7% vs 90.3%), ACEi only (7.3% vs 92.7%), and ACEi + BB (12.1% vs 87.9%). No significant differences in PSI and CURB-65 scores were found between groups after controlling for patient characteristics, irrespective of AP or non-AP aetiology. Patients with AP had significantly higher severity scores compared to those with non-AP ( $p = < 0.05$ ).

**Key Conclusions:** ACEi and BB therapy have no effect on pneumonia severity scores in older adults. However, AP was associated with significantly higher severity pneumonia scores compared with non-AP. Findings emphasise the importance of considering pneumonia aetiology in assessing disease severity and treatment strategies.

## P-845

### A machine learning approach to describe complex characteristics and factors interactions in home-care clients with declined pain treated with opioids

Mikko Nuutinen (1), Harriet Finne Soveri (2), Daniela Fialova (3), Rosa Liperoti (4), Ira Haavisto (1)

(1) Nordic Healthcare Group, Helsinki, Finland, (2) Nordic Healthcare Group, Helsinki, Finland; Finnish Institute for Health and Welfare, Helsinki, Finland, (3) Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové, Charles University in Prague, Czech Republic; Department of Geriatrics and Gerontology, 1st Faculty of Medicine, Charles University, Prague, Czech Republic, (4) Fondazione Policlinico Universitario A. Gemelli IRCCS, Università Cattolica del Sacro Cuore, Rome, Italy

**Introduction:** To our knowledge, most of the observational studies that have explored response of opioids in older patients have analysed data over whole cohort or pre-defined sub-groups. To better understand the response of treatment, analyses should be conducted without pre-defined sub-groups. The aim of this study was to characterize home care (HC) clients whose pain level decreased due to medication treatment (N02A opioids) by using advanced machine learning (ML) methods.

**Methods:** We developed ML models for predicting the decline of pain of new opioid users (HC clients, n = 841). The data sources of the study were RAI-HC (Resident Assessment Instrument for Home Care) assessments (MDS 2.0 instrument) and the Finnish Care Register for Health Care. The characteristics of the HC clients whose pain decreased due to treatment were analysed by ML model interpretation methods such as Shapley values, partial dependence plots and surrogate models.

**Results:** The discrimination performance of the ML models was poor to fair (AUROC = 0.669, 95% CI 0.661–0.678) — (AUROC = 0.775, 95% CI 0.772–0.778). Based on the ML model interpretation, on average the clients whose pain level decreased had, before starting medications, lower depression level, less comorbidities, more social interactions, better feelings of health and lower pain level. However, they had higher functional and cognitive disabilities compared to the clients whose pain level did not decrease.

**Key Conclusions:** The advanced ML methods may help to discover new characteristics and more complex interactions from observational data than traditional statistical methods. Research works were supported by the project I-CARE4OLD H2020 No 965341.

## P-846

### Development of machine learning models for predicting response of treatment and change of functional and cognitive ability of home-care clients treated with antidepressants

Mikko Nuutinen (1), Harriet Finne Soveri (2), Daniela Fialova (3), Rosa Liperoti (4), Ira Haavisto (1)

(1) Nordic Healthcare Group, Helsinki, Finland, (2) Nordic Healthcare Group, Helsinki, Finland; Finnish Institute for Health and Welfare, Helsinki, Finland, (3) Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové, Charles University in Prague, Czech Republic; Department of Geriatrics and Gerontology, 1st Faculty of Medicine, Charles University, Prague,

Czech Republic, (4) Fondazione Policlinico Universitario A. Gemelli IRCCS, Università Cattolica del Sacro Cuore, Rome, Italy

**Introduction:** Depression is a common disease in the older people. In Finland, about 27% of home care (HC) clients use antidepressants. Starting antidepressants does not always lead to the desired response. On the other hand, medicines can also have side effects. The aim of this study was to develop machine learning (ML) models for predicting probability of response and the change of activity of daily living (ADL) and cognitive performance scale (CPS) of HC clients.

**Methods:** The data sources of the study were RAI-HC (Resident Assessment Instrument for Home Care) assessments (MDS 2.0 instrument) and the Finnish Care Register for Health Care. The ML models were trained for new antidepressant users (HC clients,  $n = 701$ ) whose baseline depression rating scale (DRS) was 3 or higher (a potential or actual problem with depression).

**Results:** The performance of response models varied depending on which input variables the models used. If the outcome was predicted at a distance of more than 6 months from the baseline, the performance was low (AUROC: 0.523 (0.47–0.576) —0.667 (0.602–0.733)). If the outcome was predicted in less than 6 months from the baseline, the performance was good (AUROC: 0.787 (0.757–0.817) —0.85 (0.802–0.899)). The performance of the change of CPS and ADL models remained quite low, but was higher than simple reference model.

**Key Conclusions:** Advanced ML models can learn complex interactions from data, and produce patient-specific predictions that can be used, for example, in decision-making about starting medication. Research works were supported by the project I-CARE4OLD H2020 No 965341.

## P-847

### Prevalence of multimorbidity and polypharmacy in the geriatric outpatient clinic

M. Esther Vuelta-Calzada (1), Álvaro Da Silva-González (2), M. Carmen Palmero-Cámara (3), Alfredo Jiménez-Eguizabal (3)

(1) Department of Geriatric Medicine, Hospital Santiago Apóstol, Miranda de Ebro (Burgos), Spain, (2) Department of Geriatric Medicine, Nursing Home Diputación Provincial Burgos, Spain, (3) Department of Educational Sciences, Burgos University, Spain

**Introduction:** The aim of this research study is to analyze the prevalence of multimorbidity and polypharmacy of the patients who attend the geriatric outpatient clinic.

**Material and method:** Single-center, observational, cross-sectional and retrospective research study. The study population include all patients aged 65 or over, who attended for the first time the geriatric outpatient clinic of the Hospital Santiago Apostol in Miranda de Ebro, Burgos, (Spain) from May 3, 2017 to October 1, 2019. The data were obtained after the systematic and exhaustive review of the electronic medical record of each patient.

**Results:** A total of 350 patients took part with a mean age of 83.2 years, of whom 67.14% ( $n = 235$ ) were women. The 28.57% ( $n = 100$ ) of the patients lived alone at home and 9.43% ( $n = 33$ ) were institutionalized. The 64.57% ( $n = 226$ ) had mild-moderate cognitive impairment (GDS 2–5) and 59.43% ( $n = 208$ ) were independent for the basic activities of daily life (Barthel Index  $\geq 95$ ). The 89.43% ( $n = 313$ ) of the patients suffered from three or more chronic diseases (multimorbidity), 47.14% ( $n = 165$ ) consumed five or more medications daily (polypharmacy) and 20.29% ( $n = 71$ ) more than ten daily (excessive polypharmacy).

**Conclusion:** The importance of using detection tools for potential inappropriate prescription of drugs in patients who attend the geriatric outpatient clinic to avoid adverse drug reactions and improve the therapeutic adherence.

## P-848

### Primary Care Pharmacist-led medication review in elderly in coordination with general practitioners

Carmen Herrero Domínguez-Berrueta (1), María Muñoz-García (2), Eva Delgado-Silveira (2), Sagrario Martín-Aragón (3)

(1) Unidad de Farmacia Dirección Asistencial Noroeste. Gerencia Asistencial de Atención Primaria de Madrid. Spain, (2) Servicio de Farmacia. Hospital Universitario Ramón y Cajal. IRYCIS. Madrid. Spain, (3) Facultad de Farmacia. Universidad Complutense de Madrid, Spain

**Introduction/Aim:** Polymedication in elderly is an increasing concern since could lead to Medication-Related-Problems (MRP) and Potentially-Inappropriate-Prescriptions (PIP). To evaluate the impact of pharmacological treatment-reviews (TRs) when Primary-Care-Pharmacist (PCP) works in coordination with general practitioners (GP) by determining reduction in PIP (according to STOPP/START and Beers Criteria), MRP and polymedication. To know health outcomes (hospital admissions, emergency admissions, primary-care visits, mortality) 6 months post-intervention.

**Methods:** Observational study of retrospective pre-post intervention cohorts with patients  $> 65$  years (2018–2020). Intervention: TRs performed by PCP in the context of standard practice (cohort GP-coordinated TRs/cohort standard TRs). Variables: sociodemographic (age, sex, place of residence), clinical (Charlson-Index, number of hospital/emergency admissions, primary-care visits, mortality), pharmacological (difference pre-post TRs in: PIP, MRP, n drugs).

**Results:** 181 patients were enrolled. Mean age  $84.4 \pm 7.2$  years, 78.5% women, 64.1% nursing-home institutionalized, average chronic diseases  $7.1 \pm 2.3$ , average Charlson-Index  $7.2 \pm 2.1$ . Variables (GP-coordinated vs standard TRs) pre-post: decrease in drugs 1.9 (95% CI 1.4–2.4) vs 0.6 (95% CI 0.2–1.3),  $p < 0.05$ ; decrease in MRP 3.1 (95% CI 2.8–3.4) vs 1.0 (95% CI 0.6–1.4),  $p < 0.05$ ; decrease in PIP 2.0 (95% CI 1.6–2.2) vs 0.6 (95% CI 0.2–0.9),  $p < 0.05$ . Health outcomes in both cohorts: there was significant difference in average primary-care visits/patient  $1.3 \pm 0.5$  vs  $2.2 \pm 1.8$ ,  $p < 0.05$ . A positive trend was observed in MRP-related hospital admissions (8.7% vs 18.8%), MRP-related emergency admissions (7.8% vs 12.9%) and MRP-related primary-care visits (3.4% vs 10.6%).

**Conclusions:** PCP intervention of pharmacological TRs coordinated with GP, has been shown to have more impact to significantly reduce PIP, MRP and polymedication in elderly. Longer prospective studies are needed to confirm our health outcomes.

## P-849

### Willingness of Older Adults and their Informal Caregivers to Deprescribe Inappropriate Medication: UK Survey Study

R.E. Garnett (1), R.K. Barnes (1), J. Buckell (1), R.J. McManus (1), J.P. Sheppard (1)

(1) University of Oxford

**Introduction:** Reducing inappropriate polypharmacy is a major public health goal and deprescribing is considered one solution. Although patient attitudes towards deprescribing have been well studied, little consideration has been given to the informal caregiver perspective, how this differs from the views of patients and how that might influence care.

**Method:** A survey including demographic questions and the revised Patients' Attitude Towards Deprescribing (rPATD) questionnaire was undertaken. The primary outcome was to identify respondents'

willingness to deprescribe. This survey was distributed as online, telephone or paper versions, via social media, community centres, day care centres, local organisations, and personal networks. It had two sections of equivalent questions: one for ‘patients’ (age 65 + , based in England, taking one or more prescription medication) and one for their ‘informal caregivers’ (age 18 + ) .

**Results:** 1164 responses were received (760 patients and 404 informal caregivers). The average patient and caregiver was  $77 \pm 7$  years and  $69 \pm 15$  years respectively, female (61.2%; 63%), white (97.3%; 94.8%), and educated to degree level (64.5%; 57.5%). A total of 76.8% patients either agreed or strongly agreed that they were willing to deprescribe medications. In contrast, significantly fewer caregivers said the same (60.4%;  $p$ -value for difference  $< 0.000$ ). Further analysis will be conducted to identify associations between patient/caregiver characteristics and willingness to deprescribe.

**Conclusion:** This large study suggests patients are more willing to deprescribe than their informal caregiver. Better understanding of attitudes and how they differ between patients and informal caregivers, will enable the development of interventions to improve involvement in medication-related decisions.

## P-850

### Review of the updates of the main potentially inappropriate medication lists

Isabel María Carrión Madroñal (1), Marta Mejías Trueba (1), Aitana Rodríguez Pérez (1), Susana Sánchez Fidalgo (2), Bernardo Santos Ramos (1)

(1) Pharmacy Department. University Hospital Virgen del Rocío, Seville, Spain, (2) Department of Preventive Medicine and Public Health, University of Seville, Seville, Spain

**Introduction:** Deprescribing has proven to be necessary to combat the poly medication. Deprescription tools classified into criteria type are usually based on lists of drugs to deprescribe. The objective is to review the characteristics of the tools based on potentially inappropriate medication (PIM) lists that have done an update.

**Methods:** PIM list-based tools were localized. The following variables were collected: year of update, design, multidisciplinary panel (yes/no), participants, authorship, number of rounds, scale of punctuation, and number of drugs/criteria included and removed.

**Results:** Four tools were found (STOPP-Frail, STOPP-START, BEERS, and PRISCUS). Three were updated in 2023 and one in 2020.-Design: 100% used literature search and Delphi multidisciplinary expert panels (one anonymous Delphi). There was a median of 11.5 participants (interquartile range (IQR): 10.3–23.8), mainly with academic profile in geriatric pharmacotherapy. Authorship: geriatricians (4/4), pharmacists (3/4), psychiatrists (2/4), internal and palliative medicine (2/4). -Number of rounds: STOPP-Frail (n = 2), STOPP-START (n = 4), BEERS (n = 2) and PRISCUS (n = 3). Scale of punctuation: 100% panel members used the five-point Likert-scale.-STOPP-START and PRISCUS added 79 and 133 new criteria and removed 3 and 6, respectively (cardiology, endocrine, musculoskeletal, central nervous and urogenital systems were mainly affected). STOPP-Frail maintained 25 criteria with some modifications (antihypertensive-therapies, anti-anginal medications and vitamin-D). BEERS removed 38 medications/criteria (mainly due to low use and not on the U.S. market), added 10 (cardiology-coagulation and musculoskeletal systems), and modified 34 (mainly changes in formatting and wording to enhance clarity and usability).

**Key Conclusions:** Changes made in these tools reflect that PIM-based lists are adapted to the increased in deprescribing evidence over years.

## P-851

### An audit on deprescribing during geriatric rehabilitation

Christa Vella (1), Doriella Galea (2), Francesca Farrugia (2), Peter Ferry (2), Marise Gauci (2), Paride Patania (1)

(1) Mater Dei Hospital, (2) Karen Grech Hospital

**Introduction:** The aim of this study was to determine whether deprescribing of benzodiazepines and benzodiazepine-like drugs, proton pump inhibitors, antipsychotics, antihypertensives and anti-dementia drugs was happening during admission for geriatric rehabilitation.

**Methods:** All patients who were discharged from the eight rehabilitation geriatric wards in the period between July 2020 until and including July 2021 were taken into consideration for the study. Patients who were not admitted under the department of Geriatrics, patients who passed away during admission, patients with missing treatment documented on admission on the respective discharge letters, patients younger than 65 years old, internal transfers, patients who discharged themselves out of hospital against medical advice and patients transferred to the general hospital for acute care were excluded from the study. Treatment on the discharge letter from the acute hospital and that on discharge from the rehabilitation hospital were compared to identify any deprescribing practices of benzodiazepines and benzodiazepinelike drugs, proton pump inhibitors, antipsychotics, antihypertensives and anti-dementia drugs.

**Results:** Deprescribing occurred frequently during admission for geriatric rehabilitation. The most deprescribed drugs were antihypertensives followed by proton pump inhibitors. Medical documentation of the reasons for deprescribing remains poor. In the majority of cases no reasons were cited for deprescribing medication.

**Conclusions:** Deprescribing happens frequently during geriatric rehabilitation mainly for antihypertensives. There is still room for improvement for the documentation of medical reasons for deprescribing in the discharge letters.

## P-852

### Primary care perspective of the ASPIRE intervention: a qualitative analysis

Laura Hellemans (1), Julie Hias (2), Anne-Sophie Vanhoonacker (3), Mieke Deschodt (4), Jos Tournoy (4), Lorenz Van der Linden (2)

(1) Research Foundation Flanders, Brussels, Belgium, (2) Department of Pharmaceutical and Pharmacological Sciences, KU Leuven, Leuven, Belgium, (3) Faculty of medicine, KU Leuven, Leuven, Belgium, (4) Department of Public Health and Primary Care, KU Leuven, Leuven, Belgium

**Introduction:** To reduce medication-related harm in geriatric patients, we are currently performing the ASPIRE randomized controlled trial on the geriatric wards of UZ Leuven, Belgium [1]. Here, the impact on unplanned hospital revisits of a multifaceted clinical pharmacy intervention is investigated. In the process evaluation, we aim to analyze primary care perspective to identify facilitators and barriers for future implementation of the intervention.

**Methods:** We applied purposive sampling to select general practitioners, community pharmacists, nurses from a nursing home and home care nurses with diverse experiences. Interviews were conducted either online or in person and followed a semi-structured guide. Interviews were audio-recorded, transcribed verbatim, and thematically analyzed using NVivo according to the Qualitative Analysis Guide of Leuven until data saturation was reached.

**Results:** We conducted 10 interviews with 12 primary healthcare professionals: 4 general practitioners, 3 community pharmacists, 2 home nurses and 3 nursing home nurses. We identified 21 codes across 3 themes: experiences, facilitators and barriers. Overall, primary healthcare professionals had a positive experience with the intervention. The up-to-date discharge medication list, patient and caregiver involvement and improved interdisciplinary communication were perceived as facilitators for successful implementation. Barriers for future implementation were time constraints, the absence of a shared electronic medication file and difficulties in finding the optimal timing for communicating with one another.

**Key Conclusions:** Overall, primary healthcare professionals had a positive attitude towards the intervention. However, some barriers will need to be addressed to ensure successful implementation in the future.

**Reference:**

1. Hias J, Hellemans L, Laenen A, Walgraeve K, Liesenborghs A, De Geest S, Luyten J, Spriet I, Flamaing J, Van der Linden L, Tournoy J. The effect of a trAnSitional Pharmacist Intervention in geRiatric inpatients on hospital visits after discharge (ASPIRE) : Protocol for a randomized controlled trial. *Contemp Clin Trials*. 2022 Aug;119:106,853. <https://doi.org/10.1016/j.cct.2022.106853>. Epub 2022 Jul 14. PMID: 35842106.

### P-853

#### Impact of the + AGIL Barcelona integrated care program on polypharmacy and drug adequacy in older adults

Ana M<sup>a</sup> de Andrés (1), Laura Mónica Pérez (1), Aida Ribera (1), Francisco Díaz (2), M<sup>a</sup> Fernanda Velarde (3), M<sup>a</sup> Pamela Burbano (3), Luis Soto (1), M<sup>a</sup> Belén Enfedaque (4), Marco Inzitari (1)

(1) 1 Parc Sanitari Pere Virgili, Area of Intermediate Care, Barcelona, Spain; 2. RE-FiT Barcelona research group, Vall d'Hebrón Institute of Research, Barcelona, Spain; (2) 3. Primary Healthcare Center Bordeta-Magòria, Institut Català de la Salut, Barcelona, Spain, (3) 1 Parc Sanitari Pere Virgili, Area of Intermediate Care, Barcelona, Spain; (4) 4. Institut Català de la Salut, Gerència Territorial de Barcelona de Atenció Primària, Barcelona, Spain

**Introduction:** + AGIL Barcelona is a multicomponent intervention program aimed to preserve and improve older adults' intrinsic capacity through an integrated approach between primary care, geriatric teams, and community resources. We evaluated the program's impact on polypharmacy and drug adequacy.

**Methods:** Single-arm intervention study in an urban primary care centre. Frail individuals aged  $\geq 80$  with a positive frailty screening were referred for a comprehensive geriatric assessment and to design a tailored, multidisciplinary and multicomponent intervention (3 main domains) : a) physical exercise, b) promotion of healthy lifestyle habits (nutritional and sleep counselling, loneliness detection) and c) comprehensive medication review. Prescription patterns (i.e. polypharmacy, nervous system drugs (NSDs) and fall risk-increasing drugs (FRIDs) ) were evaluated at 3 months. All analyses were stratified by frailty degree according to the Clinical Frailty Screening Tool (CFS) .

**Results:** Total of 173 participants were included (mean age = 81.2 (SD 5.7) years, 68.8% women). According to CFS, 43.4% were vulnerable and 32.37% frail. At baseline, patients received a mean of 7.6 (SD: 3.43) drugs, 82.7% received psychotropic drugs and 93.6% FRIDs. After the intervention, the mean number of drugs decreased to 7,4 (p = 0.051). The proportion of patients with NSDs and FRIDs decreased by 6.4% (p = 0.016) and 1.2% (p = 0.479) respectively.

After stratification by CFS, improvements in prescription patterns were mainly observed in non-frail and vulnerable participants.

**Conclusions:** In our sample, a multidisciplinary intervention may improve prescription patterns, especially regarding NSD, which negatively affects older adults' health. Little changes were observed in the frailest participants, probably because of different therapeutic goals.

### P-854

#### Exploring possible gender disparities in primary care physicians' pharmacotherapeutic decisions for older adults through the lens of the Gender Integration Continuum framework

Altea Kthupi (1), Kieran Dalton (2), Paula A. Rochon (3), Robin Mason (3), Parya Borhani (3), Joyce Li (3), Lisa McCarthy (4), Rachel Savage (3)

(1) 1Women's Age Lab, Women's College Hospital, Toronto, Ontario, Canada, (2) 2Pharmaceutical Care Research Group, School of Pharmacy, University College Cork, Cork, Ireland, (3) Women's Age Lab, Women's College Hospital, Toronto, Ontario, Canada, (4) Institute for Better Health, Trillium Health Partners, Toronto, Ontario, Canada

**Introduction:** To provide equitable care, clinicians must consider their patient's sociocultural context and gender-specific needs. We explored primary care physicians' awareness of and consideration of gender-related sociocultural factors in pharmacological treatment decisions for older patients.

**Methods:** We interviewed Canadian primary care physicians. Participants were provided with either an older male or female clinical vignette illustrating a patient presenting with symptoms suggestive of a prescribed drug's side effect. Participants described their thought process and proposed a treatment plan using a 'think-aloud' approach. Hypothetical scenarios were posed to explore how gender-related sociocultural factors such as living conditions, caregiving status, financial capabilities, and gender itself could alter treatment plans. Transcripts were then thematically analyzed using an adapted version of the Gender Integration Continuum framework.

**Results:** Fourteen physicians (7 female and 7 male) participated. When hypothetical scenarios were posed, most physicians demonstrated an awareness of gender disparities, yet did not integrate these insights into their treatment plans. Physicians rarely connected sex and gender to gender-related sociocultural factors. When adapting treatment, there was a discrepancy between physicians' practice of changing plans based on gender-related factors and their expressed view that patients' gender would not affect treatment decisions.

**Key Conclusions:** While awareness of gender disparities among primary care physicians is encouraging, there is a discernible gap between this knowledge and its application in pharmacotherapeutic decisions. Looking forward, the emphasis should be on clinical training that incorporate intersections of sex, gender, and sociocultural factors in treatment plans, ultimately leading to more equitable healthcare outcomes for older adults.

### P-855

#### Comparative effectiveness of antiseizure medications following acute ischaemic stroke

Stella Jung-Hyun Kim (1), Stephen Wood (1), Clara Marquina (1), J Simon Bell (1), Jenni Ilomäki (2)

(1) Centre for Medicine Use and Safety, Monash University, Melbourne, Victoria, Australia, (2) Centre for Medicine Use and Safety, Monash University, Melbourne, Victoria, Australia; School of Public Health and Preventive Medicine, Faculty of Medicine Nursing and Health Sciences, Monash University, Melbourne, Victoria, Australia

**Introduction:** Seizures are important complication following stroke. However, there are no clinical guidelines on the optimal use of antiseizure medications (ASM) in post-stroke patients. This study aimed to investigate the effectiveness of ASMs dispensed following ischaemic stroke by comparing the risk of all-cause mortality, recurrent stroke and recurrent seizure between ASM regimens.

**Methods:** Using state-wide Victorian linked administrative health datasets, we identified people aged  $\geq 30$  years and hospitalised for a first-ever stroke between 2013–2017. Of people who had an ischaemic stroke, those who initiated ASM treatment within one year after discharge were included. Cox proportional hazard regression model was used to examine the risk of all-cause mortality, recurrent stroke and recurrent seizure. Inverse Probability of Treatment Weights were applied to adjust for confounding factors.

**Results:** There were 989 people who initiated ASM treatment within one year following ischaemic stroke. Levetiracetam accounted for 38.0% of first ASMs dispensed, followed by valproate (25.8%) and carbamazepine (10.3%). Compared to old-generation ASM, those who initiated new-generation ASM had significantly lower risk of 1-year mortality (HR 0.58, 95% CI 0.44–0.76). When compared to carbamazepine, levetiracetam and valproate showed significantly lower risk of 1-year recurrent stroke (LEV: HR 0.47, 95% CI 0.26–0.88; VPA: HR 0.51, 95% CI 0.26–0.98).

**Key Conclusions:** People who initiated on new-generation ASMs had lower risk of all-cause mortality compared to those who receive old-generation ASMs following ischaemic stroke. By regimen, people who received levetiracetam or valproate had lower risk of recurrent stroke compared to those who received carbamazepine.

## P-856

### Knowledge and attitudes for using generic drugs among older adults and their caregivers: does polypharmacy make the difference?

ilaria parrotta (1), caterina trevisan (2), Panaiotis Finamore (3), Leonardo Bencivenga (4), Federica Bellone (5), Chukwuma Okoye (6), Luca Soraci Soraci (7), Alberto Zucchelli (8), Graziano Onder (9)

(1) Ospedale San Camillo IRCCS, Venezia Lido, Italy, (2) Dipartimento di Scienze Mediche, Università di Ferrara, Italy, (3) Fondazione Policlinico Universitario Campus Bio-Medico, Roma, Italy, (4) Unità di Geriatria e Fibrosi Cistica dell'adulto, Azienda Ospedaliera Universitaria Federico II, Napoli, Italy, (5) Unità di Geriatria, Azienda Ospedaliera-Universitaria Gaetano Martino, Messina, Italy, (6) U.O. Geriatria, Azienda Ospedaliera Universitaria di Pisa, Italy, (7) U.O. Geriatria, IRCCS INRCA, Cosenza, Italy, (8) U.O.C. Medicina Generale 1 ad indirizzo geriatrico, Spedali Civili, presidio di Montichiari, Brescia, Italy, (9) Dipartimento di Scienze dell'invecchiamento, ortopediche e reumatologiche, Fondazione Policlinico universitario Agostino gemelli IRCCS

**Introduction:** The increasing prevalence of multimorbidity is leading to higher use of long-term therapies and medical costs. Generic drugs are essential for healthcare system sustainability, especially consid-

ering the frequency of multidrug regimens. We aimed to assess if knowledge and attitudes toward the use of generic drugs among older patients and their caregivers could influence be influenced by polypharmacy status.

**Methods:** A cross-sectional study including 312 older patients and 163 caregivers was conducted in 15 inpatient and outpatient clinics in Italy in 2023. Participants fulfilled an ad hoc questionnaire assessing their knowledge and preferences for generic drug use. Moreover, sociodemographic data and information on functional and health status were collected.

**Results:** The prevalence of polypharmacy (i.e., use of 5–9 drugs) and hyperpolypharmacy (i.e., use of 10 + drugs) in the patients involved or assisted by the caregivers was 44.6% and 14.3%, respectively. Most participants, especially those using five or more drugs, declared to know what a generic drug is and to use it often. Concerning the misconceptions about generic drugs by polypharmacy level, we found that people under polypharmacy were more likely to believe that generic drugs have lower quality and efficacy compared with those using fewer drugs. Furthermore, people with hyperpolypharmacy thought more frequently that generic drugs take more time to be effective and can be used only for mild diseases.

**Key Conclusions:** The attitudes and preferences of the older population on the choice of generic drugs seem to differ based on the number of drugs chronically taken.

**Acknowledgements:** The study is part of the initiative of Italia Longeva for the promotion of generic drugs' use and was implemented by the YES group (Young Epidemiologist of the Italian Society of Gerontology and Geriatrics). List of the SurFe working group: Caterina Trevisan, Maria Lucia Bursi, Chiara Petrucci, Pier Federico Scaroni (Dipartimento di Scienze Mediche, Università di Ferrara, Italy); Panaiotis Finamore, Priscilla Romagnoli, Rosa De Felice, Davide Maria Biancone (Fondazione Policlinico Universitario Campus Bio-Medico, Roma, Italy); Iliaria Parrotta, Giovanni Lazzaro (Ospedale San Camillo IRCCS, Venezia Lido, Italy); Leonardo Bencivenga, Giuseppina Coniglio (Unità di Geriatria e Fibrosi Cistica dell'adulto, Azienda Ospedaliera Universitaria Federico II, Napoli, Italy); Giulia Rivasi, Davide Montini, Marco Capacci, Ludovica Ceolin (Geriatria-UTIG, Azienda Ospedaliera-Universitaria Careggi, Firenze, Italy); Federica Bellone, Stefano Caruso (Unità di Geriatria, Azienda Ospedaliera-Universitaria Gaetano Martino, Messina, Italy); Giada Arena (Unità di Medicina Interna, Azienda Ospedaliera-Universitaria Gaetano Martino, Messina, Italy); Chukwuma Okoye, Leonarda Maltese, Cristina Cargioli (U.O. Geriatria, Azienda Ospedaliera Universitaria di Pisa, Italy); Luca Soraci, Elvira Filicetti (U.O. Geriatria, IRCCS INRCA, Cosenza, Italy); Chiara Ceolin, Anna Bertocco (Clinica Geriatrica, Azienda Ospedale Università Padova, Italy); Maria Cristina Ferrara, Tommaso Finco (Unità di Geriatria, Ospedale San Gerardo, ASST di Monza, Italy); Enrico Brunetti, Roberto Presta (S.C. Geriatria U, A.O.U, Città della salute e della scienza di Torino, Italy); Francesco Salis (U.O.C. Medicina Interna, Azienda Ospedaliera-Universitaria di Cagliari, Italy); Maria Beatrice Zazzara, Stefano Cacciatore, Federica D'Ignazio, Antonella Risoli, Maria Modestina Bulla, Beatrice Fumagalli, Myriam Macaluso, Rossella Giordano, Elena Levati (Dipartimento di Scienze dell'invecchiamento, ortopediche e reumatologiche, Fondazione Policlinico universitario Agostino gemelli IRCCS); Antonio D'Errico (Azienda USL Toscana Sud-Est, Dipartimento Medicina Interna delle specialistiche e della riabilitazione, Italy); Alberto Zucchelli (U.O.C. Medicina Generale 1 ad indirizzo geriatrico, Spedali Civili, presidio di Montichiari, Brescia, Italy).

**P-857****Effectiveness of a multidisciplinary intervention to improve medication adherence in older adults after hospital discharge: preliminary results from the APPROACH randomized controlled trial**

Arianna Sala (1), Andrea Grandieri (1), Giulia Pampolini (1), Alessandra Cannata (1), Sara Tamascelli (1), Maria Devita (2), Andrea Cignarella (3), Chiara Curreri (3), Federica Limongi (4), Giuseppe Sergi (3), Stefano Volpato (1), Caterina Trevisan (5)

(1) Geriatric and Orthogeriatric Unit, Department of Medical Sciences, University of Ferrara, Ferrara, Italy, (2) Department of Psychology, University of Padua, Padua, Italy, (3) Department of Medicine, University of Padua, Padua, Italy, (4) Institute of Neuroscience, National Research Council, Padua, Italy, (5) Geriatric and Orthogeriatric Unit, Department of Medical Sciences, University of Ferrara, Ferrara, Italy and Department of Medicine, University of Padua, Padua, Italy

**Introduction:** Achieving adequate levels of medication adherence in older people is crucial due to their high prevalence of multimorbidity and polypharmacy. This issue exacerbates in case of modifications of long-term therapies, such as after hospitalization. We aimed to assess the effectiveness of a multidisciplinary approach in improving medication adherence in older adults after hospital discharge.

**Methods:** The APPROACH randomized controlled trial involved older inpatients (and their caregivers, in case of patients dependent on therapy assumption) in the Geriatrics Units of Ferrara and Padova University Hospitals (clinicaltrials.gov: NCT05719870). The intervention consisted of an educational training and provision of recommendations by a multidisciplinary team (involving physicians, pharmacologist, occupational therapist, and dietitian) at hospital discharge and, after hospital discharge, a phone recall checking for therapy adherence and potential concerns, and a 7-day counselling service. The Control Group received standard care. Medication adherence was measured at hospital discharge and after 7 days using the Medication Adherence Report Scale-5 (MARS-5) and Morisky Medication Adherence Scale-4 (MMSA-4).

**Results:** Preliminary results were obtained from a subsample of 156 patients (77 allocated to the intervention group and 79 to the control group). The intervention and control groups did not differ neither concerning sociodemographic and clinical characteristics, nor baseline medication adherence. After 7 days from hospital discharge, we found a significant 22.3% increase of high medication adherence according to MARS-5 score only in the intervention group.

**Key Conclusions:** The systematic implementation of a multidisciplinary intervention could improve the medication adherence of older adults after hospital discharge. Acknowledgements: The project is supported by a Pfizer Quality Improvement grant (n. 53789559).

**P-858****Deprescribing Potentially Inappropriate Medication in Elderly by Using VIONE Methodology: A Retrospective Study in a Portuguese Hospital**

Raquel Vieira (1), Ana Lemos (2), João Fonseca (1), Sara Bravo (1), Paula Mesquita (1), Daniela Alves (1), Cláudia Rosado (1)

(1) Centro Hospitalar do Baixo Vouga (Portugal), (2) Universidade de Aveiro (Portugal)

**Introduction:** Populational ageing in Portugal leads to multimorbidity, increasing polypharmacy, potentially inappropriate medication

(PMI) prescription and healthcare resources utilization and reducing quality of life (QoL) in elderly.

**Objectives:** To evaluate therapeutic appropriateness in multimorbid elderly patients in a Portuguese hospital.

**Methods:** Retrospective descriptive study of  $\geq 70$ -year-old patients admitted to Internal Medicine Service from a Portuguese Hospital between January and March 2022 comparing major polypharmacy (MP) prevalence and PMI prescription at admission and discharge using VIONE methodology.

**Results:** We studied 280 patients (41.8% males) with mean age 83.5 years, Clinical Frailty Score 5.5 and Charlson Comorbidity Index 7.5. Institutionalized patients showed higher MP (6.1–8.9%) and PMI (14.2–18.1%). Females (24–31.7% vs. males 19–22.6%) and frailer patients (28–33% vs. non-fragile 15–21%) had higher MP. At discharge, an increase in MP (42.9 to 54.3%) and PMI (75.5 to 81.5%) was verified. There was no satisfactory deprescribing of PMI from “E” and “N” categories and proton pump inhibitors (PPI) even increased prescription (40.1 to 47.7%). “V” was related to higher readmission in emergency department—ED ( $p = 0.31$ ) and rehospitalization ( $p = 0.72$ ), but lesser 6-month (M) mortality ( $p = 0.077$ ); “O” was associated to a 35% increase in 6M mortality ( $p = 0.0062$ ); “E” showed a higher 6M rehospitalization ( $p = 0.026$ ). The most frequently prescribed PMI were PPI (40.1–47.7%), benzodiazepines (23.3–25.7%) and antipsychotics (13%). Within 6M, from 243 patients (37 died during hospitalization), 63% were readmitted to ED, 39.9% hospitalized, 26.3% died.

**Conclusion:** Hospitalization presents an opportunity for therapeutic reconciliation, using tools such as VIONE methodology to reduce PMI and MP, increasing QoL in elderly.

**P-859****Negative Outcomes of Sedative-Hypnotic Medications in Older Nursing Home Residents with Complex Chronic Health Conditions: Results of the Scoping Literature Review**

Anna Lukacisnova (1), Muhammad Ahmer Raza (1), Mikko Nuutinen (2), Daniela Fialova (3), Rosa Liperoti (4), Harriet Finne Soveri (5), Emanuele Rocco Villani (4), Graziano Onder (4), Hein van Hout (6)

(1) Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové, Charles University in Prague, Czech Republic, (2) Nordic Healthcare Group, Helsinki, Finland, (3) Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové, Charles University in Prague, Czech Republic, (4) Fondazione Policlinico Universitario A. Gemelli IRCCS, Università Cattolica del Sacro Cuore, Rome, Italy, (5) National Institute for Health and Welfare, Helsinki, Finland, (6) Department of General Practice, Institute of Extramural Medicine (EMGO), VU University Medical Centre, Amsterdam, the Netherlands

**Background:** Sedative-hypnotics, including benzodiazepines (BZDs) and non-BZDs, are commonly prescribed in older adults. This scoping literature review focused on documenting adverse outcomes of sedative-hypnotics in older nursing home (NH) residents.

**Methods:** We searched PubMed database using a method of scoping literature review and MeSH terms “sedative AND nursing home” for the period 2000–2021. Only English full-text articles were included.

**Results:** Primary search yielded 240 studies of those 16 were used for the full text literature review. Drug groups tested were mainly sedative-hypnotics, antianxiety agents, sedative antipsychotics and antidepressants, opioids and sedative antihistamines (Bourin, 2004 and Schroeck, 2016). Well-documented in the published articles was an increased risk of falls (Olazaran, 2013; Westerlind, 2019; Janus,

2017; Hamza, 2019), particularly for BZDs, Z-drugs, sedative antipsychotics and antidepressants, and opioids (Wang, 2019; Jamieson, 2018), as well as the risk of fractures (Berry, 2013; Dore, 2018), with a dose–response relationship (Sorock, 2009). Use of BZDs was associated with a cognitive decline (Bourgeois, 2015; Eggermont, 2009) and treatment with sedative psychotropics with worsening of physical outcomes (impaired activities of daily living, mobility, and muscle strength) and psychosocial outcomes (reduced quality of life, self-performance, and individual belief of functional ability) (Galik, 2013).

**Conclusion:** Use of sedative-hypnotics may significantly worsen physical and psychosocial outcomes of older NH residents. It's important to better understand complex characteristics of older NH residents benefitting from sedative-hypnotics or their deprescribing. Artificial intelligence methods may help to identify these subpopulations. The study is part of the I-CARE4OLD H2020 project (No. 965341).

Disclosure of Interest: None Declared.

## P-860

### Exploring Preferences and Attitudes Toward the Use of Generic Drugs in Older Patients and Their Caregivers

Davide Montini (1), Giulia Rivasi (2), Chiara Ceolin (3), Maria Cristina Ferrara (4), Enrico Brunetti (5), Francesco Salis (6), Maria Beatrice Zazzara (7), Antonio D'Errico (8), Caterina Trevisan (9), Graziano Onder (7), and the SurFe (10)

(1) (Geriatrics-UTIG, Azienda Ospedaliero-Universitaria Careggi, Firenze, Italy, (2) Geriatrics-UTIG, Azienda Ospedaliero-Universitaria Careggi, Firenze, Italy, (3) Clinica Geriatrica, Azienda Ospedale Università Padova, Italy, (4) Unità di Geriatria, Ospedale San Gerardo, ASST di Monza, Italy, (5) S.C. Geriatria U, A.O.U, Città della salute e della scienza di Torino, Italy, (6) Dipartimento di Scienze Mediche e Sanità Pubblica, Università di Cagliari, (7) U.O.C. Geriatria, Policlinico Gemelli, Roma, Italy, (8) Azienda USL Toscana Sud-Est, Dipartimento Medicina Interna delle specialistiche e della riabilitazione, Italy, (9) Dipartimento di Scienze Mediche, Università di Ferrara, Italy, (10) working group

**Introduction:** Older individuals are the main medications consumers due to high prevalence of multimorbidity and polypharmacy. Generic drugs may limit medical costs related to these conditions; however, their consumption in the last decade has not substantially increased [1]. This study aimed to evaluate knowledges and attitudes toward generic drugs of older patients and their caregivers.

**Methods:** The study involved older adults and/or their caregivers in 15 inpatient or outpatient Geriatrics, Internal Medicine, or Rehabilitation clinics in Italy. Participants were administered a structured anonymous questionnaire to investigate their knowledge and preferences regarding generic drugs' use. Sociodemographic information and data on functional and health status were also collected.

**Results:** The study involved 475 participants, including 312 patients (53.8% females, mean age 79 years) and 163 caregivers (62.8% females, mean age 62.8 years). The prevalence of disability and polypharmacy among patients was 41.3% and 58.9%, respectively. While most caregivers declared being adequately informed about generic medicines (96%), this frequency was lower for patients (84%). Moreover, a relevant proportion of patients (19.2%) and caregivers (10.4%) had never used generic drugs. Finally, patients were more likely to believe that generic drugs take longer to be effective (22% vs. 12%), are produced with lower-quality substances (27% vs. 9%), and are less effective overall (43% vs. 28%).

**Key Conclusions:** Knowledge on generic drugs is still limited in older adults and their caregivers. Educational interventions addressed

to older people are necessary to increase knowledge and dispel misconceptions regarding generic drugs.

#### References:

1. Egualea, Il Mercato Italiano Dei Farmaci Generici Equivalenti Dati Gennaio–Dicembre 2021 (2022). h <https://www.egualia.it/it/componet/edocman/3099-report-mercato-generici-2021/viewdocument/3099.html?Itemid=0>.

**Acknowledgements:** The study is part of the initiative of Italia Longeva for the promotion of generic drugs' use and was implemented by the YES group (Young Epidemiologist of the Italian Society of Gerontology and Geriatrics). List of the SurFe working group: Caterina Trevisan, Maria Lucia Bursi, Chiara Petrucci, Pier Federico Scaroni (Dipartimento di Scienze Mediche, Università di Ferrara, Italy); Panaiotis Finamore, Priscilla Romagnoli, Rosa De Felice, Davide Maria Biancone (Fondazione Policlinico Universitario Campus Bio-Medico, Roma, Italy); Iliaria Parrotta, Giovanni Lazzaro (Ospedale San Camillo IRCCS, Venezia Lido, Italy); Leonardo Bencivenga, Giuseppina Coniglio (Unità di Geriatria e Fibrosi Cistica dell'adulto, Azienda Ospedaliera Universitaria Federico II, Napoli, Italy); Giulia Rivasi, Davide Montini, Marco Capacci, Ludovica Ceolin (Geriatrics-UTIG, Azienda Ospedaliero-Universitaria Careggi, Firenze, Italy); Federica Bellone, Stefano Caruso (Unità di Geriatria, Azienda Ospedaliera-Universitaria Gaetano Martino, Messina, Italy); Giada Arena (Unità di Medicina Interna, Azienda Ospedaliera-Universitaria Gaetano Martino, Messina, Italy); Chuma Okoye, Leonarda Maltese, Cristina Cargioli (U.O. Geriatria, Azienda Ospedaliero Universitaria di Pisa, Italy); Luca Soraci, Elvira Filicetti (U.O. Geriatria, IRCCS INRCA, Cosenza, Italy); Chiara Ceolin, Anna Bertocco (Clinica Geriatrica, Azienda Ospedale Università Padova, Italy); Maria Cristina Ferrara, Tommaso Finco (Unità di Geriatria, Ospedale San Gerardo, ASST di Monza, Italy); Enrico Brunetti, Roberto Presta (S.C. Geriatria U, A.O.U, Città della salute e della scienza di Torino, Italy); Francesco Salis (U.O.C. Medicina Interna, Azienda Ospedaliero-Universitaria di Cagliari, Italy); Maria Beatrice Zazzara, Stefano Cacciatore, Federica D'Ignazio, Antonella Risoli, Maria Modestina Bulla, Beatrice Fumagalli, Myriam Macaluso, Rossella Giordano, Elena Levati (U.O.C. Geriatria, Policlinico Gemelli, Roma, Italy); Antonio D'Errico (Azienda USL Toscana Sud-Est, Dipartimento Medicina Interna delle specialistiche e della riabilitazione, Italy); Alberto Zucchelli (U.O.C. Medicina Generale 1 ad indirizzo geriatrico, Spedali Civili, presidio di Montichiari, Brescia, Italy).

## P-861

### Pharmacotherapy and Disorders of Gastric Motility in Older People

Sinziana-Georgeta Moscu (1), Gabriela Cristina Chelu (1), Catalina-Raluca Nuta (1), Ovidiu Lucian Bajenaru (1), Nicolae Ovidiu Penes (1), Gabriel-Ioan Prada (1), Anna Marie Herghelegiu (1)

(1) University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania

**Introduction:** Most motility disorders of upper digestive tract are complications of comorbidities, particularly common in elderly, or adverse effects medicines. Study objectives were to identify specific patterns of both independent and cumulative drug risk factors for gastric motility disorders in elderly, as well as protective therapy and association of behavioral risk factors with comorbidities.

**Materials and Methods:** An observational, analytical, retrospective, case–control study was carried out. A total of 120 patients were divided, according to age, gender, degree of impairment and drug therapy. Reference age groups were: 50–64 years (adults) and elderly ( $\geq 70$  years). Each of the two groups contained an equal number of both genders.



**Results:** Prevalence of NSAID use was lower among elderly patients, the difference reaching statistical significance for elderly men from the urban environment ( $p < 0.05$ ). The use of gastric protection medication was more prevalent in the case of elderly patients, especially in women, the difference compared to adults being statistically significant ( $p = 0.0283$ ), an aspect also valid in the case of the difference between elderly women from urban and rural areas ( $p = 0.0381$ ). Prevalence of gastric protection medication usage increased in patients who were treated with association of several drugs with risk to generate digestive side effects, predominantly in elderly female subjects, the difference reaching statistical significance ( $p < 0.05$ ) and being positively correlated with number of medicines.

**Conclusions:** Disorders of gastric motility can be stimulated by several medicines, and this warrants a constant adaptation of therapeutic regimens in elderly.

**Key words:** medicines, disorders of gastric motility, older people.

## P-862

### Summary of anticholinergic drug scales used to evaluate anticholinergic drug burden in older adults

Juraj Ščešňák (1)

(1) Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové, Charles University, Czech Republic

Juraj Ščešňák<sup>1</sup>, Amanda J. Cross<sup>4</sup>, J. Simon Bell<sup>4</sup>, Emanuele Rocco Villani<sup>3</sup>, Rosa Liperoti<sup>3</sup>, Daniela Fialová<sup>1,2</sup> Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové, Charles University, Czech Republic<sup>2</sup> Department of Geriatrics and Gerontology, 1st Faculty of Medicine, Charles University, Prague, Czech Republic<sup>3</sup> Università Cattolica del Sacro Cuore, Rome, Italy<sup>4</sup> Centre for Medicine Use and Safety, Faculty of Pharmacy and Pharmaceutical Sciences, Monash University, Parkville, Australia.

**Introduction:** Anticholinergic (ACH) medications may worsen various health problems and geriatric syndromes in older adults and scales to assess ACH drug burden are helpful in both clinical practice and research. The aim of our study was to review and summarize all currently published original and modified ACH drug scales for use in older adults. Method: PubMed, MEDLINE, Scopus, and Web of Science databases were searched to identify all ACH drug burden scales published between 2000–2020. Data search was conducted in September–December 2020, with an additional search for 2021–2022 period in December 2022. MeSH terms used were “anticholinergics and aged”. Snowballing method was applied to search for additional sources.

**Results:** In total, 1942 records were examined and 18 original and 9 modified ACH drug scales were identified. Among them, 12 scales had a 4-step scoring (0–3), 3 scales had a 5-step scoring (0–4), and 1 instrument divided drugs into 1-low and 2-high ACH effect. The Anticholinergic Burden Score (Kiesel et al., 2018) contained the largest set of ACH medications ( $N = 151$ ). The complete list included 287 medications of those 52.3% ( $N = 150$ ) had mild ACH activity (e.g. metformin, furosemide), 18.1% ( $N = 52$ ) moderate (e.g. paroxetine, solifenacin), and 29.6% ( $N = 85$ ) severe (e.g. hydroxyzine, amitriptyline).

**Conclusion:** Available ACH drug scales vary greatly in the number of ACH medications they include and the relative ACH potency they assign to each medication. Based on these scales, it is possible to identify up to 287 medications with ACH properties that can be investigated in research studies and clinical reviews. Research works

were supported by projects: INOMED No.CZ.02.1.01/0.0/0.0/18\_069/0010046, I-CARE4OLD H2020 project (No. 965341), Cooperatio research program KSKF-I- Faculty of Pharmacy, Charles University and SVV260 655.

## P-863

### Potentially Inappropriate Medication Use Among Older Nursing Home Residents

Jovana Brkic (1), Ingrid Kummer (2), Jindra Reissigová (3), Anna Lukačičinová (2), Olena Antonenko (2), Bhagya Sri Areman (2), Annemie Somers (4), Daniela Fialová (5)

(1) Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové, Charles University, Hradec Králové, Czech Republic; Department of Social Pharmacy and Pharmaceutical Legislation, Faculty of Pharmacy, University of Belgrade, Belgrade, Serbia, (2) Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové, Charles University, Hradec Králové, Czech Republic, (3) Department of Statistical Modelling, Institute of Computer Science of the Czech Academy of Sciences, Prague, Czech Republic, (4) Pharmaceutical Care Unit, Faculty of Pharmaceutical Sciences, Ghent University, 9000, Ghent, Belgium; Department of Pharmacy, Ghent University Hospital, 9000, Ghent, Belgium, (5) Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové, Charles University, Hradec Králové, Czech Republic; Department of Geriatrics and Gerontology, 1st Faculty of Medicine, Charles University, Prague, Czech Republic

**Introduction:** Our study aimed to determine the most common potentially inappropriate medications (PIMs) used by older adults residing in Croatian nursing homes (NHs).

**Methods:** A cross-sectional study was conducted in Croatia in 2022. Participants were 226 older adults aged 65 + years who were residing in five NHs from three regions of Croatia–Dalmatia, Slavonia, and Zagreb County. The standardized and validated interRAI Long-Term Care Facilities (LTCF) Assessment tool was used in the assessment. To determine the most prevalent PIMs, we used the EU (7) -PIM list. Statistical analysis was performed in the R-software version 4.1.1.

**Results:** The prevalence of PIM use did not differ significantly across Croatian regions; it was 85.3% in Slavonia, 90.7% in Zagreb County, and 93.4% in Dalmatia (the chi-squared test p-value was  $p = 0.248$ ). The EU (7) -PIM list detected a total of 546 PIMs. The most prevalent PIMs were proton pump inhibitors, 17.9% of overall PIMs (14.1% pantoprazole, 3.5% esomeprazole, and 0.4% rabeprazole). These PIMs were followed by the benzodiazepines and Z-drugs: diazepam 12.3%, zolpidem 7.3%, alprazolam 6.6%, oxazepam 3.5%, and nitrazepam 2%.

**Key Conclusions:** PIMs are very frequently used medications in Croatian NHs, and their prescribing should be closely monitored. The findings of this study can be used to develop targeted interventions aimed at optimizing and reducing the most prevalent PIMs among older Croatian NH residents, namely proton pump inhibitors and benzodiazepines, and benzodiazepine-related drugs. The research was supported by: START/MED/093 Grant Schemes at the Charles University “(reg. no. CZ.02.2.69/0.0/0.0/19\_073/0016935), INOMED No.CZ.02.1.01/0.0/0.0/18\_069/0010046, ICARE4OLD H2020 No 965341 project, Cooperatio research program KSKF-I- Faculty of Pharmacy, Charles University and SVV260 655.

**P-864****Prescribing of drugs inducing or worsening insomnia in geriatric patients in acute care in the Czech Republic**

Olena Antonenko (1), Andrea Zelinková (1), Milada Halačová (1), Silvia Grešáková (1), Jovana Jovana Brkic (1), Daniela Fialová, PharmD, Ph.D, Assoc. Prof (2)

(1) Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové, Charles University, Czech Republic, (2) Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové, Charles University, Czech Republic, Department of Geriatrics and Gerontology, 1st Faculty of Medicine, Charles University, Czech Republic

**Introduction:** The increasing prevalence of multimorbidity and polypharmacy in older population may increase the risk of insomnia in older adults by various mechanisms. Mainly drugs affecting central nervous system (eg. some beta-blockers, sympathomimetics, non-steroidantiinflammatory drugs, antiparkinsonic agents etc.) may increase this adverse drug event. The aim of our study was to determine the prevalence of use of drugs aggravating insomnia in seniors in acute geriatric care in the Czech Republic and insomnia prevalence in this cohort of patients.

**Methods:** 438 older patients ( $\geq 65$  yrs) acutely hospitalized at 3 geriatric clinics in the Czech Republic underwent a comprehensive geriatric assessment (CGA) using the EUROAGEISM H2020 assessment protocols (2020–2021). Explicit criteria of potentially inappropriate medications (PIMs), mainly 2019 Beers criteria, 2015 EU (7) -PIM list, as well as selected review articles were used to identify medications that may worsen insomnia. Descriptive statistics was used to document studied prevalences.

**Results:** 68.7% of patients used at least one drug that may induce insomnia and 15.4% of them had diagnosed insomnia. Most frequent drugs (administered in the evening or at night) that may have an increased risk of worsening of insomnia were: beta-blockers–6.4%, diuretics–2.5%, theophylline– 4.1%, and antiparkinsonics–0.7%.

**Conclusion:** Numerous drugs may contribute to inducing or worsening of insomnia in geriatric patients and they are administered in the evening or at night to more than 2/3 of acutely hospitalized Czech seniors. Comprehensive medication review should be an initial management strategy for reducing this health problem in older adults. Grant: EUROAGEISM H2020-MCSF-ITN-764632 project.

**P-865****Pharmacological Interventions at a Geriatrics Outpatient Clinic**

Marília Andreia Fernandes (1), Marcel Guerreiro (2), Heidi Gruner (1)

(1) Consulta Multidisciplinar de Geriatria, Centro Hospitalar Universitário de Lisboa Central, Lisbon, Portugal, (2) Serviço de Medicina Interna, Hospital Curry Cabral, Centro Hospitalar Universitário de Lisboa Central, Lisboa, Portugal

**Background:** Deprescribing of potentially inappropriate medications (PIM) in elderly people is a current topic in Geriatrics. However, pharmacological interventions (PI) should also take in account the prescribing of necessary or appropriate drugs.

**Objective:** To analyse the PI performed at a Geriatrics Outpatient Clinic and compare the outcomes between the patients submitted to PI with those who do not underwent them.

**Methods:** This retrospective, observational, study includes the patients who were observed for the first time at our clinic between

May 2018 and December 2021. Data were collected using medical records and include demographic data, geriatric syndromes, namely frailty and polypharmacy, drugs and PI. Frailty was considered if the patient pointed at least three points on PRISMA-7, and polypharmacy when the patient was taking at least five drugs. Three-month all-cause inpatient and mortality were the primary outcomes. Statistical analysis was performed using SPSS. Continuous variables, expressed as mean  $\pm$  standard deviation, were compared with Student's t-test or Mann–Whitney test, whereas categorical variables, expressed as number and percentage, using the Chi-square test. A p-value less than 0.05 was considered statistically significant.

**Results:** Among the 127 patients considered, the mean age was  $82.3 \pm 6.4$  years, with a female predominance (66.1%). More than half (57.5%) of the patients were classified as frail, and more than three quarters (78.0%) were polymedicated. Proton pump inhibitors (48.0%), statins (44.9%), antiplatelets (36.2%), antidepressants (29.9%), benzodiazepines (29.1%), loop diuretics (22.8%), and thiazide diuretics (21.3%) were the most represented pharmacological classes, excluding renin–angiotensin–aldosterone system inhibitors, beta-blockers and calcium channel blockers. Fifty-five (43.3%) patients have underwent one PI at the first appointment. Of those, 31 (56.4%) patients have seen at least one drug withdrawn and 22 (40.0%) patients have started at least a new drug. The group not submitted to any PI presented a 3-month all-cause inpatient rate greater than the other group (15.3 versus 9.5%,  $p = 0.298$ ). The all-cause mortality during the aforementioned period was 2.8 versus 3.6%, respectively ( $p = 0.784$ ).

**Key Conclusions:** PI are essential to avoid PIM and to offer drugs that could be favorable in elderly people. These interventions could modulate the prognosis of these patients.

**P-866****Effect Of Opioid Exposure On Frailty: A 5-year Follow-up Of Subjects Included In The MAPT Trial**

Elyn Antoine (1), Shourick Jason (2), Dupouy Julie (3), Brusq Clara (4), Piau Antoine (5), Nourhashemi Fati (5), De Souto Barreto Philippe (6), Lapeyre-Mestre Maryse (7), Nathalie Cantagrel (8)

(1) CHU de Toulouse, France; Fécop, France; Réseau RECaP F-CRIN, INSERM, France, (2) CHU Toulouse, Université de Toulouse III, France, (3) DUMG Toulouse, Université Toulouse III, France, (4) CHU Toulouse, (5) CHU Toulouse, Université Toulouse III, France, (6) CHU Toulouse, Université Toulouse III, France, (7) CHU Toulouse, Université Toulouse III, Réseau RECaP F-CRIN, INSERM, France, (8) CHU Toulouse, France

**Introduction:** Opioid analgesic increases the risk of unfavorable outcomes. They are also suspected to increase frailty incidence. However, pain is intricately with frailty and introduce a major confusion bias regarding opioids' implication. We aimed to evaluate the influence of opioids on frailty.

**Methods:** We used data from the MAPT trial including community-dwelling people over 70 years-old. We studied four frailty outcomes over 5 years (incidence, persistence, severity, and reversibility). Frailty was defined as a 32-items Frailty Index (FI), cut-off of 0.25. We performed multivariable mixed-effect regression models and hazard-models, accounting for potential confounders (e.g., pain, comorbidities, poly medication).

**Results:** Among the 1637 individuals included, 339 (21%) were defined frail at baseline with a median FI of 0.30[0.27–0.35]; 587 subjects (36%) reported pain at baseline, and 458 were considered with chronic pain (CP). Over the 5-year follow-up, 235 subjects (14%) were exposed at least once to opioids, mainly to tramadol (6%)

and dextropropoxyphene (3%). Exposure to opioid was significantly associated with incident frailty (HRadj = 1.66, 95 CI%[1.25–2.20],  $p < 0.001$ ), but not with persistent frailty (HRadj = 1.03, 95 CI%[0.55–1.94],  $p = 0.922$ ), severity (Béta-adj = 0.008, 95 CI%[-0.002;0.018],  $p = 0.128$ ), nor reversibility (HRadj = 0.87, 95 CI%[0.58–1.29],  $p = 0.485$ ). Among confounders, CP was associated with the severity of frailty ( $p = 0.004$ ) and antidepressants (all types) were associated with all frailty outcomes ( $p < 0.001$ ).

**Key Conclusion:** These results confirm that opioid may increase the risk of incident frailty. However, these data did not allow to identify relationship with persistence, severity, or intensity of frailty. Antidepressant effect should be interpreted with caution since the FI construct is partially reflecting depression.

## P-867

### Lymphocytic colitis in association with duloxetine. Clinical case report

Yanira Aranda (1), Beatriz Pallardo (1), Ruth Aguado (1), Francisco Javier Gómez Pavón (1)

(1) Geriatrics Service. Hospital Cruz Roja

85-year-old woman with mood disorder under treatment with duloxetine. She reported fecal incontinence of one month and a half of evolution, started 3–4 weeks after initiation of antidepressant therapy. With the withdrawal of metformin the symptomatology did not improve. Laboratory tests, parasite culture without alterations. Celiac disease negative. No improvement with loperamide. No improvement after withdrawal of lactose. A colonoscopy was requested with microscopic result of colonic mucosa without architectural distortion, in which an increased lymphoplasmacytic infiltrate was observed. The diagnosis was lymphocytic colitis. Budesonide 3 mg was started with partial response. After total withdrawal of duloxetine as a possible empirical causative agent, diarrhea stopped. Lymphocytic colitis (LC) is a microscopic colitis that manifests as chronic watery diarrhea without pathological products. Its main characteristic is the absence of macroscopic alterations in the colonic mucosa. There is a genetic susceptibility for its etiology. Its association with tobacco and drugs (proton pump inhibitors, beta-blockers, statins, non-steroidal anti-inflammatory drugs, serotonin reuptake inhibitors...) has been described. The main treatment is drug withdrawal. The existence of a high probability relationship in the occurrence of LC as an adverse effect to a drug has only been demonstrated for individual cases by means of chronological (exposure, withdrawal effect and recurrence with reintroduction) and semiological criteria. Diarrhea is a common adverse effect of multiple drugs and can occur by various mechanisms. Several case-control studies have associated LC with drug use, but this fact cannot unequivocally imply a causal relationship. We need other lines of investigation.

## P-868

### Do Patients Bring An Up-To-Date Medication List To Outpatients Clinic?

Gabriella Borg Balzan (1)

(1) Karin Grech Hospital

Medicines reconciliation is a time consuming and complicated task. Often patient do not bring and up-to-date medication list with them to outpatients, which leads to waste of time and possible medication errors. This study aimed to identify the prevalence and type of medication lists provided in Karin Grech Hospital Outpatients. A

quantitative study using a paper questionnaire filled in by a geriatrician/trainee during an outpatient's clinical encounter to assess whether ambulatory patients brought an up-to-date medication list with them. This was done between January and February 2023. Anonymized data for 91 patients was collected. The average age of participants was 79 years (standard deviation 6.29) with 57% ( $n = 39$ ) being female. The average number of comorbidities was 3.84 (92% of the patients had  $\geq 4$  drugs prescribed and 18 (19%) had  $\geq 10$  drugs prescribed. Of the 91 participants 17 (18%) did not bring a medication list, 12 (13%) brought an incomplete list and 62 (67%) brought a complete drug list. Of these 62 patients 35 patients had a handwritten or typed list, 19 brought government permissions document of which 9 knew the dosage and frequency, 11 had a complete list from memory. There is still room for improvement to aid prevention of medication errors. Telephone reminders, outpatient's medication booklets and patient education is being suggested.

## P-869

### Mixed Quantitative And Qualitative Study On Geriatricians' Perception Of Patient Adherence And Medicines Reconciliation

Gabriella Borg Balzan (1)

(1) Karin Grech Hospital

Doctors' perceptions about geriatric patient adherence to medication and drug reconciliation is important. They are key stakeholders as prescribers, whose input and insights may lead to interventions that improve patient outcomes. A mixed quantitative and qualitative study was carried out using a voluntary online questionnaire. Details about participants demographics, one quantitative questions followed by open-ended questions were asked about geriatric consultants/trainees' perceptions and opinions about patient adherence to drug s as well as drug lists in outpatients for medicine's reconciliation. Data was coded manually and then analyzed using thematic analysis. The questionnaire was filled out by 19 participants between the ages of 26 and 63.12 of the participants were female with the rest being male. Doctors felt patients don't bring an up-to-date list because of cognitive or physical impairment, lack of education, lack of social support and assuming a list is available. Interventions suggested were phone reminders, pharmacist input, patient education, updated online or paper treatment charts, responsible relative and a standardized form. The doctors studied feel that adherence in patients over 65 is variable and mentioned a number of barriers and facilitators to adherence. In conclusion interventions to aid adherence to medications and drug reconciliation based on the responses for participants need further study for effectiveness.

## P-870

### Consumption of inappropriate drugs by elderly Catalans: A study of temporal evolution over 7 years

Clarissa Catalano-Nadakhovskaia (1), Beatriz Ortiz-Naranjo (1), Carlos Pérez-López (1), Alejandro Rodríguez-Molinero (1)

(1) Consorci Sanitari Alt Penedes i Garraf

**Aim:** The objective of this study was to investigate the temporal trends and frequency of inappropriate drug prescriptions over a seven years period.

**Methods:** An ecological study of temporal trends was conducted using data from the control cohort of the ENETAf project, which included 138,072 individuals aged 80 years and older in Catalonia, Spain. Pharmacological dispensation data between 2010 and 2017

were used. According to the Beers 2019 criteria, any consumption of the following drugs was considered inappropriate: paroxetine, glibenclamide, amitriptyline, butylscopolamine, estriol, as well as the sustained consumption of lorazepam, diazepam, metamizole, ibuprofen, dexketoprofen, diclofenac o metoclopramide. The percentage of elderly individuals consuming inappropriate drugs was studied for each year of the study.

**Results:** In 2010, 18.94% of the population (95 CI 18.59–19.28%) consumed inappropriate drugs. Over the 7-year period, there was a gradual reduction, with 15.89% (95 CI 15.57–16.20%) consuming inappropriate medications in 2017. Lorazepam had the highest rate of withdrawal from pharmacies, with an increasing consumption rate from 13.30% in 2010 (95 CI 13.00–13.60%) to 16.13% in 2017 (95 CI 15.82–16.45%). Conversely, the usage of paroxetine, the second most prescribed drug, declined from 4.07% in 2010 (95 CI 3.89–4.24%) to 2.88% in 2017 (95 CI 2.74–3.02%).

**Conclusions:** Despite the decreasing trend, inappropriate medication prescribing remains a persistent issue among older adults in Catalonia. The study emphasizes the necessity for additional measures to improve medication selection and reduce inappropriate consumption. The findings offer valuable insights for the development of policies and programs aimed at enhancing the quality of medication prescribing for older adults.

## P-871

### Antibiotic Stewardship to improve antibiotic prescription in respiratory tract infections in an Intermediate Care Hospital

Anna Murgadella-Sancho (1), Alicia Cambra-López (2), Christian Omar Ruiz-Rodríguez (2), Wendy Fuentes-Ramos (2), Andrea Rodríguez-Carrasco (1)

(1) Pharmacy department. Consorci Sanitari Integral (Barcelona, Spain), (2) Geriatrics department. Consorci Sanitari Integral (Barcelona, Spain)

**Introduction:** Antimicrobial stewardship team (AMT) in an intermediate care hospital, aims to improve clinical outcomes of patients with infectious diseases by promoting proper use of antibiotics.

**Objectives:** Monitor the most commonly prescribed antibiotics for respiratory tract infections. Describe recommendations performed by AST team and the degree of acceptance of those interventions.

**Methods:** The group met weekly (september 2022–march 2023) to review the antibiotics prescribed for respiratory tract infections in a 120-bed intermediate care facility. Registered variables: age, gender, type of infection: pneumonia (P) or lower respiratory tract infection (LRTI), antibiotic, empirical or targeted treatment, adherence to guidelines, type of intervention and level of acceptance.

**Results:** Total of 112 treatments were reviewed. The median age of patients was 87 years [81–90], and 55.4% of them were women. 72% were LRTI, 28% were P. Antibiotics prescribed: Piperacilin/tazobactam (21%), iv amoxicilin/clavulanic acid (19%), oral levofloxacin (17%), iv ceftriaxone (12%), oral amoxicilin/clavulanic acid (10%), iv levofloxacin (8%), ertapenem (3%) and others (10%) 0.88.4% of the treatments were empirical, and among those, 88.9% complied with the hospital guidelines. The recommendations made by the AS team were: to indicate an end date for treatment (54%), to maintain the current treatment (23%), to switch to oral administration (19%), and to change the antimicrobial spectrum (4%). The level of acceptance for those interventions was 80%.

**Key Conclusions:** The majority of antibiotic treatments prescribed were empirical and complied with the hospital guidelines. More than 75% of the treatments presented opportunities for optimization. The most frequent intervention was recommend an end date for treatment. AST is an effective strategy for improving the use of antibiotics.

## P-872

### National Meds75 + Database Supports Rational Prescribing for Older Persons

Jouko Laurila (1), Jasmin Paulamäki (2), Johanna Jyrkkä (2), Meds75 + working group (3)

(1) Research Unit of Population Health, Faculty of Medicine, University of Oulu, Oulu, Finland, (2) Development and Information Services, Finnish Medicines Agency Fimea, Finland, (3) [no]

**Introduction:** The Finnish Meds75 + database supports safe and appropriate prescribing for older persons in primary health care. The database contains classification (A-D) and a recommendation text for almost 500 drug substances commonly used to treat persons aged  $\geq 75$  years. The database is maintained by Finnish Medicines Agency and multidisciplinary Expert Panel is responsible for continuous updating of the content.

**Methods:** The database includes drug substances with at least 500 non-institutionalized users among persons  $\geq 75$  years in Finland. The information of drug use is collected from nationwide Prescription Centre on all purchased prescriptions. A structured evidence-based data collection for each medicine substance on efficacy, effectiveness, and safety in older adults is retrieved from databases and literature that constitute a base for updating process. Expert Panel discusses the classification and its recommendation text until consensus is reached.

**Results:** Most of the classified drug substances are classified in Class C (Suitable with specific cautions, 40%) followed by Class A (Suitable, 39%) and Class D (Avoid use, 20%). Due to the increased research evidence and changes in prescribing habits, both the selection of drug substances included, and the classification of single medicines have changed over the years. In 2022, 36.7% of Finnish people aged  $\geq 75$  years were using at least one Class D substance. Most used Class D medicines were codeine, quetiapine, and risperidone.

**Key Conclusions:** The Meds75 + database offers an up-to-date tool for health care professionals supporting rational prescribing and improving medication safety among older adults. Open data can be integrated into diverse international medical databases and electronic patient record systems.

## P-873

### Steroid withdrawal syndrome in the elderly with rheumatoid arthritis. A case report

Susel Salinas López (1), Victoria Alejandra Ahuett López (1), Rocío Morales Delgado (1), Ricardo Salinas Martínez (2)

(1) Universidad Autónoma de Nuevo León, Facultad de Medicina y Hospital Universitario "Dr. José Eleuterio González", Monterrey, Nuevo León, México, (2) Universidad Autónoma de Nuevo León, Facultad de Medicina y Hospital Universitario "Dr. José Eleuterio González" Monterrey, Nuevo León, México

**Introduction:** Glucocorticoid withdrawal syndrome may occur in patients with endogenous hypercortisolism after adrenal or pituitary surgery, and in those who have received high-dose glucocorticoid therapy for more than 2 weeks. [1] Case report. A 77-year-old woman, arrived at the geriatric consultation for presenting since last month bilateral polyarthralgia in hands, elbows, shoulders, knees and ankles, with limitation of mobilization, using a wheelchair for severe pain. It is accompanied by asthenia, adynamia, hair loss and hyporexia with weight loss. She refers a history of arthritis diagnosed by her family doctor 2 years ago, in treatment since diagnosis with daily 5mg

prednisone and twice daily 25/0.75/215 mg indomethacin/betamethasone/methocarbamol, discontinuing these drugs 5 weeks ago for improvement of joint pain. On physical examination, phlogosis was evidenced with right predominance of metacarpophalangeal and proximal interphalangeal joints, as well as decreased range of motion in right upper extremity with limited elevation of it. Geriatric assessment was performed integrating a malnutrition diagnosis by 10 points on MNA scale, as well as major depressive disorder by DSM-V with 11 points on Geriatric Depression Scale. Treatment was started with daily 5mg prednisone, thrice daily 750mg acetaminophen, referral to nutritional assessment and physical rehabilitation; para-clinical tests were requested, which showed elevation of erythrocyte sedimentation rate, rheumatoid factor and cyclic citrullinated peptide antibodies. The patient is currently under follow-up, with improvement in polyarthralgia and functionality, attending her last consultation walking with the support of a walker. She refers decrease in weakness as well as an improvement in her state of mind.1. Diaz Socorro Cossette et al. Síndrome de privación glucocorticóidea. Rev Cubana Endocrinol vol.25 no.3 Ciudad de la Habana sep.-dic. 2014.

## P-874

### Patient, Carer and Healthcare Professionals' Attitudes To Deprescribing Statins: A Systematic Review

Harmanleen Singh (1), Rebecca Winter (2), Oscar Ferguson (3), Elaney Youssef (2)

(1) Brighton and Sussex Medical School, 94 N—S Rd, Falmer, Brighton, BN1 9PX, (2) Department of Medical Education, Brighton and Sussex Medical School, Southpoint, Paston Place, Kemptown, Brighton, BN2 1HA, (3) Royal Sussex County Hospital, Eastern Rd, Brighton, Brighton and Hove, Brighton BN2 5BE

**Introduction:** Statin use is common in older people with rising prevalence. Statin deprescribing should be considered in older people with multimorbidity, frailty, polypharmacy, or limited life expectancy. This review aims to evaluate the attitudes of older adults, carers, and HCPs towards statin deprescribing.

**Methods:** A search was conducted on 21/11/2022 using online medical databases MEDLINE, Embase, PsycINFO, AMED and CINAHL. The search terms included keywords relating to attitudes, deprescribing and statin. Studies were eligible if they reported original research; published in English; included specific analysis about statins and the attitudes of people aged 65 + , HCPs, or carers. Study selection, data extraction and data quality assessment were carried out independently by two reviewers.

**Results:** Six studies reported attitudes of older adults (n = 4) and HCPs (n = 2). Several themes were identified and grouped into perceptual and practical factors that may influence the willingness to deprescribe statins. Perceptual factors include perceptions about statins, concerns about adverse effects, and the perceived health and well-being of older adults. Practical factors included collaboration between patients and HCPs, risk and uncertainty, and organisational challenges.

**Conclusion:** Most older adults are willing to consider statin deprescribing, with the perceived adverse effects and high medication burden most commonly as a facilitator. HCPs were more reluctant, most commonly due to the risk and uncertainty of deprescribing statins in medically complex older adults. A collaborative approach to deprescribing is a facilitator in both groups. A comprehensive framework and guidelines may enable greater engagement of HCPs and older adults in statin deprescribing.

## P-875

### Status Epilepticus secondary to use of Cephalosporins: Case Report

Victoria A. Ahuett López (1), Susel Salinas López (2), Rocio Morales Delgado (2), Ricardo Salinas Martínez (2)

(1) Geriatrics Department, CREAM, Hospital Universitario “Dr. Jose Eleuterio González”, (2) Geriatrics Department, CREAM, Hospital Universitario “Dr. Jose Eleuterio González”

We present the case of a 72 year-old male with a past medical history of hypertension and chronic kidney disease stage III under treatment with Nifedipine and hemodialysis for the past 3 years who was admitted to the hospital with an acute coronary syndrome. After 4 days he developed fever and supplementary oxygen requirements. A chest X-ray revealed a new infiltrate for which Cefepime was started. After 48 h with treatment the patient presented non-convulsive status epilepticus. Blood and lumbar puncture anomalies were ruled out and a head computed tomography was performed with no signs of acute or chronic structural brain injury. An electroencephalogram showed no evidence of ongoing epileptic discharges or abnormal patterns. It was hypothesized that the probable cause of the seizure was the administration of Cephalosporins, an antibiotic group the patient had no recall of using before. The antibiotic was switched and no other seizure presented during his stay. Cephalosporins are characterized by a broad antimicrobial spectrum and excellent tissue penetration. Cefepime, a fourth-generation cephalosporin, is known to have neurotoxic side effects that can lead to status epilepticus. The side effect due to cephalosporins include myoclonus, dystonic movements, tremor, status epilepticus, encephalopathy and sometimes coma. To our knowledge, only a few cases of this entity have been described. It is important to keep in mind this entity and suspect it in patients with chronic kidney disease and first time seizures using cephalosporins.

#### Reference:

(1) Bora, I., Demir, A. B., & Uzun, P. (2016). Nonconvulsive status epilepticus cases arising in connection with cephalosporins. *Epilepsy & Behavior Case Reports*, 6, 23–27. <https://doi.org/10.1016/j.ebc.2016.04.005>.

## P-876

### The Effect of Statins on Falls and Physical Activity in People Aged 65 and Older: A Systematic Review

Emily Densham (1), Elaney Youssef (1), Oscar Fergusson (2), Rebecca Winter (1)

(1) Brighton and Sussex Medical School, (2) University Hospitals Sussex

**Introduction:** Statins are commonly prescribed medications with recognised side effects including muscle weakness [1]. Despite this, little is known about the effects of statins on the physical activity and falls risk in the older population. The aim of this review is to explore the relationship between statin use and the physical activity and falls risk in adults aged 65 and older. As these areas of physical health are closely associated with frailty, any potential effects on an individuals' frailty status will also be considered.

**Methods:** The review proposal was registered with PROSPERO: CRD42022366159. MEDLINE, Embase, CINAHL and PsycINFO were searched on 21/11/2022. Studies were included if they met pre-defined inclusion criteria and were subject to Critical Appraisal Skills Programme (CASP) tools to assess potential bias. With highly

heterogeneous data, no attempt to measure effect size was made and a narrative synthesis approach was used.

**Results:** Twenty articles were identified. Data included that relating to muscle strength, grip strength, gait speed, balance and incidence of falls.

Results were inconsistent throughout, with the overall trend suggesting no significant negative effects of statins on the parameters of physical activity, or on falls risk.

**Key Conclusions:** Statins were not shown to adversely impact the physical activity or falls risk in people aged 65 and older. By extension, this suggests statins do not contribute to these areas of frailty. However, further studies are required as data are lacking. Ultimately, the risks and benefits of every medication should be considered in the context of every individual.

**Reference:**

[1] Di Stasi SL, MacLeod TD, Winters JD et al. Effects of Statins on Skeletal Muscle: A Perspective for Physical Therapists. *Phys Ther.* 2010;90:1530–42.

## P-877

### Association of Potentially Inappropriate Medications and Fall-Risk Increasing Drugs with In-Hospital Falls: a Case–Control Study

Emma Knuutila (1), Terhi Toivo (2), Elina Mattila (2), Esa Jämsen (3)

(1) Tampere University, (2) Tampere University Hospital, (3) University of Helsinki

**Introduction:** Falls are common in hospitalized older patients. Optimizing medication use is a potential way to prevent falls, but evidence is needed about how different medicines affect the risk of falling.

**Methods:** Patients aged  $\geq 75$  years, with a recorded fall, were identified from a Finnish university hospital's electronic patient records. Falls were recorded according to prospective systematic surveillance. For each patient, two controls of the same age, sex, ward/specialty, type of admission, and diagnosis were selected. Potentially inappropriate medications (PIM) were defined according to the Finnish Med75 + , Beers, STOPP, and EU-7-PIM criteria. Fall-risk increasing drugs (FRID) were defined according to STOPPFall.

**Results:** There were 225 patients (mean age 84.5 years, 52% female) who experienced altogether 320 falls during the study period. Regardless of the criteria used, the PIM prevalence (use of 0 vs. 1 or  $\geq 2$  PIMs) was similar between the cases and controls (Med75 + 19% vs. 20%,  $p = 0.90$ ; Beers 31% vs. 31%,  $p = 0.91$ ; STOPP 51% vs. 51%,  $p = 0.89$ ; EU-7-PIM: 12% vs. 14%,  $p = 0.42$ ). There was no difference in the FRID prevalence either (53% vs. 53%,  $p = 0.98$ ). Of individual medicines, haloperidole was more commonly used among the patients with falls (3.1% vs. 0.5%,  $p = 0.008$ ). Furthermore, in two-thirds (63%,  $n = 202$ ) of the falls, the patient had received opiates, benzodiazepines/related-drugs, or antipsychotics within preceding 24 h.

**Conclusions:** PIM and FRID use did not differ between older patients who experienced or did not experience a fall during their hospitalization. However, the use of centrally-acting drugs was very common among the patients with falls.

## P-878

### Impact of different treatment response thresholds in clinical trials for naldemedine as as therapy for opioid-induced constipation

Peter Conway (1), Peter Carr (2), Chris D Poole (3), Thomas R Berni (4), Elgan R Mathias (4), Ellen R Hubbuck (4)

(1) Shionogi BV, (2) Courtney Alexander Consulting Ltd., (3) Xcenda (UK), (4) Human Data Sciences

**Introduction:** Opioid-induced constipation (OIC) affects many patients receiving opioids. The definition of treatment response differs between OIC trials. Some have defined response as a positive change of at least 0.6 in the PAC SYM/QOL scores from baseline while others have proposed a more conservative change of at least 1.5. We considered how different definitions of treatment response compared when applied to clinical trials involving the peripherally-acting mu opioid receptor antagonist, naldemedine.

**Methods:** The pooled intention-to-treat (ITT) populations of the COMPOSE-1 & -2 (C1&2) randomised controlled trials (RCT) and COMPOSE-3 RCT (C3) were analysed. Response was defined as a positive change of at least 0.6 or 1.5 in PAC SYM/QOL scores from baseline. The proportion of responders and non-responders were compared between naldemedine (NLD) and placebo (PLB).

**Results:** PAC-SYM response was 57% NLD versus 43% PLB and 56% NLD versus 44% PLB in C1&2 and C3 respectively with the  $\geq 0.6$  threshold. Using the  $\geq 1.5$  threshold response was 61% NLD versus 39% PLB and 58% NLD versus 42% PLB respectively. PAC-QOL response was 56% NLD versus 44% PLB and 57% NLD versus 43% PLB in C1&2 and C3 respectively with the  $\geq 0.6$  threshold. Using the  $\geq 1.5$  threshold response was 60% NLD versus 40% PLB and 66% NLD versus 34% PLB 34% respectively.

**Key Conclusions:** At a more conservative response threshold of at least 1.5 NLD elicited a higher proportion of treatment responders vs. PLB when compared to a threshold of at least 0.6 in both patient reported outcomes in these three studies.

## Sarcopenia

### P-879

#### Gripwise® versus Jamar®: the challenge of a new dynamometer assessing handgrip strength for sarcopenia diagnosis

Cédric Villain (1)

(1) Caen University Hospital

**Background:** The diagnosis of sarcopenia is partly based on handgrip strength (HGS) assessment. The gold standard dynamometer for this measurement is the Jamar®. The electronic Gripwise® is a smaller and lighter one, and its measurements are correlated with the Jamar®'s in laboratory tests. Our study aimed to confirm this correlation in aged patients.

**Methods:** This monocentre cross-sectional study was performed in patients of 65 years and older admitted at the University Hospital. Participants were assessed either in a seated or bedridden position, randomly allocated to begin the measurements with the Jamar® or Gripwise®.

**Results:** Among 649 aged inpatients assessed for eligibility, 348 were included (mean age:  $79 \pm 9$ ; 52% female). The intraclass correlation coefficient (ICC) was 0.93 (95% CI 0.92–0.94,  $p < 0.001$ ) for the maximum value measured with both devices and 0.94 (95% CI

0.93–0.95,  $p < 0.001$ ) for the mean values. However, there was a significant difference in detecting low values ( $< 16$  kg in women,  $< 27$  kg in men), found in 48% of patients with Jamar®, and 71% with Gripwise® ( $p < 0.001$ ). Thus, we determined alternate cut-offs for diagnosing HGS low values with the Gripwise® ( $< 12$  kg in women,  $< 22$  kg in men), tested in a supplementary testing population ( $n = 70$ ). The diagnostic performances of these alternative cut-offs were high (93% sensitivity and 87% specificity in women; 94% sensitivity and 96% specificity in men).

**Conclusions:** The correlation of the Gripwise® with the Jamar® was confirmed in aged inpatients. However, lower values recorded with the Gripwise® require alternate cut-offs for a relevant low HGS diagnosis.

## P-880

### Branched Chain Amino Acids And Probiotics Supplementation In Ortho-Geriatric Rehabilitation: A Literature review

Fataki Likale Michel (1), Frangos Emilia (2)

(1) Chief Resident, Division of Rehabilitation and Geriatrics, Geneva University Hospitals, University of Geneva, Geneva, Switzerland, (2) Head of Rehabilitation and Geriatrics Division, Geneva University Hospitals, University of Geneva, Geneva, Switzerland

**Introduction:** Sarcopenia remains a strong burden in the elderly patients, especially in orthopedics where the musculoskeletal system is transiently impaired. Branched-Chain Amino Acids (BCAAs) have been extensively studied in various conditions, showing their potential to offset sarcopenia. The microbiota plays a key role in the digestive system and the use of probiotics has highlighted the necessity of its preservation. Therefore, the purpose of this literature review was to underpin their potential synergistic benefit in ortho-geriatric rehabilitation patients.

**Methods:** A Pubmed systematic review was performed to gather articles matching inclusion criteria. The keywords have been “BCAAs” and “probiotics.” Only full text concerning human adults 65 years and older, and relating to the musculoskeletal system, especially about muscles and functional status were included. The research was conducted over a 10-year time frame.

**Results:** A total of 61 papers have matched the inclusion criteria among which systematic reviews, research articles and clinical trials. BCAAs, especially leucine, have demonstrated anabolic effects on skeletal muscles and thus, improvement in muscle mass, strength, and physical performance among elderly individuals with sarcopenia. Through the gut-muscle axis, the intestinal microbiota held a well-documented ability to improve anabolic-catabolic balance via, among other ways, a positive influence in amino acids bioavailability.

**Conclusions:** Although the effects of probiotics have been more studied in animal models, we hypothesize that their use in elderly patients may improve muscular performance and subsequently, functional status in ortho-geriatric rehabilitation, with a potential synergistic benefit with BCAAs. We consider conducting a clinical trial in a forthcoming project.

## P-881

### Terminal decline in physical function in older adults

Erwin Stolz (1), Mayerl Hannes (1), Graciela Muniz-Terrera (2), Thomas Gill (3)

(1) MED UNI GRAZ, AUT, (2) UNI EDINBURGH, UK, (3) YALE UNI, USA

**Introduction:** It is currently unclear whether (and when) physical function exhibits a terminal decline phase, i.e. a substantial acceleration of decline in the very last years before death.

**Methods:** 702 deceased adults aged 70 years and older from the Yale PEP Study provided 4,133 measurements of physical function (Short Physical Performance Battery, SPPB) up to 20 years before death. In addition, continuous gait and chair rise sub-test scores (in seconds) were assessed. Generalized mixed regression models with random change points were used to estimate the onset and the steepness of terminal decline in physical function.

**Results:** Decline accelerated in the last years of life in all three measures of physical function. The onset of terminal decline occurred at 1 year before death for the SPPB, and at 2.5 and 2.6 years before death for chair rise and gait speed test scores, respectively. Terminal declines in physical function were 6–8 times steeper than pre-terminal declines. Relative to those whose condition leading to death was frailty, participants who died from dementia and cancer had an up to 6 months earlier and 3 months later onset of terminal decline in SPPB, respectively.

**Key Conclusion:** Terminal decline in physical function among older adults is comparable to the more established terminal decline phenomenon in cognition. Our results provide additional evidence of late-life rapid decline in physical function due to impending death.

## P-882

### Conventional And Quantitative MRI For Sarcopenia: The Next Providers Of Valuable Biomarkers In Rehabilitation?

Fataki Likale Michel (1), Frangos Emilia (2)

(1) Chief Resident, Division of Rehabilitation and Geriatrics, Geneva University Hospitals, University of Geneva, Geneva, Switzerland, (2) Head of Rehabilitation and Geriatrics Division, Geneva University Hospitals, University of Geneva, Geneva, Switzerland

**Introduction:** Decrease of muscle mass, strength and physical function are the main hallmarks of sarcopenia in the elderly. By increasing the risk of fall and morbidity, the diagnosis of sarcopenia remains a cornerstone in the management of geriatric patients, especially in rehabilitation. Conventional and quantitative Magnetic Resonance Imaging (MRI) allow a noninvasive though accurate assessment of skeletal muscles. Diffusion Tensor Imaging (DTI) and Magnetic Resonance Spectroscopy (MRS) respectively investigate microstructural and metabolic changes within muscular tissues. Hence, through this literature review we assess their potent ability to provide valuable biomarkers for elderly patients with sarcopenia in rehabilitation.

**Methods:** This review was performed by gathering articles on a 10-year span matching inclusion criteria on Pubmed. The keywords have been “sarcopenia”, “magnetic resonance imaging”, “diffusion tensor imaging” and/or “magnetic resonance spectroscopy.” Only full text, regardless of article type, concerning human adults older than 65 years old were included.

**Results:** A total of 39 papers have matched the inclusion criteria among which systematic reviews, research articles and clinical trials. DTI and MRS have demonstrated their efficiency in the assessment of the musculoskeletal system, offering microstructure analysis and molecular characterization.

**Conclusions:** Albeit the diagnosis of sarcopenia remains mainly clinical and functional, the contribution of such a degree of precision appears noteworthy. We hypothesize that these two MRI techniques may provide valuable biomarkers to improve the diagnosis and follow-up of patients with sarcopenia, but further studies remain essential.

## P-883

### Associations between Physical Frailty, Nutrition, and Body Composition measured by Bioelectrical Impedance in the Falls Clinic

Elena Lionetti (1), Eoin Duggan (1), Roman Roman Romero-Ortuno (1)

(1) Discipline of Medical Gerontology, School of Medicine, Trinity College Dublin, Dublin, Ireland

**Introduction:** We studied the association between the frailty phenotype (FP), nutrition, and body composition by bioelectrical impedance analysis (BIA) in an outpatient falls clinic.

**Methods:** Attendees of a falls clinic aged 50 years or older were recruited. The Survey of Health, Ageing and Retirement in Europe Frailty Instrument (SHARE-FI) was used to identify FP status. Nutrition was assessed by the Mini Nutritional Assessment-Short Form (MNA®-SF). Body composition by BIA was measured with the TANITA® DC-430MA device. Appendicular skeletal muscle mass (ASMM) by Sergi's formula and fat percentage were obtained. The latter two were entered (with age and sex) in multivariate binary logistic regression models predicting abnormal SHARE-FI status (i.e. pre-frail or frail) and abnormal MNA®-SF (i.e. at risk of malnutrition, malnutrition) .

**Results:** 123 participants were recruited (68 women, 55 men). According to SHARE-FI, 69 patients were non-frail (56.1%), 34 pre-frail (27.6%), and 20 frail (16.3%). MNA®-SF was available for 116 patients: 63 normal (54.3%), 46 at risk of malnutrition (39.7%), and 7 malnourished (6.0%). SHARE-FI and MNA®-SF were significantly correlated ( $r_s = 0.30$ ,  $P = 0.001$ ). BIA was conducted in 118 patients. In  $n = 118$ , ASMM was independently associated with pre-frailty/frailty (OR 0.46, 95% CI 0.25–0.87,  $P = 0.016$ ), but not with fat percentage. In  $n = 111$ , neither ASMM nor fat percentage predicted abnormal MNA®-SF.

**Conclusions:** Results support the usefulness of the BIA method employed to evidence the relationship between FP (by SHARE-FI) and sarcopenia. In this sample, the MNA®-SF was not associated with body composition parameters.

## P-884

### Validation of the German Version of the SarQoL® questionnaire in Sarcopenic and Probable Sarcopenic Patients

Sebastian Martini (1), Christopher Held (1), Sabine Schlüssel (1), Olivia Tausendfreund (1), Ralf Schmidmaier (1), Michaela Rippl (1)

(1) LMU Klinikum

**Background:** Until now, the German version of the SarQoL®, a sarcopenia-specific quality of life (QoL) questionnaire, has not been validated hindering its widespread use. The purpose of this study was to evaluate the psychometric properties of the German SarQoL®.

**Methods:** Participants were recruited in two geriatric outpatient facilities and one geriatric acute ward in Munich (Germany). Sarcopenia and probable sarcopenia were diagnosed with the European

Working Group on Sarcopenia in Older People (EWGSOP2) algorithm. From 185 participants, 77 had probable sarcopenia and 51 had sarcopenia. Participants completed the SarQoL® and the European Quality-of-Life 5-Dimension (EQ-5D) questionnaires. Validation included examination of the discriminative power, construct validity, internal consistency, test–retest reliability and floor/ceiling effects.

**Results:** Lower SarQoL® scores for sarcopenic ( $p = 0.002$ ) and probable sarcopenic subjects ( $p < 0.001$ ) compared to controls indicated good discriminative power. Consistent construct validity was found for sarcopenic subjects: moderate to high correlations with domains capturing similar constructs of the EQ-5D: 'Activities of daily living' ( $r = -0.58$ ,  $p < 0.001$ ), 'Mobility' ( $r = -0.72$ ,  $p < 0.001$ ) and low correlations with domains related to different constructs like 'Pain' ( $r = -0.32$ ,  $p < 0.022$ ). Similar correlations were found for probable sarcopenic subjects. The Cronbach's alpha was 0.8. Test–retest reliability was excellent (intraclass coefficient correlation of = 0.96; 95% CI 0.91–0.99) and no floor/ceiling effects were observed.

**Conclusion:** the German SarQoL® demonstrates to be a valid and reliable instrument for measuring QoL in patients > 65 years of age with sarcopenia and probable sarcopenia. QoL was similarly reduced in both patient cohorts compared to controls.

## P-885

### Low Adherence to Mediterranean Diet Is Associated with Probable Sarcopenia in Community-Dwelling Older Adults: Results from the Longevity Check-Up (Lookup) 7 + Project

Stefano Cacciatore (1), Riccardo Calvani (2), Emanuele Marzetti (3), Anna Picca (4), Helio José Coelho-Junior (1), Matteo Tosato (2), Francesco Landi (5)

(1) Department of Geriatrics and Orthopedics, Università Cattolica del Sacro Cuore, Rome, Italy., (2) Fondazione Policlinico Universitario Agostino Gemelli IRCCS, Rome, Italy., (3) Department of Geriatrics and Orthopedics, Università Cattolica del Sacro Cuore, Rome, Italy. Fondazione Policlinico Universitario Agostino Gemelli IRCCS, Rome, Italy., (4) Fondazione Policlinico Universitario Agostino Gemelli IRCCS, Rome, Italy. Department of Medicine and Surgery, LUM University, Casamassima, Italy., (5) 1 Department of Geriatrics and Orthopedics, Università Cattolica del Sacro Cuore, Rome, Italy. Fondazione Policlinico Universitario Agostino Gemelli IRCCS, Rome, Italy

**Introduction:** Greater adherence to Mediterranean diet (Medi-diet) is associated with better health outcomes across all life stages; however, evidence on the relationship between Medi-diet and muscle strength in older adults is inconclusive. In this study, we evaluated the relationship between adherence to Medi-diet and handgrip strength in a large sample of community-dwelling older adults from the Longevity Check-up 7 + project.

**Methods:** Nutritional data were collected using a food frequency questionnaire as part of the lifestyle questionnaire. Adherence to Medi-diet was calculated using a modified version of the Medi-Lite score. Probable sarcopenia was identified using EWGSOP2 handgrip strength cut-offs.

**Results:** Total of 2963 participants (mean age  $72.8 \pm 5.7$  years; 54.4% women) were analyzed. Medi-diet adherence was categorized according to Medi-Lite score as low ( $\leq 8$ ), moderate (9 to 11), or high ( $\geq 12$ ). Older adults with lower Medi-diet adherence had a significantly higher prevalence of probable sarcopenia (25.9%) than those with moderate (19.1%) or high (15.5%) adherence. The proportion of participants with probable sarcopenia increased with age, but it remained lower in the good and high adherence groups. Logistic regression showed that greater Medi-diet adherence was associated



with a lower risk of probable sarcopenia. Older age, female sex, and physical inactivity were associated with a greater risk of probable sarcopenia.

**Key Conclusions:** Lower Medi-diet adherence scores were associated with lower handgrip strength and a higher risk of probable sarcopenia. Future studies are needed to establish whether lifestyle interventions including Medi-diet improve muscle strength in old age.

## P-886

### Consequences of sarcopenic obesity

Katri Sääksjärvi (1), Sari Stenholm (2), Laura Schaap (1), Tommi Härkänen (3), Seppo Koskinen (3), Päivi Sainio (3), Annamari Lundqvist (3), Marjolein Visser (1)

(1) Department of Health Sciences, Vrije Universiteit Amsterdam, the Netherlands, (2) Department of Public Health, University of Turku, Finland, (3) Population Health Unit, Finnish Institute for Health and Welfare, Finland

**Introduction:** Previous studies have linked sarcopenic obesity (SO) with several adverse health outcomes. We examined the association between SO and functional limitations, and mortality in a longitudinal setting.

**Methods:** The pooled analysis included three harmonized datasets (Health 2000 Survey; Health, Aging and Body Composition Study; Longitudinal Aging Study Amsterdam) with register-based mortality follow-up (15–26 years) on individuals aged  $\geq 70$  years at baseline ( $n = 4,612$ ). Obesity was defined as body mass index  $\geq 30$  kg/m<sup>2</sup> or high waist circumference ( $\geq 109$ cm in men,  $\geq 98$ cm in women), and sarcopenia as hand-grip strength  $< 27$  kg in men,  $< 16$  kg in women. Mobility limitation and difficulty in dressing were inquired 10–11 years later, and analyzed using logistic and mortality using Cox's models, with age- and sex-adjustments.

**Results:** The odds ratio (OR) for incident mobility limitation was 1.81 (95% confidence interval, CI 1.50–2.19) for obese, 2.44 (1.34–4.47) for sarcopenic and 8.48 (2.035–35.39) for SO, compared to non-obese non-sarcopenic individuals. The corresponding ORs for difficulty in dressing were 1.28 (0.97–1.68), 2.85 (1.49–5.46) and 2.51 (0.99–6.32). Mortality risk was increased for SO (hazard ratio, HR 1.76, 95% CI 1.49 – 2.08) and sarcopenia only (HR 1.68, 1.48 – 1.92) groups, but not for the obese only group (HR 1.03, 0.95 – 1.11), when compared to non-obese non-sarcopenic individuals.

**Key Conclusions:** Sarcopenia, obesity and SO increased the odds for future mobility limitation, but only sarcopenia increased it for difficulty in dressing. Sarcopenia, whether combined with obesity or not, associated with increased mortality, highlighting the importance of maintaining muscle strength through aging.

## P-887

### Sarcopenic patients “get even”: the impact of COVID-19 vaccination on mortality

Chiara Ceolin (1), Marina De Rui (1), Cristina Simonato (1), Mario Virgilio Papa (1), Sara Cazzavillan (1), Vittorio Acunto (1), Giulia Salerno Trapella (1), Margherita Vergadoro (2), Bruno Micael Zanforlini (1), Chiara Curreri (1), Anna Bertocco (1), Giu

(1) Department of Medicine (DIMED), Geriatrics Division, University of Padua, Padua, Italy, (2) Department of Medicine (DIMED), Epidemiology and Community Medicine Division, University of Padua, Padua, Italy

**Introduction:** Sarcopenia is defined as a geriatric syndrome characterized by structural and functional decline of skeletal muscle related to aging. In older adults especially, COVID-19 (COVID-19), an infectious pathology caused by the SARS-CoV-2 virus, was exacerbated by the harmful effects of sarcopenia, and on the other side sarcopenia worsened in presence of COVID-19. For this reason, early detection of this geriatric syndrome and insistence on prioritizing patients with sarcopenia for prime and booster SARS-CoV-2 vaccination is crucial. The aim of the study was to analyze the impact of vaccination on mortality in older sarcopenic patients hospitalized for any cause, and to compare it with outcomes for the unvaccinated.

**Methods:** 155 patients aged  $> 65$  years were recruited for this retrospective study at the Azienda Ospedale Università di Padova from September 2021 to March 2022. Their physical characteristics, anthropometry parameters, upper limb strength and body composition were measured. Sarcopenia was diagnosed using the 2019 European Consensus criteria. Survival status at 3 (T3), 6 (T6) and 12 (T12) months was recorded and analyzed according to vaccinal status and presence of sarcopenia.

**Results:** Kaplan–Meier curves revealed that mortality risk was significantly higher in unvaccinated than in vaccinated patients. The mortality risk of vaccinated sarcopenic individuals was similar to that of vaccinated non-sarcopenic individuals, and lower than that of unvaccinated non-sarcopenic patients.

**Key Conclusions:** Vaccination cover appears to contribute to successful aging in sarcopenic people, giving them a similar mortality risk to non-sarcopenic people.

### References:

Evans W. Symposium: Sarcopenia: Diagnosis and Mechanisms Functional and Metabolic Consequences of Sarcopenia *J Nutr*. 1997;127 (5) :998S–1003S. Accessed March 15, 2023. <https://academic.oup.com/jn/article-abstract/127/5/998S/4724150>.

Wang Y, Tan S, Yan Q, Gao Y. Sarcopenia and COVID-19 Outcomes. *Clin Interv Aging*. 2023;18:359–373. <https://doi.org/10.2147/CIA.S398386>.

## P-888

### Characterisation of cellular senescence in skeletal muscle in relation to muscle morphology and physical function in 40 MASS\_Lifecourse Study participants: a feasibility study

Leena Habiballa (1), Adam Hruby (2), Antoneta Granic (3), Richard M Dodds (3), Susan J Hillman (3), Joao F Pasos (4), Diana Jurk (4), Avan A Sayer (3)

(1) Social Genetic and Developmental Psychiatry Centre, Institute of Psychiatry Psychology and Neuroscience, King's College London, London, (2) University of Southern California, Los Angeles, California, USA, (3) AGE Research Group, NIHR Newcastle Biomedical Research Centre, Newcastle upon Tyne Hospitals NHS Foundation Trust and Newcastle University, Newcastle, UK, (4) Robert and Arlene Kogod Center on Aging, Mayo Clinic, Rochester, MN, USA

**Background:** Few human studies have investigated the association between markers of cellular senescence and morphological changes in skeletal muscle and changes in physical function across the lifecourse. We aimed to determine the feasibility of such a study in a sample of participants recruited to the MASS\_Lifecourse Study.

**Methods:** We used spatially-resolved methods (immunohistochemistry, immunofluorescence, and RNA and fluorescence in situ hybridisation) to assess four senescence markers (p16, TAF (Telomere-Associated DNA Damage Foci), HMGB1 (High Mobility Group Box 1), and Lamin B1) and four morphological characteristics (fibre size, number, fibrosis, centrally nucleated fibres) in muscle

biopsies from 40 men and women (age range 47–84 years). We explored the associations between senescence markers, muscle morphology, and physical function (muscle strength, mass, physical performance) at different ages.

**Results:** Most senescence markers and morphological characteristics were weakly associated with age in men and more strongly, but non-significantly, associated with age in women. Compared with men, the associations between senescence markers, morphology and physical function were also stronger in women for: HMGB1 and grip strength ( $r = 0.52$ ), TAF, BMI and muscle mass ( $r > 0.4$ ), Lamin B1 and fibrosis ( $r = -0.5$ ), fibre size and muscle mass ( $r \geq 0.4$ ), and gait speed ( $r = -0.5$ ). However, these associations were non-significant.

**Conclusion:** Using the MASS\_Lifecourse Study we have demonstrated the feasibility of characterising cellular senescence in human skeletal muscle in relation to morphology and physical function in women and men across the lifecourse. These findings warrant replication in larger studies.

## P-889

### Overlap Between Sarcopenia And Frailty Among Geriatric Outpatients

C Corral-Tuesta (1), Paula Sobrini-Morillo (1), CG Álvarez-Pinheiro (1), V Lavilla-Gracia (1), S Lippo (1), Beatriz Montero-Erasquin (1), A Rodriguez-Díaz-Pavón (1), C.C Marroquín-Castillo (1), AJ Cruz-Jentoft (1)

(1) HURYC

**Introduction:** Sarcopenia and frailty are closely related and associated with an increased risk of adverse health outcomes. This study aimed to describe the association between sarcopenia (using the revised European consensus diagnostic criteria EWGSOP2) and frailty (using both a modified Fried phenotype and the FRAIL scale) in older patients attending a geriatric outpatient clinic.

**Methods:** Cross-sectional study included consecutive  $\geq 65$  years old outpatients able to walk independently  $\geq 6$  m with no cognitive impairment (MMSE  $\geq 24$ ) or comorbidities that interfere with grip strength measure. Sociodemographic data and functional status (Katz and Lawton) were also collected.

**Results:** Of the 100 patients enrolled (mean age  $78 \pm 6.6$  years, 70% women), 47% had probable sarcopenia, 10% were frail using the FRAIL scale and 19% using a modified Fried phenotype. Of those defined as frail, 80% and 68.4% had probable sarcopenia, respectively. These associations were significant ( $p = 0.028$  and  $p = 0.038$ , respectively).

**Conclusion:** Nearly half of the old patients who are attended ambulatory suffer from probable sarcopenia. Sarcopenia has been described as the biological substrate of physical frailty, and the present data show that most frail patients have probable sarcopenia in this geriatric setting.

## P-890

### Examining the relationship between obesity and metabolic diseases in older adults: Is obesity or sarcopenic obesity the problem?

Gulistan Bahat (1), Serdar Ozkok (1), Caglar Ozer Aydin (1), Zeynep Fetullahoglu (1), Cihan Kilic (1), Mehmet Akif Karan (1)

(1) Department of Internal Medicine, Division of Geriatrics, Istanbul University, Istanbul Medical School, 34,093, Istanbul, Türkiye

**Introduction:** Although the concept of sarcopenic obesity (SO) has been around for many years, the first consensus report on its definition was published in 2022. In our study, we aimed to evaluate the relationship of SO, which was determined by the consensus algorithm, with metabolic diseases, i.e., diabetes and dyslipidemia.

**Methods:** Our study was a retrospective, cross-sectional study, and outpatients aged  $\geq 60$  years admitted to the university hospital were included. The diagnosis of sarcopenia was made according to the EWGSOP2 criteria with the presence of low muscle strength + low muscle mass. Threshold values of 27 kg/16 kg were used for hand grip strength in men and women, respectively. Skeletal muscle mass index (SMMI) was determined by adjusting muscle mass for body weight as measured by a bioimpedance analyzer (BIA). Fat percentage measured via BIA was used for the diagnosis of obesity. Turkish population-specific thresholds were used for detection of low SMMI and obesity (37.4%/33.6%, and 27%/41% in males and females, respectively). Cases were grouped into 4 phenotypes according to their body composition: Non-sarcopenia + Non-obesity (non-S + non-O); Sarcopenia + Non-obesity (only S); Non-sarcopenia + Obesity (only O); sarcopenia + obesity (SO). Non-S + Non-O group was taken as reference. The association of body phenotypes with diabetes and dyslipidemia was evaluated in univariate analyses and multivariate analyses including age, gender, and BMI.

**Results:** There were 672 participants (69.3% women) in the study. Median age was 76 (61–99). The prevalence of diabetes and dyslipidemia were 31.5% and 30.8%, respectively. Among participants, 55.8% had non-S non-O; 1.8% had only S; 39.3% had only O; and 3.1% had SO phenotype. Among the body phenotypes in multivariate analyses, only SO was independently associated with diabetes [OR (95% CI) = 4.1 (1.6–10.7),  $p = 0.004$ ] and dyslipidemia [OR (95% CI) = 2.7 (1.1–6.8);  $p = 0.04$ ].

**Key Conclusions:** This is the first report using the SO definition and diagnostic criteria suggested by ESPEN&EASO when examining its association with metabolic diseases. Our study suggests that obesity is significantly associated with metabolic diseases only in the presence of accompanying sarcopenia. When examining the deleterious effects of obesity on metabolic health, sarcopenia should be taken into account as an important determinant.

## P-891

### Cut-off values while assessing muscle quality for sarcopenia: Muscle Radiation Attenuation (MRA) and Intramuscular Adipose Tissue Content (IMAC) cut-offs at L3 vertebra level by computerized tomography

Banu Ozulu Turkmen (1), Serdar Ozkok (1), Zeynep Fetullahoglu (1), Onder Babacan (2), Samil Aliyev (2), Baris Bakir (2), Mehmet Akif Karan (1), Gulistan Bahat (1)

(1) Department of Internal Medicine, Division of Geriatrics, Istanbul University, Istanbul Medical School, 34,093, Istanbul, Türkiye, (2) Department of Radiology, Istanbul University, Istanbul Medical School, 34,093, Istanbul, Türkiye

**Introduction:** Assessment of muscle quality is an essential component while evaluating sarcopenia. Computed tomography (CT), which is accepted as a gold standard technique for the evaluation of muscle quantity, is also useful for evaluating skeletal muscle quality via measurement of adiposity. To this end, MRA value (conversely related to muscle fat content) and IMAC are used. We aimed to determine cut-offs for MRA and IMAC at lumbar 3 (L3) vertebra level from a Turkish young reference population.

**Methods:** We retrospectively evaluated the preoperative plain CT images and the data of living adult liver donors who admitted to a

single transplantation center between June 2010 and April 2018. The data of the patients aged between 18–40 were included. Sex-specific cut-off values were defined by the first and last quartiles of the corresponding body composition parameters (Q1 for IMAC, and Q4 for MRA).

**Results:** A total of 482 participants were included (age:  $28.8 \pm 5.9$ ; 55.6% male). Mean MRA and IMAC values were  $42 \pm 7.8$ ,  $-0.38 \pm 0.09$  HU for males and  $33.4 \pm 9.4$ ,  $-0.29 \pm 0.09$  HU for females, respectively. Cut-off values of MRA were 27.7/37, and IMAC were  $-0.229/-0.330$  for females and males, respectively.

**Key Conclusions:** Calculated thresholds of MRA and IMAC in this study are comparable with some of the thresholds previously reported for other populations in the literature, but not with the others. MRA and IMAC cut-offs change by the method used to determine cut-offs and also by the specific population. Further studies are needed to elucidate whether these thresholds will work in identifying adverse outcomes related to low muscle quality and sarcopenia in Turkish population.

## P-892

### Effects Of Androgen Deprivation Therapy In High-Risk Prostate Cancer In The Elderly: PROSARC Study Protocol

Óscar Legido Gómez (1), José Miguel Giménez Bachs (2), Antonio Santiago Salinas Sánchez (3), María José Donate Moreno (4), Inmaculada Díaz de Mera Sánchez Migallón (5), Saúl Rico Marco (5), Marta Victoria Lorenzo Sánchez (5), Sonssoles Navarro Jiménez (5)

(1) MD. Urology Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. Facultad de Medicina de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain., (2) MD, PhD. Urology Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. Facultad de Medicina de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain., (3) MD, PhD. Urology Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. Facultad de Medicina de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain, (4) MD. Urology Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. Facultad de Medicina de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain, (5) MD. Urology Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain., (6) MD. Anesthesiology Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain., (7) MD. Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain., (8) RN. Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. CIBERFES, Instituto de Salud Carlos III, Madrid, Spain., (9) RN. Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. Fundación Hospital Nacional de Paraplégicos, Toledo, Spain, (10) RN, PhD. Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. Facultad de Enfermería de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain. CIBERFES, Instituto de Salud Carlos III, Madrid, Spain., (11) MD, PhD. Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. CIBERFES, Instituto de Salud Carlos III, Madrid, Spain. Fundación Hospital Nacional de Paraplégicos, Toledo, Spain, (12) MD, PhD. Head of Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. Facultad de Medicina de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain. CIBERFES, Instituto de Salud Carlos III, Madrid, Spain

**Introduction:** Prostate carcinoma is the most frequent malignancy in male adults worldwide and especially in aged population. One of the therapies used is androgen deprivation therapy (ADT), cornerstone in metastatic disease but also administered in some cases of local and locally-advanced disease. The objective of this study is to provide an estimation of the prevalence of frailty, osteoporosis and sarcopenia and the incidence or aggravation as a consequence of this treatment.

**Methods:** Prospective and observational study in males  $\geq 70$  years old with high-risk prostate cancer not candidates to local treatment in whom frailty, osteoporosis, and sarcopenia are evaluated at baseline and after 6 months of ADT. Frailty will be assessed by L. Fried frailty criteria; sarcopenia by European Working Group on Sarcopenia in Older People 2 criteria, densitometry and muscle ultrasonography. Demographic characteristics, Barthel index for basic activities of daily living, Lawton index for instrumental activities of daily living, Charlson Comorbidity Index, number of drugs, Short Physical Performance Battery and Mini Nutritional Assessment Tool -Short Form Questionnaire® are also assessed.

**Results:** Frailty prevalence at baseline is expected to be around 20% with a 5% increase after 6 months of ADT. 25% of patients could show osteoporosis with sparse variation as a result of ADT. Sarcopenia is estimated to be found in 15% and this percentage could duplicate after 6 months of treatment.

**Key Conclusions:** This study will try to shed light on the musculoskeletal effects of ADT in older patients affected by prostate cancer, with the aim of developing preventive measures or therapies that can reverse the deleterious impact.

## P-893

### Clinical validation of SARC-F by proxy as a practical tool to evaluate sarcopenia in dependent older adults

Serdar Ozkok (1), Meryem Merve Oren (2), Caglar Ozer Aydin (1), Zeynep Fetullahoglu (1), Humeyra Ozalp (1), Cihan Kilic (1), Yasagul Koc (3), Hafize Dogan (4), Mehmet Akif Karan (1), Gulistan Bahat (1)

(1) Department of Internal Medicine, Division of Geriatrics, Istanbul University, Istanbul Medical School, 34,093, Istanbul, Türkiye, (2) Department of Public Health, Istanbul University, Istanbul Medical School, 34,093, Istanbul, Türkiye, (3) Department of Nursing, Istanbul Kayisdagi Nursing Home, 34,755, Istanbul, Türkiye, (4) Department of General Practice, Istanbul Kayisdagi Nursing Home, 34,755, Istanbul, Türkiye

**Introduction:** Sarcopenia is a prevalent disorder in older adults with significant consequent adverse outcomes. Regular screening is recommended for those at risk. SARC-F questionnaire is the most commonly recommended screening tool for sarcopenia. However, it is a self-reported tool, hence, cannot be applied to dependent individuals with communication problems. We hypothesized that implementation of the proxy-reported SARC-F (SARC-F by proxy) would be non-inferior to screen sarcopenia when compared with the standard SARC-F that is originally reported by the patient (standard SARC-F). Thus, we aimed to study the clinical validation of the SARC-F by proxy in identifying sarcopenia in older adults, and to compare its performance with the standard SARC-F.

**Methods:** This is a cross-sectional study including older adults aged  $\geq 60$  years without communication problems and their close proxies. The participants were recruited from geriatric outpatient clinic of a tertiary health center and a nursing home. Standard SARC-F was transformed to SARC-F by proxy and administered to proxies of older adults, and standard SARC-F was administered to the patients simultaneously in different rooms. We defined sarcopenia as probable

and confirmed by EWGSOP2 consensus report. We measured handgrip strength via Jamar dynamometer, and muscle mass via bioelectrical impedance analysis. We performed receiver operating characteristics (ROC) and sensitivity/specificity analyses of SARC-F by proxy for identifying sarcopenia and compared its performance with standard SARC-F by DeLong test.

**Results:** We included 172 older adults (median age, 72 (60–93); males, 55.2%) and 107 proxies in close contact. The prevalence of probable and confirmed sarcopenia was 18.9% and 12.9%, respectively. The median scores of both SARC-F versions were 2 (0–10). For both probable and confirmed sarcopenia definitions, area under the curve (AUC) values of SARC-F by proxy and standard SARC-F were moderate and similar [probable sarcopenia: 0.619 and 0.624 ( $p = 0.9$ ); confirmed sarcopenia 0.613 and 0.645 ( $p = 0.7$ ), respectively].

**Conclusion:** SARC-F by proxy showed similar, non-inferior performance with the standard SARC-F in evaluation of sarcopenia. It can be successfully applied to screen sarcopenia in patients with communication problems in our older population. Our results suggest that its use is suitable in dependent older adults., whilst its clinical validations in other populations would provide more insight.

## P-894

### Pain Increases the Risk for Sarcopenia in Community-Dwelling Adults: Results From the English Longitudinal Study of Ageing

Nicola Veronese (1), Luca Carruba (1), Anna La Carrubba (1), Stefania Maggi (2), Lee Smith (3), Mario Barbagallo (1), Ligia Dominguez (4)

(1) University of Palermo, (2) Consiglio Nazionale delle Ricerche, (3) Anglia Ruskin University, (4) University of Enna; University of Palermo

**Background:** Pain and sarcopenia are common in older people. Cross-sectional studies have reported a significant association between these two conditions, but cohort studies exploring pain as a potential risk factor for sarcopenia are scarce. Given this background, the aim of the present work was to investigate the association between pain (and its severity) at baseline, and the incidence of sarcopenia over 10 years of follow-up in a large representative sample of the English older adult population.

**Methods:** Pain was diagnosed using self-reported information and categorized as mild to severe pain at four sites (low back, hip, knee, and feet). Incident sarcopenia was defined as having low handgrip strength and low skeletal muscle mass during the follow-up period. The association between pain at baseline and incident sarcopenia was assessed using an adjusted logistic regression analysis, and reported as odds ratios (ORs) with their 95% confidence intervals (CIs).

**Results:** The 4 102 participants without sarcopenia at baseline had a mean  $\pm$  standard deviation age of  $69.7 \pm 7.2$  years, and they were mainly male (55.6%). Pain was present in 35.3% of the sample. Over 10 years of follow-up, 13.9% of the participants developed sarcopenia. After adjusting for 12 potential confounders, people with pain reported a significantly higher risk of sarcopenia (OR = 1.46; 95% CI 1.18–1.82). However, only severe pain was significantly associated with incident sarcopenia, without significant differences across the four sites assessed.

**Conclusions:** The presence of pain, particularly severe pain, was associated with a significantly higher risk of incident sarcopenia.

## P-895

### Association Between Different Skeletal Muscle Mass Indices and Physical Function In Obese Pre-frail Older Adults

Anandraj Selva Rajoo (1), Reshma Aziz Merchant (1), Denishkrshna Anbarasan (2), Yiong Huak Chan (2)

(1) Division of Geriatric Medicine, Department of Medicine, National University Hospital, 1E Kent Ridge Road, Singapore 119,228, Singapore, (2) Department of Medicine, Yong Loo Lin School of Medicine, National University of Singapore, Singapore

**Introduction:** With aging population, prevalence of obesity and associated non-communicable diseases such as sarcopenia will increase. Diagnosis of sarcopenia in obese older adults remains a challenge as current diagnostic criteria do not include measure of muscle quality except for physical function. We aim to evaluate the association of two different muscle mass indices (appendicular skeletal muscle mass (ASM) over height<sup>2</sup> and ASM/body mass index (BMI) ) with physical function in pre-frail older adults.

**Methods:** This was a cross-sectional study of 407 community dwelling pre-frail older adults recruited for multi-domain interventions from the community and primary care centres. We collected data on demographics, falls, cognition, and physical function (gait speed, handgrip strength (HGS) and the Short Physical Performance Battery (SPPB) test). Participants were analysed based on BMI tertiles (T). IBM SPSS Version 28.0 was used for analysis.

**Results:** The mean age was 72.67 years, mean BMI was 25.42 kg/m<sup>2</sup> and 59.5% were females. One third were in the BMI T3, with a mean BMI of 30.75 kg/m<sup>2</sup>. Participants in T3 were significantly younger with lower education levels, higher prevalence of multimorbidity, polypharmacy and lower prevalence of sarcopenia based on the Asian Working Group for Sarcopenia diagnostic criteria. ASM/BMI T3 but not ASM/H2 was significantly associated with gait speed (aOR 0.005, 95% CI 0.02–0.11;  $p = 0.002$ ), HGS (aOR 1.32, 95% CI 0.15–2.48;  $p = 0.027$ ) and SPPB (aOR 0.53, 95% CI 0.12–0.93;  $p = 0.002$ ).

**Key Conclusions:** Our results suggest that ASM/BMI may be a better skeletal muscle mass index in obese pre-frail but needs further validation at population level.

## P-896

### Correlation of freehand 3D-Ultrasound measurements of lower limb muscles with Sarcopenia parameters in a geriatric rehabilitation ward

anne sophie Boureau (1), Jérémie Huet (1), Christophe Cornu (2), Antoine Nordez (2)

(1) Nantes Université, CHU de Nantes, Geriatric Departement, (2) Nantes Université, Movement-Interactions-Performance, MIP, UR 4334

**Introduction:** Sarcopenia is a very frequent and devastating disease in older patients but lacks of accessible tools for diagnosis and follow-up. 2D ultrasound shows an emerging interest in the field to estimate muscle mass but still needs standardisation. Freehand 3D ultrasound (3D-US) has been developed in preclinical settings and is well validated for measuring muscle volumes. We recently validated a new 3D-US setup, applicable in a geriatric clinical setting. Our objective was to analyse the correlation of 3D-US measurements with total

appendicular skeletal muscle mass (ASMM) and with other sarcopenia parameters.

**Methods:** Voluntary patients of the Nantes geriatric rehabilitation ward were included between may and october 2022. Freehand 3D-US was performed to measure the volume of the right tibialis anterior, rectus femoris and vastus lateralis for each patient. Grip strength, five times chair stand-up test, maximal grip strength, isometric ankle dorsiflexion and knee extension were also recorded. ASMM was measured using bioelectrical impedance analysis (BIA) for all patients and with dual X-ray absorptiometry (DXA) for eligible patients. Pearson's correlation coefficients and linear models were used for analysis. Reliability of the 3D technique was concomitantly confirmed on this population.

**Results:** 60 volunteers were included (mean age 87, 63% women). Among those, 17 were sarcopenic and 2 had uninterpretable results for BIA. For each muscle, correlation of muscle volume with BIA ASMM was respectively 0.71 ( $p < 0.001$ ), 0.63 ( $p < 0.001$ ) and 0.65 ( $p < 0.001$ ). 3D parameters were all better correlated with measures of muscle mass and strength than 2D parameters. However, correlations with gait speed or body mass index were non significant or low. A linear model including weight, height, sex and the 3 muscle volumes explained 77% of the variance of ASMM measured by BIA.

**Conclusion:** Muscle volume measurements with 3D-US proved to be reliable and better correlated with appendicular muscle mass and strength than 2D parameters. This study is the first to develop a model to predict ASMM with ultrasound in very old hospitalized patients. 3D-US gives the opportunity to follow specific muscle volume variations, which could be useful to personalize resistance-exercise techniques in a rehabilitation context.

## P-897

### The association between sarcopenia and osteoporosis in Korean elderly population: A cohort study

Moon Jong Kim (1), Young-Sang Kim (1), Kwang-Min Kim (2), Kyu-Nam Kim (2)

(1) Dept. of Family Medicine, CHA University, CHA Bundang Medical Center, (2) Dept. of Family Practice and Community Health, Ajou University School of Medicine

**Background:** Osteoporosis and sarcopenia commonly coexist in older adults, as these conditions affect both bones and muscles. Existing research indicates that individuals with sarcopenia are at a higher risk of developing osteoporosis. Studies for Korean population have relied solely on muscle mass to define sarcopenia. This study aimed to investigate the prevalence of sarcopenia as defined by the Asian Working Group for Sarcopenia (AWGS) 2019 guidelines and explore the relationship between sarcopenia and osteoporosis.

**Methods:** This study analyzed data from the Ansung cohort, a population-based study conducted biennially since 2001, comprising older adults in a Korean rural region. For analysis, data from the 7th wave (2013–2014) were employed. Sarcopenia definition incorporates height-adjusted appendicular skeletal muscle mass and hand grip strength measurements.

**Results:** Among the 1151 men and 1564 women included in the study, the prevalence of sarcopenia was 7.5% and 7.0%, respectively. The prevalence of osteosarcopenia (the coexistence of both conditions) was 1.7% for men and 3.5% for women. The odds ratio of osteoporosis in individuals with sarcopenia was 5.65 (95% CI 3.02–10.29) for men and 5.12 (95% CI 3.36–7.81) for women. After adjusting for age, the odds ratios were 3.25 (95% CI 1.71–6.04) for men and 2.79 (95% CI 1.81–4.30) for women.

**Key Conclusions:** This study revealed a close association between sarcopenia and osteoporosis, although the prevalence of osteosarcopenia was low in the Korean elderly population. Further longitudinal analyses are warranted to deepen our understanding of the interplay between these conditions.

## P-898

### Growth Differentiation Factor 15 is associated with muscle strength and physical function in acutely admitted older medical patients

Rikke S. Kamper (1), Louis Praeger-Jahnsen (2), Hanne Nygaard (3), Sisse Bolm Ditlev (2), Anette Ekmann (1), Martin Schultz (4), Sofie Krarup Hansen (1), Pernille Hansen (1), Eckart Pressel (5), Charlotte Suetta (1)

(1) Department of Geriatric & Palliative Medicine, Copenhagen University Hospital, Bispebjerg and Frederiksberg, Copenhagen, Denmark; CopenAge, Copenhagen Center for Clinical Age Research, University of Copenhagen, Denmark, (2) Copenhagen Center for Translational Research, Copenhagen University Hospital, Bispebjerg and Frederiksberg, Copenhagen, Denmark, (3) Department of Emergency Medicine, Copenhagen University Hospital, Bispebjerg and Frederiksberg, Copenhagen, Denmark; Department of Geriatric & Palliative Medicine, Copenhagen University Hospital, Bispebjerg and Frederiksberg, Copenhagen, Denmark; CopenAge, Copenhagen Center for Clinical Age Research, University of Copenhagen, Denmark, (4) Department of Medicine, Copenhagen University Hospital, Herlev and Gentofte, Herlev, Denmark, (5) Department of Geriatric & Palliative Medicine, Copenhagen University Hospital, Bispebjerg and Frederiksberg, Copenhagen, Denmark

**Introduction:** Growth Differentiation Factor 15 (GDF-15) has gained increased attention in geriatric medicine due to its potential implications in various health conditions and association with adverse outcomes in older patients. GDF-15 has previously been associated with lower physical function in both healthy older people and in older patients, though further research is warranted. We aim to investigate associations of GDF-15 with muscle strength and physical function in a large sample of acutely admitted older medical patients.

**Methods:** This study included 986 patients  $\geq 65$  years of age admitted to the acute medical ward at Copenhagen University Hospital, Bispebjerg, Denmark. Muscle strength was assessed using handgrip strength (HGS) while physical function was assessed in a subsample ( $n = 788$ ) as the categorical sit-to-stand ability (STS). Low muscle strength was defined using cut-offs from the European Working Group on Sarcopenia in Older People definition (EWGSOP). Plasma GDF-15 was measured using electrochemiluminescence assays (MSD, Rockville, MD, USA).

**Results:** In both men and women, GDF-15 was negatively associated with HGS (both  $p < 0.01$ ). Likewise, GDF-15 levels were higher in patients with low HGS ( $p < 0.01$ ), and higher in patients who were unable to rise from a chair without support (all  $p < 0.05$ ). Associations remained significant after adjustment for age, the Charlson comorbidity index, and C-Reactive Protein (CRP).

**Key Conclusions:** Older patients with low muscle strength and lower physical function have increased levels of GDF-15 even after adjustment for the effect of age, comorbidity, and CRP.

## P-899

### Relationship Between Low Gait Speed And Geriatric Syndromes-Mortality In A University Geriatric Outpatients in Turkiye

Meris Esra Bozkurt (1), Cihan Kilic (1), Gulistan Bahat (1), Mehmet Akif Karan (1)

(1) Istanbul University Istanbul Medical School Department of Internal Medicine Division of Geriatrics

**Introduction:** The usual gait speed serves as a fundamental component in defining sarcopenia and frailty. Therefore, this study aims to assess the correlation between low gait speed (LGS) geriatric syndromes and mortality.

**Methods:** Out of the 2,020 individuals who attended the outpatient department of a university hospital between April 2012 and April 2023, a total of 661 participants data reached gait speed aged 60 and over were included in the study. LGS was defined as a gait speed of 0.8 m/s or less. Probable sarcopenia was assessed using two different .

**Methods:** hand grip strength and chair stand test (CST) measurements. Cut-off values for HGS were considered as 27 kg for females and 16 kg for males. For the CST, a time of over 15 s or the inability to complete the test were used as indicators of probable sarcopenia. Frailty was evaluated by the FRAIL scale with a score of  $\geq 3$  indicating frailty. Malnutrition was assessed using the Mini Nutritional Assessment-Short Form (MNA-SF). Participants with an MNA-SF score of  $\leq 7$  were classified as malnourished.

**Results:** The median age of the participants was 73 (60–96), 455 (68.8%) were female. Among the participants, 56 (27.3%) experienced mortality during the study period. Kaplan–Meier analyses did not reveal a significant association between LGS and mortality. However, regression analysis indicated that LGS was statistically associated with age, gender, congestive heart failure, frailty, malnutrition and probable sarcopenia as assessed by CST.

**Key Conclusion:** In the presence of LGS, screening for malnutrition, frailty and the probable sarcopenia measured by CST came to the fore. Keywords: low gait speed, comorbidities, geriatric syndromes, mortality.

## P-900

### Muscle ultrasound for risk stratification after TAVI in sarcopenic patients: A pilot study

Scott Lamers (1), Stany Perkisas (1), Sophie Bastijns (1), Femke Ariën (1), Anne-Marie De Cock (1), Paul Vermeersch (2)

(1) Department of Geriatrics, ZNA, Antwerp, Belgium, (2) Department of Cardiology, ZNA, Antwerp, Belgium

**Introduction:** Sarcopenia is defined as a progressive and generalized skeletal muscle disorder that involves the accelerated loss of muscle mass and function. Sarcopenia primarily occurs as an age-related process. However, several underlying conditions (e.g. chronic heart failure) can potentially induce and/or aggravate sarcopenia. With ageing, aortic stenosis is the most frequent degenerative valvular heart disease that causes heart failure. Often surgical aortic valve replacement is not an option due to high operative risk. In these patients a transcatheter aortic valve implantation (TAVI) has become a viable alternative. Since preoperative frailty and sarcopenia status has been shown to be significantly associated with poor outcomes and postoperative mortality, risk stratification prior to TAVI is paramount in preventing postoperative complications.

**Methods:** This prospective cohort study includes patients aged 65 years and older who are referred for TAVI procedure. Prior to the

TAVI procedure an assessment of the muscle quantity (thickness, cross-sectional area) and quality (fascicle length, stiffness, pennation angle) will be done by performing an ultrasound of the rectus femoris muscle. Total duration of follow-up will be 1 year or earlier in case of death. The primary outcome will be the cumulative TAVI related and all-cause mortality one year after the TAVI procedure. Potential postoperative complications (e.g. delirium, ischemic stroke, conduction abnormalities/arrhythmias) will serve as secondary outcomes.

**Results:** First results will be available at the congress.

**Conclusion:** Both frailty and sarcopenia are known to influence postoperative outcomes in TAVI patients. This study aims to find correlations with specific muscle components to improve the preoperative risk stratification.

## P-901

### Muscle mass loss measured with portable ultrasound in hospitalized older adults: The ECOSARC Study

Esther López Jiménez (1), Marta Neira Álvarez (2), Rocio Menéndez Colino (3), Marta Checa López (4), Concha Grau Jiménez (5), Patricia Pérez Rodríguez (6), Brian Vasquez Broten (7), Estefania Arias Muñana (2), Raquel Ramírez Martín (3), Cristina Alonso Bo

(1) Complejo Hospitalario Universitario de Albacete, Albacete, Spain., (2) Hospital Universitario Infanta Sofia, San Sebastián de los Reyes, Madrid, Spain, (3) Hospital Universitario La Paz, Madrid, Spain, (4) Hospital Universitario de Getafe, Getafe, Madrid, Spain., (5) Hospital Virgen del Valle, Toledo, Spain., (6) Hospital Universitario Puerta de Hierro, Majadahonda, Madrid, Spain, (7) Hospital Universitario Infanta Leonor, Madrid, Spain, (8) Hospital Universitario de Getafe, Getafe, Madrid, Spain, (9) Hospital Virgen del Valle, Toledo, Spain, (10) Hospital Universitario Infanta Leonor, Madrid, Spain., (11) Department of Economic Analysis and Finance, Universidad de Castilla-La Mancha, Toledo, Spain., (12) Complejo Hospitalario Universitario de Albacete, Albacete, Spain, (13) Centro de Investigación Biomédica en Red de Fragilidad y Envejecimiento Saludable (CIBERFES), Instituto de Salud Carlos III, Madrid, Spain., (14) Hospital Universitario de Gran Canaria, Doctor Negrín, Las Palmas de Gran Canaria, Spain

**Introduction:** The main objective of ECOSARC study was to analyze the evolution of muscle of the Quadriceps Rectus Femoris (QRF) between admission and discharge, in older adults hospitalized with an acute medical disease in Acute Geriatric Units (AGUs).

**Methods:** Prospective multicentric observational cohort study in 7 AGUs from University Hospitals in Spain was designed. Ultrasound measurements of QRF (area, thickness, edema, echogenicity, and fasciculations) were measured at 2/3 distal between anterior–superior iliac spine and patella in both legs by trained Geriatricians. Hospitalized adults  $\geq 70$  years old, able to ambulate and without severe dementia were included.

**Results:** We recruited 143 hospitalized adults, mean age 87.8 (SD 5.4) and 58% females. Mean hospital stay 7.6 days (SD 4.3). From those with valid images (68.5% of total sample), the changes from baseline to discharge in QRF area was: 49.3% had a decrease, 2.7% maintained values and 47.9% presented an increase. In QRF thickness was: 54.1% had a decrease, 2.7 maintained values, and 43.2% presented an increase. Only 5.4% patients presented new edema, while 17.6% worsened echogenicity.

**Conclusions:** One third of older adults develop significant muscle loss during a hospitalization for acute medical diseases.

**P-902****Association of Ultrasound-Based Sarcopenia and Falls in Older Adults**

Ayse Fadiloglu (1), Eda Ceker (1), Esra Cataltepe (1), Hacer Dogan Varan (1)

(1) Gazi University Hospital

**Introduction:** Sarcopenia, loss of generalized muscle mass and function, a commonly existing problem of aging. Anterior thigh muscle thickness (ATMT) is known to deteriorate in the earlier phase of sarcopenia. The aim of this study was to assess the relationship between ultrasound-based sarcopenia and falls in older adults.

**Methods:** The study enrolled 674 patients over the age of 60. Patients with a stroke history and joint prosthesis were excluded. All patients underwent a comprehensive geriatric assessment. ATMT was measured by a geriatrician trained in ultrasound and low muscle mass was defined according to ATMT/body mass index (cut-off for males is  $< 1.4$  and  $< 1$  for females). Grip strength also was measured. The history of falls in the prior year was asked of each participant.

**Results:** The mean age was  $74.49 \pm 6.32$  and 61.9% ( $n = 417$ ) of the participants were female. Participants with a history of falls ( $n = 148$ , 22%) in the previous year had significantly lower calf circumference, hand-grip strength, gait speed, and higher FRİED total score. Ultrasound-based sarcopenia was observed to be significantly higher among patients with a falling history, although there was no statistically significant difference in terms of low muscle mass between groups.

**Conclusions:** This study highlighted the link between ultrasound-based sarcopenia and falling. Low muscle strength had a significant association with falling in contrast to low muscle mass. These results suggest that individuals with reduced muscle strength are at a higher risk of experiencing falls, regardless of their muscle mass.

**P-903****Diagnosis of Sarcopenia through Ultrasound Measurement in the Geriatric Population**

Michel Emeline (1), Sarrazy Vincent (1), Sacco Guillaume (1), Guerin Olivier (1), Chorin Frederic (2), Zory Raphael (3)

(1) Université Côte d'Azur, Centre Hospitalier Universitaire de Nice, Clinique Gériatrique de Soins Ambulatoires, Nice, France; (2) Université Côte d'Azur, Centre Hospitalier Universitaire de Nice, Clinique Gériatrique de Soins Ambulatoires, Nice, France; (3) Université Côte d'Azur, LAMHESS, Nice, France; Institut Universitaire de France (IUF), France

Sarcopenia is a widespread and progressive muscular disease that is associated with age-related changes, lifestyle, nutritional status, and comorbidities. It is closely linked to multiple health problems such as falls, cardiovascular diseases, osteoporosis, as well as worsening cognitive disorders, dependency, institutionalization, and mortality. Therefore, sarcopenia results in a significant socio-economic cost. However, the diagnosis of sarcopenia is currently challenging as it requires a combination of clinical arguments, the use of a screening score (SARC-F), functional tests (SPPB, TUG, etc.), and imaging measurement using either magnetic resonance imaging (MRI), computed tomography (CT), or dual-energy X-ray absorptiometry (DXA). These three imaging methods are expensive, require highly qualified personnel, and are not easily accessible. Thus, we suggest that

ultrasound of the dominant lower limb could be a simple and cost-effective alternative for diagnosing sarcopenia. In this prospective single-center study, we included 157 patients aged 75 years with sarcopenia to validate the ultrasound technique. We demonstrated that measuring the thickness of muscles in the anterior compartment of the thigh could be a reliable criterion for diagnosing sarcopenia. This measurement shows no significant inter-operator variation and is positively correlated with functional tests. Moreover, this measurement can be easily performed by anyone with minimal training in using an ultrasound machine. Therefore, it could benefit from a bedside measurement protocol, allowing for rapid diagnosis and appropriate management.

**P-904****Effects of Androgen Deprivation Therapy in High-Risk Prostate Cancer in The Elderly: Preliminary Data of Pro sarc Study**

Óscar Legido Gómez (1), José Miguel Giménez Bachs (2), Antonio Santiago Salinas Sánchez (3), María José Donate Moreno (1), Inmaculada Díaz de Mera Sánchez-Migallón (4), Saúl Rico Marco (4), Marta Victoria Lorenzo Sánchez (4), Sonsoles Navarro Jiménez (4)

(1) MD. Urology Department. Complejo Hospitalario Universitario de Albacete, Albacete, Spain. Facultad de Medicina de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain., (2) MD, PhD. Urology Department. Complejo Hospitalario Universitario de Albacete, Albacete, Spain. Facultad de Medicina de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain., (3) MD, PhD. Head of Urology Department. Complejo Hospitalario Universitario de Albacete, Albacete, Spain. Facultad de Medicina de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain., (4) MD. Urology Department. Complejo Hospitalario Universitario de Albacete, Albacete, Spain., (5) MD. Anesthesiology Department. Complejo Hospitalario Universitario de Albacete, Albacete, Spain., (6) MD. Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain., (7) RN. Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. CIBERFES, Instituto de Salud Carlos III, Madrid, Spain., (8) RN. Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. Fundación Hospital Nacional de Paraplégicos, Toledo, Spain, (9) RN, PhD. Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. Facultad de Enfermería de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain. CIBERFES, Instituto de Salud Carlos III, Madrid, Spain., (10) MD, PhD. Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. CIBERFES, Instituto de Salud Carlos III, Madrid, Spain. Fundación Hospital Nacional de Paraplégicos, Toledo, Spain, (11) MD, PhD. Head of Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. Facultad de Medicina de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain. CIBERFES, Instituto de Salud Carlos III, Madrid, Spain

**Introduction:** The objective of this study is to provide a preliminary estimation of the prevalence of frailty, osteoporosis and sarcopenia and the incidence or aggravation as a consequence of androgen deprivation therapy (ADT) in patients with prostate carcinoma.

**Methods:** Prospective and observational study in patients  $\geq 70$  years old diagnosed with high-risk prostate cancer not candidates to local treatment in whom frailty, osteoporosis, lean mass and sarcopenia are evaluated at baseline and after 6 months of ADT. So far, 25 subjects

have been recruited and both evaluations have been completed in 12, whose data is presented below.

**Results:** Mean age (standard deviation) was 84.31 (6.16) years old results are presented at baseline vs. 6 months. Frailty was found in 16.7% vs. 25% (according to Linda P. Fried criteria) and osteoporosis was present in 25% in both evaluations. Low lean mass was observed in 75% of patients vs. 100%, sarcopenia in 25% vs. 16.7% and severe sarcopenia in 41.7% vs 33.3% (assessed by utilizing European Working Group on Sarcopenia in Older People 2 criteria). All mentioned variables did not reach statistical significance. By contrast, ratio of appendicular lean mass to height<sup>2</sup> (aLM/height<sup>2</sup>) diminished from 6.1 (0.94) to 5.6 (0.62) ( $p = 0.012$ ) with an average difference of 0.49 (0.47) kg/m<sup>2</sup>. Quadriceps rectus femoris thickness was reduced in both legs: in the right 16.31 (3.42) vs. 14.07 (2.47) mm. ( $p = 0.008$ ) and in the left 16.06 (2.73) vs. 13.26 (3.29) ( $p = 0.010$ ).

**Key Conclusions:** A high prevalence of frailty, sarcopenia and osteoporosis is present before the onset of ADT. Changes in frailty and sarcopenia criteria were not statistically significant. Three out of four patients exhibit low lean mass at baseline and after 6 months of ADT is identified in the whole sample, with significative differences in the ratio aLM/height<sup>2</sup> and muscular thickness in both legs.

## P-905

### The Prevalence of Probable Sarcopenia Identified by Chair-Stand Test and Associated Factors in Older Outpatients

Emine Asci Civelek (1), Meris Esra Bozkurt (1), Serdar Ozkok (1), Zeynep Fetullahoglu (1), Mehmet Akif Karan (1), Gulistan Bahat (1)

(1) Istanbul University Istanbul Medical School Department of Internal Medicine Division of Geriatrics

**Introduction:** Probable sarcopenia is mostly identified by handgrip strength (HGS) measurement in routine practice or for research purposes. However, the chair-stand test (CST) is a valuable alternative as it directly assesses the strength of muscles responsible for mobility, and may be an indirect indicator of muscle power as well. Here we aimed to study the prevalence of probable sarcopenia in older outpatients via CST and identify the significantly associated factors.

**Methods:** We included outpatients  $\geq 60$  years old admitted to a university hospital between July 2012 and May 2023. We obtained information on demographic and clinical variables, and performed comprehensive geriatric assessment. We applied five-times CST, with a threshold of  $> 15$  s considered as probable sarcopenia. We performed univariate and multivariate analyses to detect the parameters associated with probable sarcopenia.

**Results:** We included 504 individuals with a median age of 73 (60–96); 67.5% (340) were female. Probable sarcopenia prevalence was 16.9%. Older age [OR (95% CI) = 1.11 (1.06–1.16),  $p < 0.001$ ], female gender [OR (95% CI) = 2.0 (1.02–3.92),  $p = 0.045$ ], frailty [OR (95% CI) = 3.3 (1.63–6.64),  $p = 0.001$ ], and impairment in activities of daily living [OR (95% CI) = 2.2 (1.2–4.1),  $p = 0.02$ ] were independently associated with probable sarcopenia.

**Conclusions:** Our study suggests that frailty demonstrates the strongest association with probable sarcopenia. This close relationship is no surprise as both concepts partly overlap, especially on parameters of impaired physical function. Given the recent reports showing that poor CST performance also predicts impairment in frailty status in older adults, CST as an instrument-free method of measuring muscle strength seems likely to gain more ground in geriatric practice (1).

**Reference:**

1. Burbank, C. M., Branscum, A., Bovbjerg, M. L., Hooker, K., & Smit, E. (2023). Muscle power predicts frailty status over four years: A retrospective cohort study of the National Health and Aging Trends Study. *Journal of Frailty, Sarcopenia and Falls*, 8 (1), 1–8. <https://doi.org/10.22540/JFSF-08-001>.

## P-906

### Validity and Intra-Rater Reliability of Vastus Lateralis Muscle Architecture assessment using Hand-held Ultrasound in Older Adults Acutely Admitted to Hospital

Jeppe Phillip (1)

(1) 2Geriatric Research Unit, Department of Geriatric Medicine, Odense University Hospital, Odense, Denmark

Jeppe Grabov Phillip<sup>1,2,3</sup>, Lisbeth Rosenbek Minet<sup>2,3</sup>, Siri Aas Smedemark<sup>2,3</sup>, Jesper Ryg<sup>2,3</sup>, Karen Andersen-Ranberg<sup>2,3</sup> and Kristoffer Kittelmann Brockhattingen<sup>2,3</sup>.<sup>1</sup>Department of Geriatric Medicine, Odense University Hospital, Svendborg, Denmark; <sup>2</sup>Geriatric Research Unit, Department of Geriatric Medicine, Odense University Hospital, Odense, Denmark; <sup>3</sup>Department of Clinical Research, University of Southern Denmark, Odense, Denmark.

**Introduction:** Assessment of muscle architecture (MA) using ultrasound (US) has gained attention as a potential method for detection of sarcopenia. However, today the majority of US scanners are stationary (S-US), expensive, and non-portable. This study aimed to assess validity and intra-rater reliability of hand-held US (HH-US) when compared to (S-US) for assessing MA in acutely hospitalised older adults.

**Methods:** A convenience sample of acutely admitted geriatric patients was used. Applying a US protocol developed in a geriatric setting [1], MA (fascicle length (Lf) and muscle thickness (Tm) ) of muscle vastus lateralis (VL), was assessed at 35% femur length by a HH-US (GE Vscan Air ®) and S-US (GE Venue ®) during the same session by a single examiner. The ratio of Lf/Tm was calculated via ImageJ by an experienced US investigator to obtain an ultrasound index of the loss of muscle mass associated with sarcopenia (USI) [2]. Validity and intra-rater reliability was assessed by Cohens-Kappa-Coefficient ( $\kappa$ ) .

**Results:** In total, 21 participants (52% female, mean age 83.4 yrs (SD 10.7), mean Barthel-100 score 65.4 (27.3) ) were included. Validity and intra-rater reliability of USI values between the two US scanners was near perfect with a  $\kappa = 0.91$ .

**Key Conclusion:** Compared to S-US, HH-US showed near perfect validity and intra-rater reliability in selected variables of MA in acutely hospitalised geriatric patients, when an experienced US investigator carries out the image analysis. HH-US is cheaper, portable and has potential in future use of US in detecting sarcopenia in both hospital and non-hospital settings.

**References:**

[1] Ticinesi A, Narici MV, Lauretani F, Nouvenne A, Colizzi E, Mantovani M, et al. Assessing sarcopenia with vastus lateralis muscle ultrasound: an operative protocol. *Aging Clin Exp Res* 2018;30: 1437–1443.

[2] Narici M, McPhee J, Conte M, Franchi MV, Mitchell K, Tagliiferri S, et al. Age-related alterations in muscle architecture are a signature of sarcopenia: the ultrasound sarcopenia index. *J Cachexia Sarcopenia Muscle*. 2021;12 (4): 973–82.



**Keywords:** muscle architecture, ultrasonography, hand-held ultrasound, reliability, validity, acutely hospitalised older adults, sarcopenia.

## P-907

### Evaluation of muscle sonography for the diagnosis of sarcopenia in hospitalised geriatric patients

Marin Herceg (1), Rani D´Cruz (2), Rupert Püllen (2), Sandra Schütze (2)

(1) Department of Geriatrics, AGAPLESION, EKM, Giessen, Germany, (2) Department of Geriatrics, AGAPLESION Frankfurter Diakonie Kliniken, Frankfurt, Germany

**Introduction:** Current diagnosis criteria of sarcopenia are difficult to apply in clinical practice. Muscle sonography has been discussed by the SARCUS group as a simple, widely applicable, and safe method for determination of muscle mass. The aim of our prospective study was the evaluation of practicability, validity, and reliability of muscle sonography in patients hospitalised in a German acute geriatric department.

**Methods:** In 146 hospitalised geriatric patients (75 women, 71 men), we assessed muscle strength by measuring hand grip strength and performing the five-chair rise test. Appendicular lean mass [ALM (Sergie) ] was determined by bioimpedance analysis (BIA; Nutri-guard-M). Sonography of M. rectus femoris (RF) and M. biceps brachii (BB) was performed bilaterally. Muscle thickness (MT) and cross-sectional area (CSA) were measured.

**Results:** MT and CSA of the RF and BB strongly correlated with the ALM determined by BIA (Pearson’s  $r$  between 0.63 and 0.74;  $p < 0.0001$ , respectively), with CSA of BB showing the strongest correlation ( $r = 0.74$  for both left and right BB). The measurements of MT and CSA by two independent investigators in 15 patients showed a very high level of agreement (MT-RF:  $r = 0.94$ , CSA-RF:  $r = 0.97$ , MT-BB:  $r = 0.87$ , CSA-BB:  $r = 0.97$ ;  $p < 0.0001$ , respectively).

**Key Conclusion:** Our results indicate an excellent interrater reliability of sonographic MT and CSA determination. CSA of BB showed a strong correlation with the BIA determined ALM in hospitalised geriatric patients with a broad spectrum of acute diseases, multimorbidity, and functional impairment. Thus, muscle sonography appears to be a promising method to improve diagnosis and follow-up of sarcopenia.

## P-908

### Sarcopenia emerges as a risk factor for cardiac diastolic dysfunction: a new era to focus

Onur Erdoğan (1), Tuğba Erdoğan (2), Cemre Gül Tekin Cebeci (3), Hediye Nur Ataç (4), Serdar Özkök (2), Zeynep Fetullahoğlu Durmuş (2), Mehme Akif Karan (2), Gülistan Bahat (2)

(1) Department of Cardiology, University of Health Sciences, Mehmet Akif Ersoy Thoracic and Cardiovascular Surgery Training and Research Hospital, Istanbul, Türkiye, (2) Department of Internal Medicine, Division of Geriatrics, Istanbul University, Istanbul medical school, Istanbul, Türkiye, (3) Department of Cardiology, Sivas Numune State Hospital, Sivas, Türkiye, (4) Nutrition and Dietetics, Istinye State Hospital, Istanbul, Türkiye

**Objectives:** Cardiac diastolic dysfunction (left ventricular diastolic dysfunction, LVDD) is a well-known predictor of heart failure. We hypothesized that sarcopenia is independently associated with diastolic dysfunction. We aimed to investigate the association of the most recent consensus, definition of sarcopenia with LVDD.

**Methods:** We included 121 older participants that admitted to cardiology outpatient clinic. We followed the European Working Group on Sarcopenia in Older People (EWGSOP2) definition of confirmed sarcopenia (presence of low muscle mass + low muscle strength). We estimated skeletal muscle mass with bio-impedance analysis, muscle strength by handgrip strength via Jamar hydraulic hand dynamometer. Skeletal muscle mass was adjusted by body mass index. LVDD was determined by echocardiographic parameters measured per American Society of Echocardiography recommendations. We ran multivariate logistic regression analyses adjusted for well known risk factors of diastolic dysfunction (i.e., age, sex, obesity, smoking, diabetes mellitus, hypertension and ischemic heart disease) to detect if sarcopenia was independently associated with diastolic dysfunction. We gave results in odds ratio (OR) and 95% confidence interval (CI) .

**Results:** Mean age was  $69.9 \pm 5.8$  years; 38.8% was male. Confirmed sarcopenia was detected in 34.7%, diastolic dysfunction in 19.8%. In univariate analyses, S was associated with diastolic dysfunction (OR = 6.7 95% CI 2.4–18.9). Regression analyses showed that two parameters, i.e. sarcopenia (OR = 7.4 95% CI 2.1–26.6,  $p = 0.002$ ) and obesity (OR:5.0, 95% CI 1.03–24.6,  $p:0.046$ ) were associated with diastolic dysfunction.

**Conclusion:** This study revealed sarcopenia as a new risk factor for the presence of diastolic dysfunction, adding on to its known risk factors. Future longitudinal studies are needed to clarify the factors underlying their co-presence.

## P-909

### Estimation of skeletal muscle mass cut offs using bioelectrical resistance and reactance measurements in a young Turkish population

Mustafa Altinkaynak (1), Neda Lafzi (2), Yagmur Goksoy (2), Yavuz Burak Tor (2), Timur Selcuk Akpınar (2), Sebile Nilgun Erten (2), Bulent Saka (2)

(1) Istanbul Faculty of Medicine, Istanbul University, (2) Istanbul Faculty of Medicine, Istanbul University)

**Introduction:** Population-specific muscle mass cut-off values are recommended for the diagnosis of sarcopenia. In this study, we aimed to determine skeletal muscle mass index (SMMI), appendicular muscle mass index (ASMI), and phase angle (PA) cut-off values for the Turkish population using multifrequency bioelectrical impedance analysis (mBIA).

**Methods:** A total of 250 healthy volunteers aged 18–40 years were enrolled in the study. PA was measured by mBIA. Skeletal muscle mass (SMM) and appendicular skeletal muscle mass (ASM) were calculated with the formulas of Janssen and Sergi using the resistance and reactance measurements of mBIA. Handgrip strength (HGS) was measured using a hand dynamometer. Two standard deviations (SD) below the mean were accepted as cut-off values.

**Results:** 134 women and 116 men were included in the study ( $26.0 \pm 5.6$  years). The SMMI cut-off values for men and women were 16.15 and 12.83  $\text{kg}/\text{m}^2$  using the mBIA formula and 8.19 and 6.00  $\text{kg}/\text{m}^2$  using the Janssen formula, respectively. The ASMI cut-off

values for men and women were 7.14 and 5.40 kg/m<sup>2</sup> with mBIA itself and 5.86 and 4.36 kg/m<sup>2</sup> with the Sergi formula. The cut-off values for HGS and PA were 25.2 kg and 5.66° in men and 14.1 kg and 4.38° in women.

**Conclusion:** In the present study, the specific SMMI, ASMI, and PA cut-off values for the Turkish population were determined using the Janssen and Sergi formulas for SMMI and ASMI recommended by the European Working Group on Sarcopenia in Older People (EWGSOP).

## P-910

### Sarcopenic Obesity Predominates Sarcopenia in Saudi Women

Nouf Aljawini (1), Syed Shahid Habib (2)

(1) Department of Physiology, College of Medicine, King Saud University. Department of Community Health Science, College of Applied Medical Sciences, King Saud University., (2) Department of Physiology, College of Medicine, King Saud University

**Rationale:** The purpose was to examine the rate of obesity among Saudi women with reduced muscle strength versus those with intact muscle strength.

**Methods:** This cross-sectional study was carried out in Riyadh. Obesity and sarcopenia were respectively defined based on body mass index (BMI)  $\geq 30$  kg/m<sup>2</sup> and handgrip strength (HGS)  $< 16$  kg. HGS was assessed with a digital dynamometer. The test was carried out with the participants sitting, their arms alongside the trunk, and their elbows flexed at 90°. Three maximum trials were performed with the dominant hand, with a 1-min interval between testing. The highest value was used in the analysis. The sample was divided into two groups: sarcopenia (S) with HGS  $< 16$  kg and non-sarcopenia with HGS  $\geq 16$  kg.

**Results:** A total of 100 women were recruited. Fifty women were diagnosed with sarcopenia (S), and the other 50 with non-sarcopenia (NS). Only 44% of the participants had a BMI under 30 kg/m<sup>2</sup>, while 56% had obesity. The mean (standard deviation) of age, BMI, and HGS for the entire sample were 50.32 (12.36) years old, 31.94 (6.52) kg/m<sup>2</sup>, and 16.79 (5.11) kg, respectively. The mean (SD) HGS in the sarcopenia (S) and non-sarcopenia (NS) groups was 12.75 (2.57) kg and 20.84 (3.57) kg, respectively. In the (S) group, obesity was 62%, non-obesity was 38%, and in the (NS) group, obesity was 50% and non-obesity was 50%.

**Conclusion:** Sarcopenic obesity exceeds sarcopenia in Saudi women, an essential condition to be addressed in clinical practice.

## P-911

### Defining a Postmenopausal Women's Sarcopenia Cut-off Based on a Premenopausal Reference Population in Saudi Arabia

Nouf Aljawini (1), Syed Shahid Habib (2)

(1) Department of Physiology, College of Medicine, King Saud University, Riyadh. Department of Community Health Sciences, College of Applied Medical Sciences, King Saud University, Riyadh., (2) Department of Physiology, College of Medicine, King Saud University, Riyadh

**Rationale:** This study aimed to develop an appropriate cut-off point to detect low muscle strength in Saudi postmenopausal women derived from the premenopausal reference data.

**Methods:** Sixty-eight postmenopausal women and 28 premenopausal women were recruited in Riyadh. The body mass index (BMI) was

computed by dividing the weight in kilograms by the square height in meters. Premenopausal women with a BMI  $< 30$  kg/m<sup>2</sup> constituted the reference population. Handgrip strength (HGS) was determined using a digital dynamometer. The test was performed with participants sitting, arms alongside the trunk, and elbows flexed at 90°. Three maximum trials were done with the dominant hand, with a 1-min interval between tests. The highest value was chosen in the analysis. The premenopausal reference population's mean minus two standard deviations was employed to calculate the HGS cut-off value for postmenopausal women.

**Results:** The study included 96 Saudi women (68 postmenopausal and 28 premenopausal). The mean (standard deviation) of the postmenopausal women's outcomes were: age 61.33 (7.80) years; BMI 32.75 (5.45) kg/m<sup>2</sup>; and HGS 16.67 (4.66) kg. The premenopausal women's outcomes were as follows: age 41.67 (10.12) years, BMI 26 (2.77) kg/m<sup>2</sup>, and HGS 18.76 (4.54) kg. The cut-off for low HGS in postmenopausal women was determined as two standard deviations below the mean of reference premenopausal women's HGS. HGS of 10 kg is the estimated cut-off.

**Conclusion:** A handgrip strength of 10 kg is the suggested cut-off to detect low muscle strength in Saudi postmenopausal women. Further studies with a larger sample are required to confirm the findings.

## P-912

### Can Phase Angle Measurement With Bioelectric Impedance Analysis Predict Malnutrition, Sarcopenia And Frailty In The Elderly?

Melin Ahmed (1), Mustafa Altinkaynak (1), Timur Selcuk Akpınar (1), Yagmur Goksoy Solak (1), Sebile Nilgun Erten (1), Serpil Buyukdemir (1), Bahar Senturk (1), Bulent Saka (1)

(1) Istanbul Faculty of Medicine, Istanbul University

**Introduction:** This study aims to investigate the predictive value of phase angle, measured through bioelectrical impedance analysis, in identifying malnutrition, sarcopenia, and frailty among older adults.

**Methods:** A total of 206 participants aged 65 and above were enrolled in 2019 from Clinical Nutrition Outpatient Clinics. Demographic characteristics and history of falls recorded. The short form of the mini nutritional assessment and the "Frail" scale was used to determine malnutrition risk and frailty status, respectively. Hand grip strength and a 4-m walking test were measured, while muscle mass and phase angle were determined using bioelectrical impedance analysis. A phase angle cut-off of 50 was applied.

**Results:** Of the 206 participants, 47.6% (n = 98) were female, and the mean age was 72.6  $\pm$  6.3 years. Among the participants, 18% (n = 37) were at risk of malnutrition, 50% (n = 103) exhibited low muscle strength, and 5.3% (n = 11) was observed confirmed sarcopenia. Furthermore, 34% (n = 70) had reduced walking speed ( $\leq 0.8$  m/s), 17% (n = 35) met the criteria for frailty, 18% (n = 37) reported a history of falling, and 42.2% (n = 87) had low phase angle value ( $\leq 50$ ). A significant correlation was found between low-phase angle and malnutrition, sarcopenia, and frailty (p < 0.05). Multiple regression analysis indicated a significant association between phase angle, muscle mass, and walking speed, considering age, gender, and ASMI.

**Conclusion:** Measurement of phase angle using BIA in the elderly population holds promise for predicting sarcopenia by identifying individuals with low muscle mass and impaired muscle function. It may serve as a valuable tool in diagnosing sarcopenia.

**P-913****Osteoporosis and Sarcopenia Risk—A cross-sectional study in an internal medical ward in Portugal**

Ana Rita Antunes (1), Sara Henriques (1), Rita Menezes (1), Inês Pinto (1), Rui Salvador (1), Adriana Guedes (1), Ana Sofia Reis (1), Rafaela Veríssimo (2)

(1) Resident Doctor in Internal Medicine at Centro Hospitalar Vila Nova de Gaia/Espinho, Portugal, (2) Specialist Doctor in Internal Medicine at Centro Hospitalar Vila Nova de Gaia/Espinho, Portugal

**Introduction:** Osteoporosis is characterized by reduced bone mass and microarchitectural deterioration, causing fractures.[1] Sarcopenia is a muscle disorder that contributes to physical impairment.[2] Giving elevated morbimortality rates and healthcare expenses, prompt initiation of prevention and treatment is imperative.

**Methods:** A cross-sectional study was conducted at Centro Hospitalar Vila Nova de Gaia/Espinho, Portugal, assessing 86 inpatients, 50 women and 36 men, average age 77 years, admitted to medicine ward on March 17, 2023. The osteoporotic risk was evaluated with FRAX tool, and the sarcopenia risk was determined using the European Working Group on Sarcopenia in Older People 2 algorithm. Clinical records were reviewed to examine patients' bisphosphonate use history.

**Results:** The risk of osteoporotic major fractures in 10 years was assessed, revealing that 57% of patients had a risk between 10 and 30%. Females exhibited a 52% likelihood of more than 20% compared to males with a risk of 8%. Additionally, 33% of the population had a probability exceeding 10% for hip fractures in 10 years, with females at a risk of 46% compared to males at 14%. Furthermore, 78% of patients had probable sarcopenia, increasing the likelihood of osteoporotic major fractures, 27% with a likelihood of more than 20%, and hip fractures, 27% with odds of more than 10%. Although 12% of patients had previous bisphosphonate use, none were currently receiving it.

**Key Conclusions:** Our findings underscore the urgency for implementing prevention and treatment strategies to mitigate the elevated fracture risk and sarcopenia, promoting active aging.

**References:**

[1]. Consensus development conference: diagnosis, prophylaxis, and treatment of osteoporosis. *Am J Med.* 1993;94 (6) :646–650. [https://doi.org/10.1016/0002-9343\(93\)90218-e](https://doi.org/10.1016/0002-9343(93)90218-e).

[2] Cruz-Jentoft AJ, Bahat G, Bauer J, et al. Sarcopenia: revised European consensus on definition and diagnosis. *Age Ageing.* 2019;48 (4) :601. <https://doi.org/10.1093/ageing/afz046>.

**P-914****Sarcopenic obesity versus sarcopenia alone by using two alternative adjustment method for low muscle mass component: which one better predicts poor physical performance?**

Serdar Ozkok (1), Zeynep Fetullahoglu (1), Cihan Kilic (1), Mehmet Akif Karan (1), Gulistan Bahat (1)

(1) Department of Internal Medicine, Division of Geriatrics, Istanbul University, Istanbul Medical School, 34.093, Istanbul, Türkiye

**Objective:** ESPEN&EASO consensus paper on sarcopenic obesity (SO) recommends measured muscle mass to be adjusted for body size (i.e., body weight) to assess “relative sarcopenia”. However some

authors suggest that body mass index (BMI) would better represent body size and should be preferred instead. We aimed to find out the adjustment method that is more related to impaired timed up-and-go test (TUG) and to study whether SO or only sarcopenia (S) is more detrimental in terms of physical performance.

**Methods:** This is a retrospective, cross-sectional study including older outpatients  $\geq 60$  years admitted to a university hospital. Handgrip strength (HGS) was measured via Jamar dynamometer and muscle mass and fat percentage were estimated via bioelectrical impedance analysis. Skeletal muscle mass index (SMMI) was calculated by adjusting SMM for body weight (SMM:W) or BMI (SMM: BMI), and EWGSOP2 definition was used for sarcopenia diagnosis (reduced HGS + reduced SMMI). Obesity was defined by fat percentage method. TUG  $\geq 20$  s was accepted as poor physical performance. Individuals were grouped into 4 phenotypes: Non-sarcopenia + Non-obesity (non-S + non-O) (reference); Sarcopenia + Non-obesity (only S); Non-sarcopenia + Obesity (only O); sarcopenia + obesity (SO). The association of body phenotypes with impaired TUG was evaluated in univariate and multivariate analyses including age and undernutrition according to the Mini-Nutritional Assessment-Short Form  $< 12$  points.

**Results:** We included 1504 older adults in our study (69.0% female, median age: 75). According to the TUG test, 79 (5.5%) had poor physical performance. When we used SMM:W, only “only S” was independently associated with an increased risk of impaired TUG (OR = 11.0 (3.6–34.0),  $p < 0.001$ ). When we used SMM: BMI, S alone demonstrated lower risk for impaired TUG, compared to SMM:W adjustment (OR = 3.0 (1.1–7.8),  $p = 0.03$ ). SO was also associated with impaired TUG with SMM: BMI (OR = 3.2 (1.5–6.9),  $p = 0.002$ ). When we compared SO and only S head to head, “only S” group demonstrated significantly higher risk of impaired TUG compared to SO group (OR = 4.9 (1.02–23.5),  $p = 0.048$ ) with SMM:W, but there was no significant difference between groups with SMM: BMI.

**Conclusion:** SMM adjustment for weight suggested by SO consensus paper demonstrated stronger relationship of sarcopenia with poor physical performance, compared to BMI adjustments. Moreover, it seems that obesity accompanying sarcopenia may be protective in terms of poor physical performance compared to sarcopenia alone.

**P-915****Risk Factors Involved in Sarcopenic Obesity**

Sinziana-Georgeta Moscu (1), Gabriela Cristina Chelu (1), Catalina-Raluca Nuta (1), Ovidiu Lucian Bajenaru (1), Gabriel-Ioan Prada (1), Nicolae Ovidiu Penes (1), Anna Marie Hergehelegiu (1)

(1) University of Medicine and Pharmacy “Carol Davila”, Bucharest, Romania

**Introduction:** Sarcopenia is a progressive and generalized loss of both skeletal muscle mass and function that increases the risk of adverse outcomes in old age. Study objectives were to highlight particularities of factors involved in sarcopenic obesity in elderly and to identify specific patterns of risk factors for development of sarcopenic obesity in this age group.

**Materials and Methods:** We performed a longitudinal, retrospective, case-control study, conducted on 562 patients. Patients were divided into two categories according to age and gender: 253 adults (50–64 years) and 309 elderly (70 + years).

**Results:** There was an increased prevalence of elderly subjects with grade 2 obesity compared to adults with increased alcohol consumption (19%), sedentary lifestyle (50%) and medications that can influence weight status (38%). Regarding osteoarticular diseases, prevalence was equal in both age categories (50%); on the other hand, smoking had a higher prevalence in adults, difference being statistically significant ( $p < 0.05$ ). Moreover, the main risk factor in elderly was sedentary lifestyle, prevalence 82%, followed by drugs that can influence weight status (74%), differences being statistically significant ( $p < 0.05$ ). Osteoarticular diseases ranked third (71%), followed by smoking and alcohol consumption, with the same prevalence (18%). Prevalence of obese patients was double in elderly, the difference compared being statistically significant ( $p$  value = 0.0118), predominantly in female gender, being about five times higher as compared to elderly men.

**Conclusions:** Most prevalent risk factors for sarcopenic obesity need to be carefully monitored and addressed in people beyond 70 years.

Key words: sarcopenic obesity, risk factors, elderly.

## P-916

### ACUTE SARCOPENIA: a protocol for its early detection and treatment in hospitalized older patient

Sarah Damanti (1), Marta Cilla (2), Alessandra Lucini (2), Rebecca De Lorenzo (1), Patrizia Rovere Querini (1)

(1) Università Vita Salute San Raffaele, (2) Ospedale San Raffaele

**Introduction:** Acute sarcopenia has been poorly characterised so far and studies on its long-term outcomes are lacking. Bed rest and baseline disability have been identified as its major risk factors. During the first days of immobilisation increased muscle protein breakdown and reduced muscle synthesis bring to an elevated muscle mass reduction (0.5–0.6% per day) [1].

**Methods:** Muscle echography, a promising technique able to capture variations of muscle cross sectional areas over short time periods will be used in association with handgrip strength test to detect acute sarcopenia in 300 older people hospitalized in 3 internal medicine ward of a tertiary hospital in Milan. Bilateral anterior thigh thickness (BATT) echography and hand grip strength test will be repeated after 2, 4, 6, 8, 10 days of hospitalization and then every 5 days till hospital discharge. Acute sarcopenia, will be defined as incident sarcopenia compared to baseline measurements at recruitment. The EWGSOP criteria [2] will be used to identify sarcopenia. The prevalence of acute sarcopenia will be calculated at each evaluation. The clinical outcomes of the study will be: muscle function preservation at hospital discharge; length of stay; in and after hospital falls; in-hospital mortality; other hospital/Emergency Department admissions; new dependence in ADL; institutionalization; death.

**Key Conclusions:** Living independently is one of the most important health outcomes for older people. Acute sarcopenia is one of the main causes of post hospital functional decline. Our study will provide new knowledge on acute sarcopenia that will better its diagnosis and treatment.

## Urinary Incontinence

### P-917

#### Prospective determination of the incidence and severity of hyponatraemia in older hospitalized patients with acute urinary tract obstruction

Dvorah Sara (Debbie) Shapiro (1), Irina Alexandrovich (1), Moshe Sonnenblick (1), Linda Shavit (1), Gabriel Munter (1), Reuven Friedmann (1)

(1) Shaare Zedek Medical Center, affiliated with the Hebrew University-Hadassah Medical School, Jerusalem, Israel

**Introduction:** Acute urinary tract obstruction (aUTO) is a common finding in older hospitalised patients. Anecdotal reports described hyponatraemia in patients with aUTO, which subsides rapidly with relief of the obstruction. The aim of this study was to determine the incidence, severity and subsequent correction of hyponatraemia in patients with aUTO.

**Methods:** This is a prospective, single center, observational study including inpatients in the internal medicine and geriatric wards. A total of 204 patients were investigated, 104 with aUTO and 100 controls. The prevalence, severity, and associations of hyponatraemia between aUTO and control patients were compared.

**Results:** The incidence of hyponatraemia was similar in aUTO and control groups 28% vs. 22% respectively ( $p = 0.42$ ). However, the incidence of severe hyponatraemia was significantly higher in the study group 7% vs 1% ( $p = 0.04$ ). Mean sodium level was lower in hyponatremic patients with aUTO  $127.7 \pm 5.9$  mEq/L vs.  $130.8 \pm 3$  mEq/L ( $p = 0.013$ ). Serum sodium remained largely unchanged in the control group ( $\Delta\text{Na } 1.5 \pm 2.3$  mEq/L) but increased significantly within 48 h following catheter insertion in patients with urinary retention ( $\Delta\text{Na } 5.3 \pm 4.2$  mEq/L overall in the aUTO group and  $9.6 \pm 3$  mEq/L in those with urinary retention and severe hyponatraemia ( $p = 0.002$ )).

**Key Conclusion:** Hyponatraemia is a common finding in patients with aUTO and its severity positively correlates with urinary retention. We recommend a low threshold for bladder scanning in addition to history and physical examination in otherwise unexplained hyponatraemia. Insertion of a urinary catheter is often sufficient for the correction of hyponatraemia in older patients. published: Age Ageing. 2022 Jan 06; 51 (1).

### P-918

#### Do urinary and double incontinence predict changes in living arrangements in older women after hip fracture? A 1-year prospective cohort study

Aino Hellman-Bronstein (1), Tiina Luukkaala (2), Seija Ala-Nissilä (3), Maria Nuotio (1)

(1) Department of Geriatric Medicine, University of Turku, Turku, Finland, (2) Health Sciences, Faculty of Social Sciences, Tampere University, Tampere, Finland, (3) Department of Obstetrics and Gynecology, Turku University Hospital and University of Turku, Turku, Finland

**Introduction:** Continence problems are known to be associated with disability in older adults, but literature is scarce concerning the association with institutionalization. Costs of disability and resulting

need for more supported living arrangements are high after a hip fracture. The aim was to examine urinary incontinence (UI) and double incontinence (DI, concurrent UI and fecal incontinence) as predictors of changes in living arrangements in older female hip fracture patients in a 1-year follow-up.

**Methods:** A prospective real-life cohort study was conducted consisting of 1055 women aged  $\geq 65$  (mean age  $82.7 \pm 6.8$ ) treated for their first hip fracture between 2007–2019. Data on pre-fracture continence status was collected. The outcome was the need for more assisted vs same or less assisted living arrangements 1-year post-fracture. Age- and multivariable-adjusted logistic regression models were used to determine associations of UI and DI with the outcome.

**Results:** Of the patients, 39% had more assisted living arrangements at 1-year follow-up. Adjusting for age, both UI and DI were associated with changes in living arrangements. In the multivariable analysis, only DI (OR 2.40, 95% CI 1.22–4.75) remained associated with the need for more assisted living arrangements.

**Key Conclusions:** Pre-fracture DI was a risk factor for more supported living arrangements 1-year post-hip fracture in older women, whereas UI was not. UI likely develops earlier in life and is not necessarily strongly associated with the onset or increasing disability in later years. DI may indicate more marked vulnerability and burden to patients as well as to formal and informal caregivers.

## P-919

### Urinary Incontinence In A Community-Dwelling Population In Ireland

Eleanor Morris (1), Helena Dolphin (1), Laura Morrison (1), Jodie Keating (2), Sean P Kennelly (1)

(1) Tallaght University Hospital, (2) Integrated care team older persons, CHO7, Tallaght University Hospital, Dublin

**Introduction:** Urinary incontinence (UI) is a common, disabling, under-reported condition, associated with reduced quality of life. The integrated care programme for older people (ICPOP) is a health service initiative established in 2016 in Ireland which aims to improve quality of life for older people by supporting them in their homes. We sought to analyse the rates of diagnosis and management of UI among this population.

**Methods:** 100 patient charts, selected randomly, were retrospectively reviewed from an ICPPOP population serving 30,000 people. Every patient was assessed for UI on a domiciliary visit as part of a comprehensive geriatric assessment (CGA). Medications lists were taken from CGAs. Outpatient letters were reviewed.

**Results:** 62% of patients were female. 56% of patients reported UI during their CGA. Polypharmacy ( $\geq 5$  medications) affected 89% of those who reported UI. 77% of those with UI were on a medication associated with worsening UI, while only 18% were on a treating medication for UI. Only 25% had their UI assessed at clinic, including 7% who were referred onwards to urology for management of their UI.

**Key Conclusions:** UI is very prevalent among the ICPPOP population. A CGA is excellent for detecting UI. Without asking about UI directly, it may be underreported. The majority of patients were on a medication that can worsen UI. Clinicians should review medications that cause or worsen UI in older patients. Despite UI being detected, the majority did not have action, highlighting an urgent need to improve the recognition and training in this area.

## Vaccines

### P-920

#### The fear of loss of autonomy as lever for vaccination of the elderly: a qualitative study

Alexandra ADDARIO (1), Mathilde Pardo (2), Solène Dorier (2), Nathalie Barth (3), Gaëtan Gavazzi (4), Elisabeth Botelho-Nevers (5)

(1) Centre International de Recherche en Infectiologie, Team GIMAP, Université Jean Monnet, Université Claude Bernard Lyon 1, Inserm, U1111, CNRS, UMR530, France; CIC INSERM 1408 Vaccinologie, CHU de Saint-Etienne; 42,055 Saint-Etienne cedex 2, France; Groupe de Translational Research In Autoimmunity and Inflammation Group (T-RAIG, TIMC IMAG), Université de Grenoble-Alpes, France; Chaire PREVACCI, PRESAGE Institute, Université Jean Monnet, 42,023 Saint-Etienne, France; Chaire Sante des aînés, Ingénierie de la Prévention, PRESAGE Institute, Université Jean Monnet, 42,023 Saint-Etienne, France; Gérotopôle Auvergne-Rhône-Alpes, Saint-Etienne, France., (2) Gérotopôle Auvergne-Rhône-Alpes, Saint-Etienne, France., (3) Gérotopôle Auvergne-Rhône-Alpes, Saint-Etienne, France, (4) Geriatric Medicine Department, CHU de Grenoble Alpes, Grenoble, France; Groupe de Translational Research In Autoimmunity and Inflammation Group (T-RAIG, TIMC IMAG), Université de Grenoble-Alpes, France., (5) Department of Infectious Diseases, CHU de Saint-Etienne, 42,055 Saint-Etienne; Centre International de Recherche en Infectiologie, Team GIMAP, Université Jean Monnet, Université de Lyon, Inserm, U1111, CNRS, UMR530, 42,023 Saint-Etienne, France; CIC INSERM 1408 Vaccinologie, CHU de Saint-Etienne; 42,055 Saint-Etienne cedex 2, France; Chaire PREVACCI, PRESAGE Institute, Université Jean Monnet, 42,023 Saint-Etienne, France

The COVID-19 pandemic has highlighted the challenges of vaccination and the infectious risks among the elderly. The vaccination rates for recommended vaccines in this population are insufficient in France. The aim is to identify the levers and obstacles to vaccination among seniors, and determine the arguments that could lead to some new vaccination behaviours. A qualitative survey based on 14 semi-structured interviews was conducted with people aged 65 and over, living at home in the Auvergne Rhône-Alpes region (France) from March to May 2022. The interviews were recorded, transcribed in their entirety and then subjected to a thematic content analysis by two independent persons. The participants declared themselves to be in good health and to be concerned about maintaining their health by keeping their physical and cognitive capacities and their autonomy. To this end, they mentioned carrying out preventive behaviours, such as regular physical activity and a balanced diet. However, vaccination, which is associated with infectious disease prevention, was not mentioned as a factor in the prevention of good ageing during the interviews. While infections are not a source of fear, their after-effects, more specifically, physical and cognitive alterations leading to a loss of autonomy, are a source of apprehension. These elements could be a good lever to bring hesitant elderly people to think about their own vaccination. Finally, given the protection against cardiovascular events provided by vaccinations for the elderly (influenza, shingles, pneumococcus), this argument could be the starting point for a prevention campaign aimed at the elderly.

## P-921

### Invasive Meningococcal Disease In Older Adults—Current Perspectives And Call For Action

Catherine Weil-Olivier (1), Muhamed-Kheir Taha (2), Sean Leng (3), Ener Dinleyici (4), Paolo Bonanni (5), Elena Moya (6), Andreas Leischker (7), Saber Yezli (8)

(1) University Paris Cité, Seine, France, (2) Institut Pasteur, Université Paris Cité, Paris, France, (3) Johns Hopkins University School of Medicine, and Bloomberg School of Public Health, Baltimore, Maryland, USA, (4) Eskisehir Osmangazi University Faculty of Medicine, Eskisehir, Turkiye, (5) University of Florence, Florence, Italy, (6) The Confederation of Meningitis Organisations (CoMO), Madrid, Spain, (7) Asklepios Hospital Wandsbek, Hamburg, Germany, (8) King Faisal Specialist Hospital and Research Centre, Riyadh, Saudi Arabia

**Background:** Invasive meningococcal disease (IMD) is considered an important global public health concern, resulting in high case-fatality and often life-long sequelae in survivors. IMD affects all age groups. Routine child and adolescent immunisation programmes have substantially reduced IMD in targeted populations. Consequently, a significant proportion of IMD cases are observed in older adult population ( $\geq 60$  years age) due to absence of specific recommendations for management and prevention.

**Methods:** In this context, an international multidisciplinary expert working group (EWG) was established to evaluate the existing knowledge on meningococcal disease in older adults and discuss evidence gaps.

**Results:** The burden of IMD in older adults is not well evaluated. Atypical presentations (bacteremic pneumonia, gastrointestinal symptoms, and septic arthritis) are frequently observed in older adults, typically due to serogroups W and Y. These can result in diagnostic and therapeutic delay and may impact the accuracy of IMD surveillance. Common medical co-morbidities reported in older adults, including diabetes, chronic pulmonary and renal disease are a risk factor in meningococcal pneumonia. Case-fatality rates and direct medical costs are substantially higher for meningococcal disease in older adults when compared with young individuals. Routine meningococcal immunisation in adults is not recommended in many countries except those considered at high-risk.

**Conclusions:** IMD in older adults remains overlooked and greater awareness is required (at clinical and public levels). Clinicians and immunisation policy makers should reconsider opinion that IMD is a childhood disease and rectify the existing inequity in older adult access to protective meningococcal immunisation.

## P-922

### The effectiveness of COVID-19 vaccines to prevent long COVID symptoms in older people: A cohort study from Spain, Estonia, and the UK

Martí Català (1), Núria Mercadé-Besora (2), Raivo Kolde (3), Nhung TH Trinh (4), Elena Roel (2), Edward Burn (1), Trishna Rathod-Mistry (1), Kristin Kostka (1), Wai Yi Man (1), Antonella Delmestri (1), Hedvig ME Nordeng (5), Anneli Uusküla (6), Talita Dua

(1) Pharmaco- and Device Epidemiology Group, Health Data Sciences, NDORMS, University of Oxford, United Kingdom, (2) Fundació Institut Universitari per a la recerca a l'Atenció Primària de Salut Jordi Gol i Gurina (IDIAPJGol), Barcelona, Spain, (3) Institute of Computer Science, University of Tartu, Tartu, Estonia, (4) Pharmacoepidemiology and Drug Safety Research Group,

Department of Pharmacy, Faculty of Mathematics and Natural Sciences, University of Oslo, Oslo, Norway, (5) Pharmacoepidemiology and Drug Safety Research Group, Department of Pharmacy, Faculty of Mathematics and Natural Sciences, University of Oslo, Oslo, Norway; Department of Child Health and Development, Norwegian Institute of Public Health, Oslo, Norway, (6) Department of Family Medicine and Public Health, University of Tartu, Tartu, Estonia, (7) Fundació Institut Universitari per a la recerca a l'Atenció Primària de Salut Jordi Gol i Gurina (IDIAPJGol), Barcelona, Spain; Department of Medical Informatics, Erasmus University Medical Center, Rotterdam, The Netherlands, (8) Pharmaco- and Device Epidemiology Group, Health Data Sciences, NDORMS, University of Oxford, United Kingdom; Department of Medical Informatics, Erasmus University Medical Center, Rotterdam, The Netherlands

**Introduction:** While vaccines have proved effective in preventing severe acute COVID-19, their impact of preventing long COVID symptoms in older people is not yet fully understood.

**Methods:** We conducted a multinational cohort study based on routinely collected health records from the UK (CPRD GOLD and CPRD AURUM), Spain (SIDIAPI) and Estonia (CORIVA), all mapped to the OMOP Common Data Model. Study inclusion followed the priority groups for national vaccine rollout: People prioritised for early vaccination due to older age ( $\geq 75$  in the UK,  $\geq 80$  in Spain, and  $\geq 70$  in Estonia), and with no record of a previous SARS-CoV-2 infection or COVID-19 vaccination, were included. Exposure was first COVID-19 vaccine dose. Long COVID was defined as at least one WHO-listed symptom recorded  $\geq 90$  days following SARS-CoV-2 infection, without a recent history of the same symptom. Propensity score overlap weighting was applied to minimise confounding when comparing vaccinated and unvaccinated people. Sub-distribution Hazard Ratios (sHR) were calculated to estimate vaccine effectiveness against long COVID symptoms, and empirically calibrated using Negative Control Outcomes to minimise residual confounding.

**Results:** 552,602; 118,507; 89,961 and 26,736 vaccinated people and 346,674; 169,100; 223,978 and 23,982 unvaccinated people were included from CPRD AURUM, CPRD GOLD, SIDIAPI and CORIVA; with 2,906, 303, 7,339 and 2,115 long COVID cases identified respectively. Overall sHR were 0.55 [95% CI 0.45–0.69], 0.66 [0.44–0.996], 0.95 [0.88–1.02] and 0.47 [0.35–0.62] respectively.

**Conclusions:** Vaccination against COVID-19 reduced the risk of long COVID symptoms in older people prioritised for early vaccination in Europe.

## P-923

### The effectiveness of COVID-19 vaccines to prevent post-acute COVID-19 thromboses in older people: A cohort study from Spain, Estonia, and the UK

Núria Mercadé-Besora (1), Raivo Kolde (2), Nhung TH Trinh (3), Elena Roel (1), Edward Burn (4), Trishna Rathod-Mistry (4), Kristin Kostka (4), Wai Yi Man (4), Antonella Delmestri (4), Hedvig ME Nordeng (5), Anneli Uusküla (6), Talita Duarte-Salles (7), Da

(1) Fundació Institut Universitari per a la recerca a l'Atenció Primària de Salut Jordi Gol i Gurina (IDIAPJGol), Barcelona, Spain, (2) Institute of Computer Science, University of Tartu, Tartu, Estonia, (3) Pharmacoepidemiology and Drug Safety Research Group, Department of Pharmacy, Faculty of Mathematics and Natural Sciences, University of Oslo, Oslo, Norway, (4) Pharmaco- and Device Epidemiology Group, Health Data Sciences, NDORMS, University of Oxford, United Kingdom, (5) Pharmacoepidemiology and Drug Safety Research Group, Department of Pharmacy, Faculty

of Mathematics and Natural Sciences, University of Oslo, Oslo, Norway; Department of Child Health and Development, Norwegian Institute of Public Health, Oslo, Norway, (6) Department of Family Medicine and Public Health, University of Tartu, Tartu, Estonia, (7) Fundació Institut Universitari per a la recerca a l'Atenció Primària de Salut Jordi Gol i Gurina (IDIAPJGol), Barcelona, Spain; Department of Medical Informatics, Erasmus University Medical Center, Rotterdam, The Netherlands, (8) Pharmaco- and Device Epidemiology Group, Health Data Sciences, NDORMS, University of Oxford, United Kingdom; Department of Medical Informatics, Erasmus University Medical Center, Rotterdam, The Netherlands

**Introduction:** ARS-CoV-2 infection leads to substantially increased cardiovascular and thromboembolic risk, particularly in elderly people. It is unclear if protective vaccine effects against severe COVID-19 offset the risk of thrombosis potentially caused by the vaccines.

**Methods:** We conducted a multinational cohort study using routinely-collected health records from the UK (CPRD GOLD/AURUM), Spain (SIDIAP) and Estonia (CORIVA). People prioritised for early vaccination due to older age ( $\geq 75$  in the UK,  $\geq 80$  in Spain, and  $\geq 70$  in Estonia), with no previous SARS-CoV-2 infection or COVID-19 vaccination, were included. Exposure: first COVID-19 vaccine dose. Outcomes: venous thromboembolism (VTE) and arterial thromboembolism (ATE) recorded within 1-30days, 31-90days and 91-180days following SARS-CoV-2 infection. We used propensity score overlap weighting to minimise confounding when comparing vaccinated and unvaccinated people. Sub-distribution Hazard Ratios (sHR) were calculated to estimate vaccine effectiveness against post-COVID-19 VTE and ATE. sHR were empirically calibrated using Negative Control Outcomes to minimise residual confounding.

Results While risk for VTE and ATE in the acute phase was reduced in CPRD AURUM and CORIVA (VTE: sHR 0.38 [95% CI 0.25–0.60] and 0.31 [0.16–0.60], ATE: 0.48 [0.26–0.89] and 0.30 [0.17–0.53]), no such association was seen in CPRD GOLD and SIDIAP. No differences were seen for post-acute COVID-19 thromboses between vaccinated vs unvaccinated, except for a reduced risk for VTE 31-90days after SARS-CoV-2 in CORIVA (sHR 0.31 [0.10–0.94]).

**Conclusions:** Vaccination against COVID-19 does not appear associated with post-acute COVID-19 thromboses in older people. Further research is needed on potential protective effects in the acute phase of COVID-19.

## P-924

### Loss of Independence Following Hospitalisation for a Respiratory Vaccine Preventable Disease in Adults Aged 50 Years and Older: Results from a US Retrospective Study

Salem Ahmed (1), Hartmann Maximilian (2), Servotte Nathalie (1), Aris Emmanuel (1), Doherty T. Mark (1), Beck Ekkehard (1)

(1) GSK, (2) Institute for Medical Information Processing

**Introduction:** Respiratory vaccine preventable diseases (RVPDs) such as flu, pneumococcal, RSV, and pertussis pose a significant burden to adults aged 50 years and older. In this study, we assessed the impact of respiratory VPDs hospitalisation on loss of independence (LoI) for adults aged 50 years and older in the US.

**Method:** We conducted a retrospective, observational study using US claims data (Optum Clinformatics Data Mart) during the epidemiological years 2016–18. LoI composite endpoint reflects either change in residence status (moving to a long-term care facility) or change in

home care status, over 365 days following an RVPD index hospitalisation, stratified by age and Charlson Comorbidity Index (CCI) score at baseline. The exposed cohort included individuals hospitalised due to an RVPD. Controls were matched at baseline on demographic characteristics, insurance, and health status including comorbidities and CCI score.

**Results:** Individuals hospitalised due to an RVPD showed a higher proportion suffering a LoI versus their matched non-hospitalised counterparts (0.26; 95% CI 0.26–0.27). The greater loss (0.42; 95% CI 0.39–0.45) was observed in healthy (CCI: 0) adults aged 80 years and older. LoI due to RVPD hospitalisation increases with age; 0.19 (95% CI 0.18–0.20) in 50–64-year-olds, 0.26 (95% CI 0.25–0.27) in 65–79-year-olds, and 0.29 (95% CI 0.28–0.29) in  $\geq 80$ -year-olds.

**Conclusion:** A significant portion of older adults experience a LoI following hospitalization for an RVPD. This additional burden should be considered and could inform policy makers when assessing their impact on quality of life and health care resource utilisation.

## P-925

### Immunogenicity And Safety Of A Tetanus Toxoid Conjugated Quadrivalent Meningococcal Vaccine (MenACYW-TT) In Potential Pilgrims Aged 56 Years And Older

Ghassan Dbaibo (1), Ismail Balik (2), Turan Buzgan (3), Rahmet Guner (3), Alp Dogu (4), Mehmet Ceyhan (5)

(1) Center for Infectious Diseases Research, American University of Beirut, Beirut, Lebanon, (2) Ankara Üniversitesi Medical School, Infectious Disease and Clinical Microbiology Department, Ankara, Turkey, (3) Ankara Yıldırım Beyazıt Üniversitesi Tıp Fakültesi Ankara Şehir Hastanesi, Ankara, Türkiye, (4) Medical Affairs Department, Sanofi Vaccines, UAE, (5) Hacettepe University School of Medicine, Ankara, Turkey

**Background:** Men ACYW-TT is a quadrivalent (serogroups A, C, Y & W) meningococcal conjugate vaccine, licensed for use in individuals aged  $\geq 12$  months in the EU and in over 50 countries worldwide. The annual Hajj pilgrimage is considered an epidemiological phenomenon; hence it is mandatory for visitors arriving in Saudi Arabia by Umrah or Hajj to immunize themselves with quadrivalent meningococcal vaccine.

**Methods:** In this open-label Phase-3 study, conducted in Turkey and Lebanon, healthy adults aged  $\geq 56$  years received single dose of MenACYW conjugate vaccine. Serum bactericidal assays with human complement (hSBA) were used to measure antibodies against all 4 serogroups at baseline (D0) and 30 days post-vaccination (D30). Safety data were collected up to 30 days (+ 14 days) post-vaccination.

**Results:** A total of 290 individuals were enrolled in the study. At D30, seroprotection rates (hSBA titers  $\geq 1:8$ ) for serogroups A, C, Y, and W were 82.8% (95% CI [77.8–87.0]), 92.5% (88.7–95.3), 92.1% (88.3–95.0), and 83.5% (78.6–87.7), respectively. The hSBA geometric mean titers (GMTs) for all serogroups were: A 32.1 (95% CI [26.3–39.1]), C 132 (102–169), Y 126 (99.3–161), and W 56.4 (43.8–72.6). No serious adverse events related to study vaccine occurred. No safety concerns were identified.

**Conclusions:** MenACYW conjugate vaccine induced a robust immune response to all serogroups based on seroprotection rates and GMTs. A single dose of MenACYW conjugate vaccine demonstrated acceptable safety profile in potential pilgrims  $\geq 56$  years of age.

## P-926

### Health and Economic Burden of Herpes Zoster in Older Adults in Finland: A Retrospective Database Study

Suvi E. Heinonen (1), Mari Kanerva (2), Tuukka Hakkarainen (3), Outi Isomeri (3), Marie Nishimwe (4), Alen Marijam (5), Amit Bhavsar (5)

(1) GSK, Helsinki, Finland, (2) Turku University Hospital, Turku, Finland, (3) Nordic Healthcare Group, Helsinki, Finland, (4) GSK, Rueil Malmaison, France, (5) GSK, Wavre, Belgium

**Introduction:** Herpes zoster (HZ) results from the reactivation of latent varicella-zoster virus and can lead to complications like postherpetic neuralgia (PHN). Risk of HZ and its complications increase with age and cause burden to the healthcare system. This study aims to describe the incidence, healthcare resource use (HCRU) and costs due to HZ and PHN in Finland among adults  $\geq 50$  years of age (YoA) in 2014–2019.

**Methods:** Retrospective, non-interventional population-based registry study was conducted to collect data from 2014–2019. ICD-10/ICPC-2 codes were used to identify HZ and PHN cases. The incidence of HZ and PHN were estimated annually and per age-group ( $\geq 50$ , 50–59, 60–64, 65–69, 70–79,  $\geq 80$  YoA). The associated HCRU, direct medical and indirect costs were estimated.

**Results:** Z incidence among adults  $\geq 50$  YoA increased with time from 5.3/1000 in 2014 to 6.1/1000 persons in 2019, reaching 14,232 HZ cases in 2019. The incidence increased also with age from 4.5/1000 in 50–59 YoA to 8.5/1000 persons in the  $\geq 80$  YoA in 2019. Similarly, PHN incidence increased with age and was highest in the  $\geq 80$  YoA. HZ recurrence rate during the study was 4.5%. The average total costs of a non-PHN-HZ and PHN-HZ episode were €965 and €2598, respectively.

**Conclusions:** Results show that, in Finland, HZ and PHN cause a significant health and economic burden among the population of  $\geq 50$  YoA, which is increasing over time as the population ages. This study shows the need to consider prevention of HZ and PHN, which is achievable through HZ vaccination.

## P-927

### The PRO-VAX project: preliminary data of a pro-active strategy to improve vaccination rate of elderly people in hospital

Barbara Senesi (1), Wanda Morganti (1), Marina Barbagelata (1), Massimo Luzzani (1), Camilla Prete (1), Erica Tavella (1), Ekaterini Zigoura (1), Alessandra Pinna (1), Alessandra Repetto (2), Claudia Borello (1), Marcella Fama (1), Martina Vigo (1), Annar

(1) Department of Geriatric Care, Orthogeriatric and Rehabilitation E.O. Galliera, Genoa, Italy, (2) Nursing School “Galliera Site”, University of Genoa, Genoa, Italy, (3) SC Farmacia, E.O. Galliera, Genoa, Italy, (4) Department of Interdisciplinary Medicine, “Aldo Moro” University of Bari, Bari, Italy Department of Geriatric Care, Orthogeriatric and Rehabilitation E.O. Galliera, Genoa, Italy

**Introduction:** PRO-VAX is a pro-active vaccination program for older outpatients, according to the Italian National Vaccine Prevention Plan (PNPV). AIM of PRO-VAX is to increase the vaccination rate and reduce infectious diseases’ impact in geriatric outpatients hospital setting.

**Methods:** 119 older subjects admitted to geriatric outpatient clinics were invited to participate: 12/53 (10%) declined. Of the 107 subjects who agreed to participate, 53 subjects were vaccinated (mean age = 81.9 years; 64% females), while 54 subjects are scheduled in the next

weeks. At baseline all vaccinated participants underwent a clinical visit and Comprehensive Geriatric Assessment (CGA) to calculate the Multidimensional Prognostic Index (MPI). After 1-month, symptoms, adverse drug events and negative outcomes (hospitalizations, institutionalization, death) were collected and a telephone-administered version of the MPI (tele-MPI) was carried-out.

**Results:** At baseline participants showed mean MPI score of  $0.41 \pm 0.22$ ; 24/53 (45%) were in low-risk, 19/53 (35.8%) in moderate-risk and 10/53 (18.9%) in high-risk MPI class. At baseline none of participants resulted vaccinated against Herpes Zoster Virus (HZV); other vaccinations lacking were anti-pneumococcal (38 subjects), anti-flu (34 subjects) and anti-COVID-19 (1 subject). During the study, 32/53 subjects were vaccinated against flu, 19/53 against HZV (recombinant Zoster vaccine), and 2/53 against both. During follow-up, 3/53 subjects reported mild symptoms related to vaccination: arm pain (2 subjects) and cefalea (1 subject); none participant observed negative outcomes (hospitalization, institutionalization, death).

**Conclusions:** The PRO-VAX program may facilitate adhesion to vaccination in older outpatients in hospital setting reducing vaccine hesitancy in older.

## P-928

### Low rates of anti-HBs positivity related to past vaccination in older adults in Polish population-cohort-based study

Katarzyna Zięba (1), Kacper Jagiełło (2), Joanna Musialik (3), Małgorzata Mossakowska (4), Jerzy Chudek (5)

(1) Department of Internal Medicine and Oncological Chemotherapy, Medical University of Silesia in Katowice, (2) Department of Preventive Medicine and Education, Medical University of Gdansk, (3) Department of Nephrology, Transplantation and Internal Medicine, Medical University of Silesia in Katowice, (4) Study on Ageing and Longevity, International Institute of Molecular and Cell Biology, (5) Department of Internal Medicine and Oncological Chemotherapy, Medical University of Silesia in Katowice

**Background:** Vaccination is a highly effective method of hepatitis B (HBV) prevention. In Poland, a national immunization program was introduced in 1996, while the population born between 1986 and 1995, was vaccinated in years 2000–2011. Little is known about vaccination rates in born before 1986. This study aimed to determine the frequency of anti-HBs positivity related to past vaccination against HBV in relation to socio-economic factors in an older adult population.

**Methods:** The serological HBV status was determined in 5781 (96.6%) of the population-based PolSenior2 cohort aged 60 years and above (performed 2018–2019) by assessing the presence of HBs antigen (HBsAg), anti-HBs, and anti-HBc antibodies in the collected blood samples. Among HBsAg negative, anti-HBs seropositive, but anti-HBc seronegative participants were considered as vaccinated.

**Results:** The serological profile corresponding to anti-HBV vaccination was noted in 1358 participants, corresponding to 25.2% (95% CI 23.4–27.0) prevalence in Polish older adults. Of those, 69.3% declared anti-HBV vaccination. In univariate logistic analysis female gender, better education, white collar, ability to use the Internet, utilization of medical services including visits to specialists, hospitalizations and surgical procedures in the last 5-year period, and independence (in IADL) were factors associated with the serologic profile of being vaccinated against HBV. In multivariate analysis, being white collar, ability to use the Internet, having past surgical procedures in the last 5-year period, and being autonomous were independent factors associated with a higher chance of being vaccinated.

**Conclusion:** The vaccination rate against HBV in older Poles remains low.



**P-929****Disease Coverage of New Adult-Specific Pneumococcal Vaccine in Late Development**

Rennie Joshi (1), Henok Tadesse Ayele (1), Kelly Johnson (1), Priscilla Velentgas (1), Heather Platt (1), Patricia Saddier (1)

(1) Merck & Co., Inc

**Introduction:** Despite decreased invasive pneumococcal diseases (IPD) incidence in adults related to both adult vaccination and indirect effect of pediatric pneumococcal conjugate vaccine (PCV) programs, pneumococcal disease burden remains high in older adults. We describe here IPD serotype coverage of a new adult-specific PCV (V116) in late development.

**Methods:** Serotype distribution data from national IPD surveillance from the UK, Germany, France, US, Canada and Australia were reviewed. Based on vaccine serotype composition, disease coverage in adults  $\geq 65$  years (65+) was calculated for V116 and licensed PCVs (PCV13, PCV15, PCV20) indicated in both children and adults. Using US and Germany longitudinal data, time trends were reported.

**Results:** In 2019, the latest pre-pandemic data, V116 coverage in 65+ ranged from 71 to 86%, while PCV20 coverage ranged from 53 to 65% across the 6 countries. As serotypes covered by pediatric PCVs decreased in adults over time, V116 serotype coverage increased from 38% in 2000 to 85% in 2019 in the US, and from 46% in 2006 to 83% in 2019 in Germany. In the US where 65+ 2019 IPD incidence was 24/100,000, the incidence of cases due to V116 and PCV20 serotypes was 20/100,000 and 12.5/100,000 respectively.

**Conclusions:** Based on IPD surveillance data from key countries, V116 disease coverage was 71% to 86% in 2019 among adults  $\geq 65$ , an absolute increase of  $\sim 20$ –30% compared to PCV20. V116 has the potential for preventing more adult pneumococcal disease than currently licensed PCVs.

**P-930****Portuguese recommendations for the vaccination against Herpes Zoster in older persons and other vulnerable populations**

Sofia Duque (1), António Marinho (2), Paulo Almeida (3), Raul Marques Pereira (4), Rui Buzaco (5)

(1) Instituto de Medicina Preventiva e Saúde Pública-Faculdade de Medicina-Universidade de Lisboa. Hospital Cuf Descobertas, (2) Centro Hospitalar Universitário de Santo António, (3) Centro Hospitalar Universitário de São João, (4) Unidade Local de Saúde do Alto Minho-USF Lethes, (5) Clínica Cuf Alvalade

**Introduction:** Herpes zoster (HZ) incidence is high in older persons (OP), due to higher risk induced by immunosenescence. Some chronic conditions can further increase it. HZ leads to high morbidity, including post-herpetic neuralgia (PHN), mobility, physical and daily activities impairment, insomnia, depression, anxiety, anorexia, malnutrition, and social isolation. Although vaccination against HZ is an effective strategy in preventing HZ, it is not included in the Portuguese National Vaccination Programme and there are no national recommendations for immunization, neither for OP nor for other high-risk populations, such as immunocompromised and chronic patients.

**Methods:** The Portuguese Society of Internal Medicine (represented by the Geriatrics and Auto-Immune Diseases sections) and the Portuguese Association of Family Medicine have prepared a consensus document establishing guidelines for vaccination against HZ in OP

and other vulnerable populations. Literature review and comparison between other countries guidelines was held.

**Results:** Vaccination against HZ is recommended in all adults  $\geq 50$  years-old, as well as in adults 18–49 years-old with high risk of HZ, namely patients with some medical comorbidities or immunosuppression. Immunocompetent adults should preferably get the recombinant vaccine (RV); immunocompromised adults can only get the RV. Vaccination with the RV is recommended for patients with history of HZ. Revaccination of persons previously vaccinated with live-attenuated vaccine is also recommended. The relevance of promoting patient literacy on HZ and its vaccination is highlighted.

**Conclusions:** The Portuguese experience can motivate other countries to launch their own recommendations or update the existing ones, to reduce the risk of HZ in vulnerable populations.

**Frailty and Resilience****P-931****Reliability of the frailty index among community-dwelling older adults**

Erwin Stolz (1), Hannes Mayerl (1), Judith Godin (2), Emiel Hoogendijk (3), Olga Theou (2), Wolfgang Freidl (1), Kenneth Rockwood (2)

(1) MED UNI GRAZ, AUT, (2) DALHAUSIE UNI, CAN, (3) AMSTERDAM UMC, NLD

**Introduction:** Consistent and reproducible estimates of the underlying true level of frailty are essential for risk stratification and monitoring of health changes. The purpose of this study is to examine the reliability of the frailty index (FI).

**Methods:** 426 community-dwelling older adults from the FRequent health Assessment In Later life (FRAIL70+) study in Austria were interviewed biweekly up to 7 times. Two versions of the FI, one with 49 deficits (baseline), another with 44 (follow-up) were created. Internal consistency was assessed using confirmatory factor analysis and coefficient omega. Test-retest reliability was assessed with Pearson correlation coefficients and the intraclass correlation coefficient (ICC). Measurement error was assessed with the standard error of measurement (SEM), limits of agreement (LOA), and smallest detectable change (SDC).

**Results:** Participants (64.6% women) were on average 77.3 ( $\pm 5.3$ ) years old with mean FI49 at baseline of 0.18 ( $\pm 0.14$ ). Internal consistency (coefficient omega) was 0.93. Correlations between biweekly FI44 assessments ranged between 0.86–0.94 and reliability (ICC) was 0.88. SEM was 0.05, and SDC and upper LOA were 0.13; the latter are larger than previously reported minimal clinically meaningful changes.

**Key Conclusions:** Both internal consistency as well as reliability of the FI were very good or excellent, i.e. the FI differentiates well between community-dwelling older adults, which is an important requirement for risk stratification for both group-level oriented research and patient-level clinical purposes. Measurement error, however, was large, suggesting that individual health deteriorations or improvements, cannot be reliably detected for FI changes smaller than 0.13.

## Old Age Psychiatry

### P-932

#### The Portuguese Experience of Cycling Without Age: preliminary data about its effect on loneliness among older people

Hélder Alves (1), Sónia Martins (2), Joana Guedes (3), Helena Margarido (4), Sílvia Freitas (5)

(1) ISSSP, Porto Institute of Social Work. INESC TEC, Portugal., (2) ISSSP, Porto Institute of Social Work. CINTESIS@RISE, Faculty of Medicine, University of Porto, Portugal., (3) ISSSP, Porto Institute of Social Work. CLISSIS-Centro Lusíada de Investigação em Serviço Social e Intervenção Social, Portugal., (4) ISSSP, Porto Institute of Social Work, Portugal., (5) Cycling Without Age-Porto Foundation, Portugal

**Introduction:** Loneliness among older people is a growing public health problem, with serious consequences for physical and mental health. Thus, the implementation of effective interventions against loneliness becomes crucial. The Cycling Without Age (CWA) is an international cycling program, that involves taking old people on outdoor trishaw (electric bicycle) rides driven by trained volunteer pilots. This preliminary study aims to examine whether participation in Portuguese CWA program has an effect on reducing loneliness among older people.

**Methods:** A sample of old adults ( $\geq 55$  years old) living in community or in nursing home were included. In the Portuguese CWA intervention, participants have undertaken at least four bicycle rides (duration: 30–60 min), over a period of one to four months. The assessment protocol was applied to all participants before and after the intervention, which includes the UCLA Loneliness Scale (cut-off  $> 32$  indicates feeling of loneliness). Non-parametric tests were used for statistical analysis, as normality could not be assumed.

**Results:** A total of 47 participants completed the intervention. The majority were female (81%), widowed (66%), with a mean age of 82.6 ( $\pm 8.5$ ) years and lived in nursing homes (72.3%). Regarding feeling of loneliness, a statistically significant decrease in these feelings was found after intervention (23.4% vs. 17%;  $p < 0.05$ ).

**Conclusions:** This study highlights the positive effect that participation in the CWA intervention has on reduction of loneliness among older adults, which is in line with previous research about CWA program. However, future studies are needed to assess whether these effects persist over time.

## Multimorbidity

### P-933

#### End stage kidney disease treatments: a difficult choice to elderly patients?

Beatriz Mendes (1)

(1) Centro Hospitalar de Setúbal

**Introduction:** End stage kidney disease (ESKD) treatment choice may be difficult for elderly patients. Dialysis can be burdensome for the frail (more aggressive procedures and less quality of life) and Conservative Care (CC) may shorten life in fit patients. This study aimed to describe our elderly patients' trajectories regarding ESKD treatment options.

**Methods:** We designed a single center retrospective observational, cross-sectional study regarding patients (pts) over 80 years old (yo)

who attended the ESKD treatment modalities appointment between July 2015 and December 2021.

**Results:** During 6,5 years, 113 pts over 80 yo were attended. Mean age was 85 yo (range 80–103). 66% were male and mean charlson comorbidity index (CCI) was 7 (sd  $\pm 1,2$ ). Mean estimated glomerular filtration rate was 14,64 (sd  $\pm 7,6$ ) ml/min/1.73 m<sup>2</sup>. Regarding treatment options, 54% chose dialysis (HD), 38,9% chose conservative care, 2,7% chose peritoneal dialysis and 2,7% refused any treatment. Of those who chose dialysis, 62,3% started on a regular program of HD, 22,95% died before starting HD and 14,75% are still in follow-up. Considering those who chose CC, 54,5% started on a dedicated CC program, 31,8% died before starting that follow-up and 4,5% lately decided for HD. We found no difference between CCI and the treatment chosen ( $p = 0.709$ ). The mean time lived between those who chose HD vs CC was no different too.

**Key Conclusions:** The majority of patients over 80 yo still chose HD. CC should be an alternative to patients who might not benefit from dialysis. Geriatric assessment may help distinguish these groups.

## Acute Hospital Care

### P-934

#### The predictive value of anticholinergic drug burden in the outcome of pneumonia in older adults: a Danish database study

Yuki Yoshimatsu (1), Kristian Kragholm (2), Silas Zacharias Clemmensen (3), Dorte Melgaard (4), David Smithard (1), Johannes Riis (5)

(1) Elderly Care, Queen Elizabeth Hospital, Lewisham and Greenwich NHS Trust, UK; Centre for Exercise Activity and Rehabilitation, University of Greenwich, UK, (2) Department of Cardiology, Aalborg University Hospital, Denmark; Unit of Clinical Biostatistics and Epidemiology, Aalborg University Hospital, Denmark, (3) Department of Neurology, Regional hospital of Goedstrup, Denmark, (4) Mech-sense, Aalborg University Hospital, Denmark; Department of Clinical Medicine, Aalborg University, Denmark, (5) Department of Geriatric Medicine, Aalborg University hospital, Denmark

**Background:** Older adults admitted with pneumonia have a high mortality. Evidence-based early decision-making is crucial; however, predicting prognosis is difficult, as existing severity scales are ineffective in older adults. Anticholinergic drugs and a high anticholinergic burden have recently been reported as potential risk factors for pneumonia and dysphagia. Therefore, we investigated the effect of anticholinergic drug exposure on the outcome of older adults with pneumonia.

**Methods:** We used the Danish Civil Persons Registry database study to identify patients aged 65 years old and above admitted with community-acquired pneumonia from 2011 to 2018. Anticholinergic drug burden was calculated with the CRIDECO Anticholinergic Load Scale (CALS). The following background data were collected: demographics, comorbidities, medication, dependence level, and social history. The primary outcome was in-hospital mortality. Other outcomes included admission to the intensive care unit, use of a ventilator/non-invasive ventilation (NIV), long admission, mortality (30-days, 90-days, 1-year), institutionalisation, home care utilisation, and readmission.

**Results:** A total of 186,735 patients were included in the study, and 21,953 (11.8%) died in hospital; patients with CALS  $> 3$  had the highest mortality (14.2%), while CALS 0 had the lowest mortality (9.1%). Likewise, CALS had a linear effect on most outcomes, with CALS 0 having the best outcome and CALS  $> 3$  being the worst.

**Key Conclusions:** In older adults admitted for pneumonia, a higher anticholinergic drug burden was related to poor outcomes including higher mortality (short and long-term), more necessity for intensive care and ventilation, increased level of dependence, and higher rates of readmission.

## Comprehensive Geriatric Assessment

### P-935

#### Morbidity profile of centenarians. Five years ahead

Irene Manzanás Ávila (1), Carmen Ros Estebas (1), Pamela Carrillo García (1), Javier Agudo Varela (1), Mbarka Mourdi (1), Natalia Loren Lázaro (1), Francisco Javier Gómez Pavón (1)

(1) Hospital Universitario de Cruz Roja

**Introduction:** In Spain, the aging rates are once again surprisingly on the rise. According to the latest data from the National Institute of Statistics, in 2022 Spain has registered a new maximum aging rate of 133.5%. As a result of this longevity, the number of centenarians has quintupled in less than 20 years (1). This demographic event represents a constant challenge in the health care area (2).

**Methods:** Descriptive, retrospective longitudinal study from February 2018–2023. All patients  $\geq 100$  years admitted to the Geriatric Acute Unit are included. Sociodemographic variables, comorbidities, geriatric syndromes, functional and cognitive status and both in-hospital and out-of-hospital mortality are collected.

**Results:** N:91, mean age  $101.53 \pm 1.65$ . The 85.7% were women. 58.2% derived from a nursing home. Mean Barthel Index  $33.40 \pm 33.47$ , 59.3% had severe dependence. Mean Mental Red Cross  $2.39 \pm 1.69$ . Frailty measured by Clinical Frailty Scale ( $\geq 5$ ), 94.5%. Charlson index ( $\geq 3$ ), 26.37%. Comorbidities: Hypertension 76.9%, heart failure 53.8% and chronic kidney disease 40.7%. Mean length of stay  $10.98 \pm 11.6$  days. Main cause of admission was respiratory. Most prevalent geriatric syndromes were: polypharmacy 82%, urinary incontinence 74.7% and constipation 71%. Most of the drugs prescribed were analgesics (61.51%), diuretics (54.9%) and AntiHBP (49.5%). Mortality on admission was 27.5%. In the subsequent follow-up, 75% died in an average time of 10 months, the main cause being cardio-respiratory pathologies.

**Key Conclusions:** Centenarian patients present a high vulnerability, as well as a functional dependence that makes them require more specific health care.

#### References:

1. Instituto Nacional de Estadística. Proyecciones de Población 2020–2070. 2022 [cited 2023 May 31]; Available from: [chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.ine.es/pronosa/pp\\_2020\\_2070.pdf](https://www.ine.es/pronosa/pp_2020_2070.pdf).
2. Tratado de Medicina geriátrica. Fundamentos de la atención sanitaria en los mayores. Abizanda Soler, P., Rodríguez Mañas, L.

## Acute Hospital care 2

### P-936

#### Tolerance of cefazolin and penicillin M in methicillin-sensitive *Staphylococcus aureus* bacteremia in patients aged > 80 years

Poujol de Molliens Matthieu (1), Roubaud-Baudron Claire (1), Camou Fabrice (2), Bourdel-marchasson Isabelle (1)

(1) CHU bordeaux, (2) Chu bordeaux

**Introduction:** Blood stream infection (BSI) is a major cause of in-hospital mortality in the older population. After *E. coli*, *Staphylococcus aureus*, is the most frequently isolated bacterium in blood cultures. Because of a stock shortage of penicillin M in 2016, cefazolin became an alternative with a similar safety reported in young adults. Some studies reported a functional vitamin K deficiency related to cefazolin. Our main objective was to describe the safety of these two antibiotics in the older population.

**Methods:** This single-center retrospective observational study conducted between January 2014 and February 2023 enrolled patients > 80y with *S. aureus* BSI treated with either cefazolin or penicillin M. Rates and reasons for unscheduled treatment discontinuation, occurrence of acute renal or liver, abnormal liver function or decreased of Prothrombin time were collected.

**Results:** 153 patients (mean age  $87 \pm 5$ y, 51% male, mean ADL  $4.6 \pm 1.6$  and Charlson index  $4.2 \pm 2.6$ ) were included mainly treated by cefazolin ( $n = 115$ , 75%). Unscheduled antibiotic discontinuation rates for adverse events (AE) were 13.9% ( $n = 16$ ) for cefazolin and 2.6% ( $n = 1$ ) for penicillin M ( $p = 0.14$ ). The most frequent AE leading to cefazolin discontinuation were a decreased Prothrombin time (PT) (37.5%;  $n = 6$ ), hepatotoxicity (12.5%;  $n = 2$ ) or nephrotoxicity (18.8%;  $n = 3$ ). A decrease in PT occurred in 40 patients (43.5%) compared to 4 patients (22%) in in cefazolin and Penicillin groups respectively ( $p = 0.037$ ).

**Key Conclusions:** This descriptive study confirms that geriatricians should be aware of the increased bleeding risk associated with a decrease in PT when prescribing cefazolin compared to Penicillin M.

## Falls and Fractures

### P-937

#### Machine Learning System To Predict Imminent Fall at Home (within 3-weeks) For Older People

Veyron Jacques-Henri (1), Rezel Théodore (1), Lainée François (2), Clemençon Stéphane (3), Malvoisin Stéphanie (4), Friocourt Patrick (5), Denis Fabrice (6), Havreng-Théry Charlotte (7), Belmin Joël (8)

(1) Présage, Paris, France, (2) ALEIA, Paris, France, (3) Laboratoire Traitement et Communication de l'Information (LTCI), Ecole Nationale des Télécom de Paris, 19 Pl. Marguerite Perey, 91120 Palaiseau, FR, (4) Centre hospitalo-universitaire La Réunion, Saint-Pierre, TF, (5) Sorbonne Université, Paris, France, (6) Institut Inter-Régional de Cancérologie Jean Bernard, Le Mans, FR, (7) Laboratoire Informatique Médicale et Ingénierie des Connaissances en eSanté (UMRS 1142), Institut National de la Santé et de la Recherche Médicale and Sorbonne Université, Paris, FR, (8) Hôpital Charles Foix, Assistance Publique-Hôpitaux de Paris, Ivry-sur-Seine, FR

**Introduction:** Falls in the older population are a major health problem. Very few falls prediction models exist and fail to fully consider home behavior as variables. No model can predict fall within 3 weeks.

**Method:** Retrospective observational multicenter study. We developed random forest models which predict imminent fall (fall within 3 weeks) and fall risk within 6 or 12 months based on weekly report from Home Aides (HA) observations. The performance of these models was evaluated using the area under the receiver operating characteristic curve (AUC), sensibility and specificity. SHapley Additive exPlanation values were also used to identify predictors and protectors of fall.

**Results:** Total of 1472 patients followed between Jan 2020 to Dec 2022 were enrolled. One thousand seven falls were noted for 357 patients (24%). AUC was 0.91 [95 IC: 0.88–0.93] for 12 months prediction and 0.84 [95 IC: 0.81–0.88] for 3 weeks. Sensibility was

97% (12 months) and 74% (3 weeks prediction) and specificity was 86% (12 months) and 79% (3 weeks). Predictors were “Has no visit from relatives”, “Communicate little”, “Do not leave home”, “Do not groom himself/herself”. Protectors were “is not tired”, “Recognize HA”, “Prepare meals”, “Do not forget when home care came”, “Is not painful”, “Leave home”, “Groom himself”. 8 features contributed to 98% of the prediction model.

**Key Conclusion:** In this study, machine learning methods were successfully established to predict imminent fall following daily life activity and environment situation in a smartphone to prevent unplanned hospitalizations for seniors.

## Late Breaking Posters

### LB-01

#### Could the Surviving Sepsis Campaign recommendations for septic shock be applied to elderly patients?

Bichet Timothée (1), LOSSER Marie-reine (2), JOLY Laure (3)

(1) ICHRU Nancy, Department of Geriatrics, University of Lorraine, Nancy, France., (2) 2Department of Anesthesia and Surgical Resuscitation, CHRU-Nancy, University of Lorraine, Nancy, France. 3Joint research unit U1116 DCAC (Acute and Chronic Cardiovascular Failure), University of Lorraine, Nancy, France., (3) ICHRU Nancy, Department of Geriatrics, University of Lorraine, Nancy, France. 3Joint research unit U1116 DCAC (Acute and Chronic Cardiovascular Failure), University of Lorraine, Nancy, France

**Introduction:** The latest definition of 2016 (SEPSIS-3) got rid of severe sepsis in order to simplify the diagnosis (1). However, every recommendations of these 2021 Surviving Sepsis Campaign (SSC) concern only "young" adults and present a significant lack of evidence (around 75% are low and very low quality of evidence) (2).

**Objectives:** To assess whether the new 2021 recommendations issued by the Surviving Sepsis Campaign can be applied to elderly subjects (ES).

**Methods:** Research of the following databases: Embase, PubMed and Cochrane for articles published in English between 2016 and 2022. The combination of keywords and MeSH terms was used.

**Key Conclusions:** 631 articles evaluated, 26 selected.1) SOFA/qSOFA scores seem to be prognostic tools with low. The CAM scale instead of the Glasgow score seems to improve its reliability in ES (3) 0.2) Prognostic factors seem to be more relevant than age, such as the presence of neurocognitive disorders and autonomy. Moreover, obtaining the consent of SAs remains too rare (4,5) 0.3) The conservative filling strategy matches a cautious strategy relating to ES in septic shock, as does the use of balanced solutes.4) Studies suggest that a MAP target of 60–65mmHg is at least equivalent to a target MAP greater than or equal to 65mmHg (6) 0.5) A frailty evaluation should be systematic before any admission in intensive care. The Clinical Frailty Scale seems to be a reliable tool (7).

#### References:

1. Singer M, Deutschman CS, Seymour CW, Shankar-Hari M, Annane D, Bauer M, et al. The Third International Consensus Definitions for Sepsis and Septic Shock (Sepsis-3). *JAMA*. 23 févr 2016;315 (8) :801–10.
2. Evans L, Rhodes A, Alhazzani W, Antonelli M, Coopersmith CM, French C, et al. Surviving sepsis campaign: international guidelines for management of sepsis and septic shock 2021. *Intensive Care Med*. nov 2021;47 (11) :1181–247.
3. Remelli F, Castellucci F, Vitali A, Mattioli I, Zurlo A, Spadaro S, et al. Predictive value of geriatric-quickSOFA in hospitalized older people with sepsis. *BMC Geriatr*. déc 2021;21 (1) :241.
4. Le Guen J, Boumendil A, Guidet B, Corvol A, Saint-Jean O, Somme D. Are elderly patients' opinions sought before admission to an intensive care unit? Results of the ICE-CUB study. *Age Ageing*. mars 2016;45 (2) :303–9.
5. Ibarz M, Haas Van Lelyveld L, Boumendil A, Jung C, Guidet B, Flaaten H, et al. Survival in very old patients admitted to the ICU for sepsis is related to preexisting frailty and severity of organ dysfunction. *Intensive Care Med Exp [Internet]*. 2021;9 (SUPPL 1). Disponible sur: <https://www.embase.com/search/results?subaction=viewrecord&id=L636287330&from=export>.
6. Mouncey PR, Richards-Belle A, Thomas K, Harrison DA, Sadique MZ, Grieve RD, et al. Reduced exposure to vasopressors through

permissive hypotension to reduce mortality in critically ill people aged 65 and over: the 65 RCT. *Health Technol Assess Winch Engl*. févr 2021;25 (14) :1–90.

7. Haas LEM, Boumendil A, Flaatten H, Guidet B, Ibarz M, Jung C, et al. Frailty is associated with long-term outcome in patients with sepsis who are over 80 years old: results from an observational study in 241 European ICUs. *Age Ageing*. 11 sept 2021;50 (5) :1719–27.

### LB-02

#### Quality of life following radical prostatectomy in aging men

Justin Aurelian (1), Buzescu Bogdan (2), Chirca Narcis (2), Sorina Maria Aurelian (3), Viorel Jinga (4)

(1) University of Medicine and Pharmacy "Carol Davila", 2 "Prof. Dr. Th. Burghel" Clinical Hospital, Dept. of Urology, Bucharest, Romania, (2) 1 University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania 2 "Prof. Dr. Th. Burghel" Clinical Hospital, Dept. of Urology, Bucharest, Romania, (3) 1 University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania, "Sf. Luca" Chronic Disease Hospital, Dept. of Geriatrics, (4) University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania 2 "Prof. Dr. Th. Burghel" Clinical Hospital, Dept. of Urology

**Introduction:** Surgical treatment of prostate cancer can be a challenge for both urologist and patient in the context of intra and postoperative complications. The objective of this study was to evaluate the impact of radical prostatectomy on pain and quality of life in elderly patients with localized and locally advanced prostate cancer.

**Materials & Methods:** We evaluated patients diagnosed with prostate cancer in localized or locally advanced stage with the use of two questionnaires-QLQ-C30 and QLQ-PR25 pre and post radical prostatectomy. We divided the patients in 2 groups: a preoperative group and a postoperative group that underwent retropubic radical prostatectomy. Patients responded to 2 questionnaires one day before surgery and 3 month following surgery that assessed prostate symptoms, pain, continence, erectile function, quality of life and mood.

**Results:** The age distribution of the two groups was: for the preoperative group the mean was 63.52 years, and for the postoperative group the mean was 66.23 years. Pain at 3 months was mild, averaging 1.5 on a scale of 0 to 10, and associated with poor perceptions of overall health ( $p < 0.02$ ), and reduced physical and social functioning ( $p < 0.01$ ). In operated patients over 65 years, the urinary symptoms were more severe compared to unoperated patients ( $p < 0.005$ ). Overall health status scale scores (QLQ-C30) decreases postoperatively, representing a decrease in quality of life.

**Conclusions:** Pain following radical retropubic prostatectomy was common and associated with reduced quality of life in elderly patients.

### LB-03

#### A nasty sequel of multiple predisposing factors

Muhammad Shoaib Zaidi (1)

(1) King Saud University Medical City

**Introduction:** Emphysematous urinary tract infections usually occur in people having diabetes or urinary tract obstruction.

**Methods & Results:** Case Presentation 78yrs old Saudi gentleman, a chronic smoker (40 pack yrs) had Type 2 diabetes, Hypertension, Dyslipidemia, Ischemic heart disease (S/P CABG & PCI in 2000), HFpEF, Proliferative DM retinopathy (S/P acute right retinal necrosis

& detachment in 2022), Benign prostatic hypertrophy, chronic bleeding hemorrhoids and iron deficiency anemia. On Aspirin, SGLT-2 inhibitor, Frusemide, Selective B1 blocker, Ca + + channel blocker, Angiotensin receptor blocker, Statin, Metformin, Tamsulosin, a Proton pump inhibitor and an Iron supplement. The patient was admitted at our facility on 25.02.2023 with 3 days history of dysuria, suprapubic discomfort & urinary retention (S/P Foley's). Systemic review-unremarkable. Had 2 episodes of urinary tract infection-1 month back. Hemodynamically stable. General & Systemic exams-unremarkable. Repeat CT scan abdomen, pelvis & CT urography-emphysematous cystitis, bilateral ureteric calculi (1.5 cms right, 1cm left) and moderate to severe hydroureteronephrosis, horse-shoe kidney & multiple bladder diverticuli + Other significant investigations (HbA1c 9.3%, CBC- (Hb% 7.5g/dl, MCV 92.2fl, PLTs 428,000/mm3), BUN 11.6 mmol/l, S. Creatinine110umol/l, CRP 60mg/l. Urinalysis-sterile pyuria. ECG- sinus arrhythmia + RBBB. Our patient received broad-spectrum antibiotics, along with intravenous fluids and insulin. The Urology service were consulted and they advised for conservative management. He was discharged on request on an antibiotic and advised to follow-up with urology.

**Key Conclusions:** Our patient was elderly, had a horse-shoe kidney, large ureteric calculi causing severe hydroureteronephrosis and uncontrolled Type 2 diabetes, the risk factors that made him prone to emphysematous cystitis & pyelitis.

## LB-04

### Assessing the Anticholinergic Cognitive Burden Classification of Putative Anticholinergic Drugs Using ADME Properties

Geoffrey Oteng Phutietsile (1), Prasad S Nishtala (1), Nikoletta Fotaki (1)

(1) Department of Life Sciences, University of Bath, Bath, BA2 7AY, United Kingdom

**Background:** Anticholinergic burden (AB) measures the combined effects of drugs with anticholinergic properties on cognitive and physical health. Existing tools to evaluate AB offer insights, but there's a recognized need for enhanced standardization. This study introduces a machine learning approach that uses ADME (absorption, distribution, metabolism, excretion) properties to refine the estimation of the anticholinergic cognitive burden (ACB).

**Methods:** For 88 drugs on the ACB scale, we collected ADME data focusing on antimuscarinic activity, blood–brain barrier penetration, bioavailability, chemical structure, and P-gp substrate properties. An unsupervised hierarchical multivariate clustering model utilized this data to determine AB scores. Both the unsupervised and the traditional ACB model were assessed via tenfold cross-validation, with results informing ROC curves. A comparison of mean AUROC values for both models was made.

**Results:** The in silico software used in this study highlighted drugs with limited blood–brain barrier (BBB) penetration, offering additional perspectives on the ACB scale's classifications. When evaluated on the selected features, the unsupervised model achieved a mean AUROC of 0.76, while the ACB model stood at 0.64. Both models had concordant classifications for 48 out of the 88 drugs.

**Conclusion:** The study presents the potential of machine learning to complement the ACB scale, particularly by considering BBB penetration and other features. Such an approach can offer enriched accuracy in drug classifications, benefiting prescription practices and enhancing ACB assessment methodologies.

## LB-05

### Analysis of Pharmacotherapeutic Recommendations in Geriatric Patients at the Emergency Department

Beatriz Perdomo Ramírez (1), María del Pilar Sáez López (1), Pilar Martínez Velasco (2), Leandro Valdez Disla (1), Sira Sanz Márquez (1), Saúl Herrera Carranza (1)

(1) Hospital Universitario Fundación Alcorcón, España, (2) Hospita Universitario Fundación Alcorcón, España

**Objective:** This prospective study aimed to optimize treatment and medication management by analyzing the pharmacotherapeutic recommendations provided to geriatric patients in the Emergency Department (ED) by the Geriatric Pharmacy team.

**Methods:** Data was collected between November 2020 and April 2021 from geriatric patients aged 75 years and above seeking care at the ED. Information on gender, age, and chronic medications was recorded. A total of 312 recommendations were made, with 15.4% for in-hospital treatment (IHT) and 84.6% for home-based treatment (HT). The recommendations included interventions such as deprescribing, dose reduction to avoid adverse reactions, and addressing drug interactions.

**Results:** The most frequently targeted therapeutic subgroups included analgesics, psycholeptics, and agents for acid-related disorders. Among the recommendations, 57.4% were accepted overall, with a higher acceptance rate observed for IHT (89.6%) compared to HT (51.5%). Primary care physicians were responsible for implementing changes in 36.8% of cases, while hospital physicians, including admitting physicians, emergency department physicians, and geriatricians, made changes in 63.2% of cases.

**Conclusion:** Collaborative efforts among geriatricians, pharmacists, and healthcare professionals in the ED play a crucial role in optimizing pharmacotherapy for geriatric patients. The analysis of pharmacotherapeutic recommendations provides valuable insights into opportunities for deprescribing, dose adjustments, and addressing drug-related issues. Improving communication and coordination between hospital and primary care settings is essential for providing comprehensive and patient-centered care to geriatric patients in the ED.

## LB-06

### This case report focuses on an elderly woman who presented with a skin lesion diagnosed as a biliary-origin abdominal abscess caused by a cholecystocutaneous fistula

Beatriz Perdomo Ramírez (1), Pilar Martínez Velasco (1), María del Pilar Sáez López (1), Leandro Valdez Disla (1)

(1) Hospital Universitario Fundación Alcorcón, España

**Method:** The patient, a 91-year-old woman with multifactorial anemia, recurrent strokes, and mixed dementia, was admitted to the hospital due to a superinfected Stage IV pressure ulcer on her right trochanter. Physical examination revealed a painful abdominal mass in the right hypochondrium, along with an erythematous nodule that discharged purulent material spontaneously.

**Results:** Laboratory tests indicated leukocytosis, elevated acute-phase reactants, and liver enzyme activation. Imaging studies, including abdominal ultrasound and computed tomography, confirmed the presence of an abscess originating from the gallbladder and cholelithiasis. Percutaneous drainage attempts were unsuccessful,

leading to the enlargement of the exit point under local anesthesia and subsequent aspiration of purulent material. Cultures revealed the presence of carbapenem-sensitive *Pseudomonas aeruginosa*. Conservative management with meropenem was chosen considering the patient's baseline condition, resulting in positive clinical and laboratory outcomes.

**Conclusion:** The cholecystocutaneous fistula is a rare condition where the gallbladder perforates through the layers of the abdominal wall, forming a fistulous tract to the skin without prior biliary surgery or trauma. It is more common in elderly women with predisposing factors such as steroid treatment, diabetes, polyarteritis nodosa, typhoid fever, or bacterial dissemination. The clinical presentation can be nonspecific, making it easily overlooked. Treatment approaches depend on the underlying cause and the patient's baseline condition. Cases associated with cholecystitis often require antibiotic therapy, external drainage, and definitive surgical intervention.

## LB-07

### Vitality in later years: food recommendation for older adults to practice–project results

Satu Jyväkorpi (1), Arja Lyytikäinen (1)

(1) Ruokavirasto

**Introduction:** The National Nutrition Council of Finland is carrying out a project called “Vitality in later years 2021–2023” aiming to implement food recommendations for older adults. The main objective of the project is to improve nutrition of older adults by raising awareness about the significance of good nutrition in older age. The project concedes timing of service structure reform of social welfare and health care taking place in the beginning of 2023. Thus, we also aim to spread good nutritional practices and assist regions to establish and standardize protocols to prevent and treat malnutrition.

**Methods:** The project includes three work packages (WP). In the first WP, we carry out nutrition seminars in different regions in Finland and design an online course for professionals and care-keepers on nutrition of older adults. In the second WP we create a portal for reliable nutrition information aimed at older adults. The portal can be linked to municipalities' pages complemented with local nutrition-related services, and finally, in WP 3 we carry out a nutrition campaign in co-operation with non-governmental organizations and other partners targeting older adults and their family members.

**Results:** All the WPs have either been finished or will be finished this fall. WP 1: We carried out 19 nutrition seminars in different regions in Finland and created an online course of nutrition of older people. So far, almost 500 professionals have signed in to study the course. WP 2: Nutrition portal can be found in: [www.Ruokavirasto.fi/vireytta-seniorivuosiin](http://www.Ruokavirasto.fi/vireytta-seniorivuosiin). Many municipalities and NGOs have linked the portal into their homepage. WP 3: The nutrition campaign is on-going and around 60 elder's councils, NGOs and municipalities are carrying out local campaign activities around Finland this fall. Campaign material can be found in the nutrition portal's material bank. We have created brochures, info sheets, videos, streamed lectures etc. that are free to use in the campaign activities.

**Key Conclusions:** The project has achieved its' goals by spreading information of the importance of good nutrition in old age to all of its' target groups. Prevention and managing nutritional problems are cost-effective and help to maintain quality of life of older individuals.

## LB-08

### Analgesic and Adjuvant Co-prescribing in Australian and Finnish Nursing Homes

Laura A Dowd (1), Kaisu Pitkälä (2), Agathe D Jadcak (3), Hanna-Maria Raitto (2), Ulla Aalto (2), Riitta Saarela (4), Renuka Visvanathan (5), Shin J Liao (1), Amanda J Cross (1), J Simon Bell (1)

(1) Centre for Medicine Use and Safety (CMUS), Faculty of Pharmacy and Pharmaceutical Sciences, Monash University, Parkville, Victoria, Australia, (2) Department of General Practice and Primary Health Care, University of Helsinki, Helsinki, Finland; Helsinki University Hospital, Helsinki, Finland, (3) Adelaide Geriatrics Training and Research with Aged Care (GTRAC) Centre, Adelaide Medical School, Faculty of Health and Medical Sciences, University of Adelaide, Adelaide, South Australia, Australia, (4) Social Services, Health Care and Rescue Services Division, City of Helsinki, Finland, (5) Aged and Extended Care Services, The Queen Elizabeth Hospital, Central Adelaide Local Health Network, Adelaide, South Australia, Australia

**Introduction:** Analgesic and adjuvant medications are an important component of overall pain management strategies, yet little is known about co-prescribing patterns in nursing homes.

**Methods:** Secondary cross-sectional analyses of prescribing data from residents of 12 nursing homes in South Australia in 2019 and 53 nursing homes or assisted living facilities in Helsinki in 2017–2018 was conducted. Co-prescribing was defined as  $\geq 1$  traditional analgesic (acetaminophen, non-steroidal anti-inflammatory drugs and opioids) and/or adjuvant medication (gabapentinoids, tricyclic antidepressants and duloxetine) prescribed for regular use.

**Results:** Australian (N = 550) and Finnish (N = 2423) residents were comparable in age (median 89 [IQR 84–92] vs median 84 [IQR 65–103]) and sex (females: 73.3% vs 73.9%). Of 416 Australian and 1406 Finnish residents prescribed any regular analgesic or adjuvant medications, 181 (43.5%) and 469 (33.4%) residents were prescribed  $\geq 2$ , including 66 (15.9%) and 87 (6.2%) residents who were prescribed  $\geq 3$ . Acetaminophen was co-prescribed to  $> 75.0\%$  of Australian and  $> 28.3\%$  of Finnish residents prescribed other analgesics or adjuvants. Of 61 Australian and 186 Finnish residents prescribed gabapentinoids, 38 (62.3%) and 86 (46.2%) were co-prescribed opioids. Opioids were co-prescribed to 58.8–83.3% of Australian and 25.0–46.2% of Finnish residents prescribed adjuvants.

**Conclusions:** Analgesic and adjuvant co-prescribing was more prevalent for Australian than Finnish residents, particularly co-prescribing of three or more analgesic and/or adjuvant medications. This was largely driven by acetaminophen co-prescribing to more than three-quarters of analgesic or adjuvant users in Australia. Central nervous system-active polypharmacy arising from high rates of opioid and adjuvant co-prescribing warrants further attention in both countries.

## LB-09

### Effectiveness of Antimicrobial Stewardship Program in geriatric practice

Amine Gouiaa (1), Olivia Senard (2), Sidi Ali Toumert (1), Moize Machado (2), Pascale Jolly (1)

(1) Pôle Gériatrie du Grand Hopital de l'Est Francilien, (2) Service de médecine infectieuse et tropicale du Grand Hopital de l'est Francilien

Excessive and inappropriate use of antibiotics by elderly patients, one of the most vulnerable populations, incites us to find ways to counter them, without altering the outcomes of our medical care. Antimicrobial stewardship programs (ASP) have proved themselves to be one of the most efficient means to achieve this goal. To study the efficiency of this process in geriatric population, we have established a quasi-experimental study, in which we compare antibiotics consumption, during two periods of 5 weeks each, and of comparable epidemiological context, implementing during one of them ASP. Results of our study show that ASP decreased the antibiotics consumption by 48% ( $P < 0.001$ ) and the overall antibiotics cost by 41.3%, without increasing neither infection recurrence nor infection related deaths. This decrease, mainly imputed to the observed shortening of antibiotic treatment, and the stopping or modification of almost half of the antibiotic cures started before the admission in our unit, would help reducing the incidence of antibiotic harmful effects. Identifying the most used antibiotics, and those who have the most frequently been stopped or modified during our study, allowed us to develop a new approach targeted to the most problematic antibiotics, which would be more efficient in our situation, and which we aim to use during the future official ASP implementation. Based on the most frequently observed infectious diseases in our study, we developed a course targeted to the geriatrics practitioners of our unit to update their knowledge, adding a pedagogic dimension to our intervention, which turned out to be a game changer in their medical care quality. The take home message of our study is that ASP proved itself to be at least as efficient in general population healthcare as in geriatrics, that it offers a wide selection of efficient tools that can significantly improve geriatric practice. That's why we are planning a persistent and widely spread deployment of ASP in our hospital, with a longitudinal study of the impact of this deployment which would allow us to monitor aspects that we were unable to assess, such as the impact of ASP on mortality, length of stay, and its ecological impact (antibiotic resistance).

## LB-10

### Nutricion's Influence on Frailty and Sarcopenia in a Geriatric Day Hospital

Ana Lydia Sánchez Aso (1), Guillermo Menéndez Fermín (1), Natalia Rodríguez Osto (1), Miranda Doz Arcas (1), Rocío Onieva Albañil (1), Julia Castillo García (1), María Dolores Domingo Sánchez (1), Óscar Pérez Berasategui (1)

(1) HNSG—Zaragoza, Spain

**Objectives:** Evaluate the nutritional status and characteristics of patients. Furthermore, follow the improvement of frailty and sarcopenia after the intervention in geriatric day hospital's program.

**Methods:** Descriptive, cross-sectional study of patients included in GDH from October 2019 to 10th February of 2023 who have completed the process of functional recovery. Variables: sarcopenia (SARC-F), frailty (SPPB), nutritional status (MNA), socio-demographic, reason for consultation and place of origin. SPSS v26.

**Results:** 652 patients. Mean age 84.26 (SD 5.94). 33.6% men and 66.4% women. Origin: our hospital 30.1%, Miguel Servet Hospital 15.4%, external consultation 30.1%, other 24.4%. Reason for consultation: Hip fracture 33.4%, hospital deconditioning 20.1%, gait alteration 20.1%, stroke 9.8%, other 16.6%. MNA median: admission 9 (SD 2.42), discharged 10 (SD 2.25). SARC-F median: admission 8 (SD 2.12), discharge 5 (SD 2.02). SPPB median: admission 3 (SD 2.58), discharged 6 (SD 2.96). Nutritional status: not malnourished 12%, risk of malnutrition 88%. SARC-F admission ( $X2p = 0$ ): no sarcopenia 2.2%, sarcopenia 34.3%. SARC-F discharge ( $X2p = 0.15$ )

: no sarcopenia 17.9%, sarcopenia 30.6%. SPPB admission ( $X2p = 0$ ): non-fragile 10%, mild 23.8%, moderate 26.4%, severe 39.4%. SPPB discharge ( $X2p = 0.23$ ).

**Conclusions:** After a functional recovery program, improve sarcopenia, frailty and nutrition condition (not significant). Patients at risk of malnutrition present worse results in the measure of sarcopenia and frailty. It is essential to sway the nutrition to improve sarcopenia and frailty.

## LB-11

### Overcoming Motivational Barriers In Reversing Frailty And Building Resilience: A Systematic Review

John Travers (1), Roman Romero-Ortuno (2), Marie-Therese Cooney (3)

(1) Discipline of Public Health and Primary Care, Department of Medicine, Trinity College Dublin, Dublin, Ireland, (2) Global Brain Health Institute, Trinity College Dublin, Dublin, Ireland. Discipline of Medical Gerontology, Mercer's Institute for Successful Aging, St James's Hospital, Dublin, Ireland, (3) School of Medicine, University College Dublin, Dublin, Ireland. Department of Geriatric Medicine, St Vincent's University Hospital, Dublin, Ireland

**Introduction:** Resistance exercise and dietary protein have been shown to reverse frailty and enhance resilience and contribute to significant individual and the healthcare system benefits. However, older people often experience motivational barriers when implementing this intervention. We set out to review literature analysing motivational barriers to exercise and dietary change among older people and synthesise strategies for overcoming these.

**Methods:** We searched PubMed, PEDro and Cochrane from database inception to August 2023 for randomised controlled trials, systematic reviews and meta-analyses on motivational barriers to exercise and dietary change among older people.

**Results:** 358 studies were identified and 18 assessed in detail. Motivational barriers for older people undertaking exercise and dietary changes can be classified as internal or external. Internal barriers include a fear of falling, a preconception of discomfort, fatigue and an instinct to preserve energy. External factors include a lack of accessible facilities and tools, discouragement by peers and societal ageism. Motivation can be increased if benefits are perceived to be greater than the barriers. Three key strategies support tipping the balance from barriers to benefits. These are: 1. Repeated encouragement from a healthcare professional; 2. Heightened public awareness of benefits through media; and 3. Accessible public facilities and tools.

**Conclusions:** Older people face internal and external motivational barriers in taking up exercise and dietary change that can reverse frailty and build resilience. Ongoing encouragement from a healthcare professional, public awareness of benefits and accessibility can overcome these barriers and improve health outcomes.

## LB-12

### Sarcopenic Obesity as a Risk Factor for Insulin Resistance in the Elderly

Mariana Dangiolo (1), Ahad Khan (1), Matthew Robinson (1), Amoy Fraser (1), Muthu Periasamy (1)



(1) University of Central Florida College of Medicine

**Introduction:** Obesity has become a compounding factor in aging-related sarcopenia. The coexistence of obesity and sarcopenia, sarcopenic obesity (SO), places older adults at higher risk of developing diabetes, cardiovascular disease, and cognitive dysfunction than those older adults who suffer from sarcopenia alone or obesity alone. There is limited investigation, however, into the interplay between sarcopenia and obesity when it comes to utilizing sarcopenic obesity as a risk factor for insulin resistance (IR), which is an indicator for pre-diabetes and T2DM.

**Methods:** With funding from the Department of Medicine at the University of Central Florida College of Medicine, our study at UCF Health Clinics in Central Florida recruited patients between the ages of 65 to 85 to test our hypothesis that sarcopenic obesity positively influences insulin resistance in the elderly population. Obesity is measured via calculation of BMI, sarcopenia via bilateral hand grip strength, and insulin resistance via the HOMA-IR formula utilizing participant serum insulin and glucose levels.

**Results:** Our study currently includes 56 participants with complete data between the ages of 65–85 of which 20 are classified as obese, 9 have demonstrated sarcopenia, and 3 participants have combined SO. 27 participants demonstrated elevated insulin resistance.

**Conclusions:** Our preliminary analysis is statistically insignificant but indicates that obesity is positively associated with IR, and both sarcopenia and SO have negative associations with IR, likely due to lack of representation in these groups and small sample size. As we add participant data this will increase the power of our study and provide more insight into SO and its relationship with IR.

## LB-13

### Sudden loss of vision can be quite mind-boggling

Muhammad Shoaib Zaidi (1)

(1) King Saud University Medical City

**Introduction:** Central retinal artery occlusion is the retinal equivalent of cerebro-vascular stroke, which should be considered in patients with multiple cardiovascular risk factors & presenting with acute vision loss.

**Methods:** Clinical Case 69 years old Saudi married gentleman, a heavy smoker (35yrs), who was admitted on 16th April, 2023 under Medicine department, after being referred by the Ophthalmology service for the sudden, painless loss of vision of left eye. Previously, he had Type 2 diabetes, hypertension, dyslipidemia and Ischemic heart disease (S/P NSTEMI & PCI in 2021). Systemic review & Family history-insignificant. On dual anti-platelets, selective B1 blocker, Angiotensin receptor blocker, proton-pump blocker, tricyclic antidepressant, Insulin Degludec, SGLT-2 inhibitor & a DPP-4 inhibitor. Vital stable. O2 sat-100%, room air. BMI 28.7 kg/m<sup>2</sup>. Ophthalmology- left central retinal artery occlusion suspected. Neurology-no focality. Rest of the general systemic exams-unyielding.

**Results:** T& CTA brain-normal. Serial ECGs- old bi-fascicular block & 1st degree AV block. 72h Holter-no arrhythmia. Transthoracic Echo-left ventricular hypertrophy, EF > 55%, Trans-esophageal Echo-patent foramen ovale with right to left shunt, otherwise normal. Carotid doppler-unremarkable. MRI & MRA brain-small foci of subacute ischemic infarcts in the right cerebellum, left occipital lobe and right superior and middle frontal gyri, likely embolic in nature. Other labs (HbA1c 8.7%, CBC-Hb% 14.7g/dl, HCT 45.5%, ESR 33mm/1st hr). He was advised risk-factor control & follow-ups were

given by Neurology, Cardiology services. The patient had no improvement in vision till discharge on 24.04.2023.

**Key Conclusions:** The timely workup of the patient with acute embolic stroke, led to the discovery of the likely cause i.e. patent foramen ovale.

## LB-14

### Development of aged people oriented nutrient-dense, attractive, comfortably consuming finger foods by 3D printing technology

Gytė Damulevičienė (1), Aušrinė Kurapkienė (2), Viktorija Eisinaitytė (2), Rimantė Vinauskienė (2), Ina Jasutienė (2), Daiva Leskauskaitė (2), Marius Juška (1), Jurgita Knašienė (1), Vita Lesauskaitė (1), Greta Visokinskienė (1)

(1) Lithuanian University of Health Sciences, Clinical Department of Geriatrics, (2) Kaunas University of Technology, Department of Food Science and Technology, Lithuania

**Introduction:** Malnutrition in older age is an important risk factor for sarcopenia, frailty, morbidity and even mortality. The aim of this project was to create innovative chocolate, citrus and mixture flavoured tofu-based nutritionally customized, dysphagia-oriented, comfortable consumed, appetizing, one-bite sized finger foods, oriented to the sarcopenia, malnutrition and frailty prevention in the aged people by using 3D printing technology.

**Methods:** Participants 60 years old or over were recruited in Kaunas Hospital of the LSMU. Ethics approval: N°PI-BE-2–59/2018. Three types of finger foods, differing in taste, were prepared. The dietary composition of the developed food was: 19–21 g/100g protein, 6–8g/100g fiber, 8–9g/100g fat, 11mg/100g iron, 14 mg/100g zinc, 70 µg/100g selenium. It was also found 6.36–6.68 g of essential amino acids in 100g of the product. The statistical analysis of variance (ANOVA) was used.

**Results:** 69 participants were included in the study (51 women); age ranged between 60–95 (78.4 ± 7.7 years); 12 participants had a mild dysphagia. Older people evaluate all finger foods as very easy handled by hand, soft, easy to swallow, having a moderate flavour intensity and a weak afterfeel. It also should be noted that 7% of the participants said that 3D printed foods were sticky to dentures.

**Conclusions:** The results shows that is possible to create aged people oriented in-between-meal foods, meeting all the age-related needs: nutritionally optimised, suitable for dysphagia, attractive, easily consumed and suitable for the independent eating. 3D printing technology was successfully used as non-traditional technology for new product design.

## LB-15

### Medication Arrangement Test Occupational Therapy-M.A.T.O.T among elderly people

Adiel Roitman (1)

(1) Clalit Health Services

**Background:** Organizing medications is significant for elderly's independence. Occupational therapists from Meir Medical Center and from TAU School of Occupational Therapy, developed a VR computerized test for arranging medications (M.A.T.O.T.).

**Objective:** Evaluate the parallel and differential validity of M.A.T.O.T. among elderly in geriatric rehabilitation and independent in the community.

**Method:** Sample: 84 elderly (30 men, 54 women) (average: 75.25, s.d.:6.60, range: 64–90), cognitively preserved (MoCA: 25.2–29), no depression symptoms, divided into two groups: experimental—24 hospitalized (M: 77.38, 6.80 +), control- 60 individuals living in the community (M: 73.12, 5.46 +). Research Tools: A bio-demographic questionnaire; Cognitive tests: Four Item Tablet Test (4ITT), The Modified Mini-Mental State Examination (3MS), and M.A.T.O.T., composed of two parts. The first, tests pills arrangement for two days using weekly medication organizing kit, according to medical instructions. The second, tests pills arrangement for an additional day, given new medical instructions.

**Results:** Weak to strong significant positive/negative correlations ( $r = -2.15$ — $r = 0.772$ ;  $p < 0.001$ — $p = 0.050$ ) were found between M.A.T.O.T. and the final score of the 3MS and its sections, and between M.A.T.O.T. and the 4ITT ( $r = -0.219$ — $r = -0.660$ ;  $p < 0.001$ — $p = 0.048$ ), among the study groups. Significant differences were found in the performance of M.A.T.O.T. between the study groups ( $Z = -3.93$ — $p = -1.99$ ;  $p < 0.001$ — $p = 0.046$ ) and between genders ( $Z = -2.73$ — $1.95$ ,  $p < 0.001$ — $p = 0.046$ ).

**Conclusions:** Parallel and differential validity of M.A.T.O.T support the need to develop computerized ecological test for assessing executive functions using IADL tasks. We recommend this test to be included in the occupational therapy toolbox and to be further tested on various populations.

## LB-16

### To validate the Walter Index in predicting 1-year all-cause mortality post-discharge in geriatric inpatients in China

Yuanyuan Li (1), Xiaohong Liu (1), Huang Xia (2)

(1) Department of Geriatrics, Peking Union Medical College, Chinese Academy of Medical Sciences, Peking Union Medical College Hospital, (2) The First Affiliated Hospital of Chongqing Medical and Pharmaceutical College

**Introduction:** The efficacy of the Walter Index mortality risk prediction model among older patients in China remains uncertain. We aimed to validate the performances of the Walter Index in predicting 1-year all-cause mortality post-discharge in geriatric inpatients in China.

**Methods:** The study was conducted at a geriatric ward of a tertiary Hospital in Beijing, including patients aged 70 years or older with a documented comprehensive geriatric assessment, discharged between January 1, 2016 and December 31, 2021. Patients with a hospital stay  $\leq 24$  h or  $> 60$  days were excluded. All-cause mortality data within one year of discharge were collected from medical files and telephone interviews between August 2022 and February 2023. Multiple imputation, Logistic regression analysis, Brier score, C-statistic, Hosmer–Lemeshow goodness-of-fit-test, and calibration plot were employed for statistical analysis.

**Results:** We included 832 patients with a median (interquartile range) age of 77 (74–82) years. One-hundred patients (12.0%) died within one year. After adjusting for the covariates of length of hospitalization, marital status, social support, number of medications, and hemoglobin levels, increased scores of the Walter Index were significantly associated with 1-year mortality risk. The Brier score was 0.07. The C-statistic was 0.88 (95% confidence interval, 0.84–0.91). Calibration curve showed that the Walter Index was well calibrated.

**Key Conclusions:** Combining the Brier score, discrimination and calibration, the Walter Index was confirmed for the first time to be a

good predictor of the risk of 1-year all-cause mortality post-discharge in geriatric inpatients in China.

## LB-17

### Older Adults with Mild Cognitive Impairment can use a Handheld Auricular Neuromodulation Device—VINCI-AD study

Helena Dolphin (1), Tim Dukelow (2), Amparo Zamora (3), Ciaran Finucane (3), Adam Dyer (1), Sean Commins (4), Sean P Kennelly (5)

(1) Trinity College, Dublin, (2) Cork University Hospital, (3) St James’s Hospital, Dublin, (4) Maynooth University, Ireland, (5) Tallaght University Hospital, Dublin, Ireland

**Background:** Novel treatments which delay progression of MCI to dementia are needed. Transcutaneous vagus nerve stimulation (tVNS) is a non-invasive neuromodulation technique that targets the vagus nerve. Here we explored the acceptability and usability of a novel handheld auricular tVNS device in a cohort with amnesic MCI.

**Methods:** VINCI-AD is an investigator-led, single-site, sham-controlled crossover study. Acceptability of a handheld tVNS device is assessed via Likert scale questions. Usability of the device is subjectively (questionnaires) and objectively measured via an Occupational Therapy designed functional assessment toolkit.

**Results:** Complete trial data is available for 38 participants (mean age 72.7 (range 55–85), 23 male, RBANS DMI  $81 \pm 7$ ). Polypharmacy ( $\geq 5$  meds) was present in 36% (14/38) and 86% (31/36) had a Charleston Comorbidity Index of  $\geq 3$ . One participant experienced moderately severe tinnitus during active stimulation. All participants experienced a tingling sensation; for 94% (36/38) it was slight-moderate, all rated it as “tolerable” and 100% stated they would use the device again. However, only 7% (3/38) stated they felt confident using the device. Objectively, most participants needed assistance with placing the device at the cymba conchae (92%) and addressing lack of skin connectivity (94%). Notably, older participants were overall more skilled at objectively operating the device independently than younger participants ( $r_s = -0.33$ ,  $p = 0.04$ ) and those who owned a smartphone were significantly more likely to operate the device independently ( $r_2 = -0.49$ ,  $p = 0.002$ ).

**Conclusion:** This interim trial data suggests that older participants with MCI could use the tVNS NEMOS® device independently after demonstration on two occasions, and that the device is tolerable with minimal painful side effects in this population.

## LB-18

### The effects of exercise on human memory: A systematic review

ESTER HOYOS ALCAÑIZ (1)

(1) GERIATRICIAN. HOSPITAL GERMANS TRIAS I PUJOL

**Introduction:** The world’s population is ageing, leading to an increase in the prevalence of people with cognitive impairment. This increasing rate and the lack of effective pharmaceutical treatments highlight the value of lifestyle approaches as prevention strategies. Emerging evidence suggests that sedentary behaviour is associated with cognitive impairment. A better understanding of this association would greatly enhance our knowledge of how best to promote healthy cognitive ageing.

**Methods:** Systematic review with multilevel meta-analysis to determine whether physical exercise is effective in improving cognitive

function in the elderly population. Data sources: Medline (PubMed), EMBASE (Scopus) and CENTRAL (Cochrane) electronic databases. Inclusion criteria: randomised controlled trials of exercise interventions in community-dwelling older adults with an outcome measure of cognitive function.

**Results:** Hippocampal neurogenesis continues into old age. Mild to moderate exercise over 1 year appears to prevent hippocampal volume atrophy [1]. After exercise, there are changes in regional cerebral blood flow to the hippocampus and changes in hippocampal grey matter density [2]. There is an increase in functional connectivity between the bilateral parahippocampal gyrus and the bilateral medial temporal gyrus [3]. This correlates with changes in memory scores [4]. Acute exercise (< 45 min) affects long-term memory by stimulating molecular mechanisms involved in encoding and consolidating information. Long-term exercise (> 26 weeks) shows small improvements in short-term memory [5].

**Key Conclusions:** Physical activity can help to compensate for and minimise brain volume loss. It is safe to recommend moderate levels of exercise for older adults as a preventive measure against age-related cognitive decline and as a treatment to reverse cognitive impairment and deficits that are already present.

#### References:

- [1] Erickson KI, Voss MW, Prakash RS, Basak C, Szabo A, Chaddock L, et al. Exercise training increases size of hippocampus and improves memory. *Proc Natl Acad Sci USA* 2011; 108: 3017–22.
- [2] Maass A, Duzel S, Goerke M, Becke A, Sobieray U, Neumann K, et al. Vascular hippocampal plasticity after aerobic exercise in older adults. *Mol Psychiatry* 2015c; 20: 585–93.
- [3] Rojas Vega S, Struder HK, Vera Wahrman B, Schmidt A, Bloch W, Hollmann W. Acute BDNF and cortisol response to low intensity exercise and following ramp incremental exercise to exhaustion in humans. *Brain Res* 2006; 1121: 59–65.
- [4] Ruscheweyh R, Willemer C, Kruger K, Duning T, Warnecke T, Sommer J, et al. Physical activity and memory functions: an interventional study. *Neurobiol Aging* 2011; 32: 1304–19.
- [5] Colcombe SJ, Kramer AF. Fitness effects on the cognitive function of older adults: a meta-analytic study. *Psychol Sci* 2003;14:125–30.

## LB-19

### Psychiatric Disorders an Unsolved Health Problem

Cristina Matovelle (1), Priscila Matovelle (2)

(1) 1. Medical Department of Ozanam Oliver Nursing Home. Department of Microbiology of Zaragoza University, Zaragoza, Spain., (2) Geriatrics Department, San Juan de Dios Hospital, Zaragoza, Spain; 4 Geriatrics Department, Zaragoza University, Zaragoza, Spain

**Introduction:** Psychiatric disorders are often underdiagnosed and inadequately managed in geriatric patients. Medical History: The patient has experienced recurrent episodes of paranoid delirium and persecution, indicative of schizophrenia with a comorbid sensitive trait personality in a moderate-severe stage. Treatment: Biperiden, Olanzapine, Quetiapine, Fluphenazine, Folic-acid. Comprehensive Geriatric Assessment: Social: Single with no children, smoker. Admitted to neuropsychiatric center for 6 years later transferred to a nursing home. Functional: Barthel Index (BI) : 95/100. Cognitive: Schizophrenia with sensitive trait personality in moderate-severe stage. MMSE (Mini-Mental State Examination) : 24/30. Affective: Intense apathy. Case Report: A 79-year-old woman with psychiatric history, multiple psychiatric admissions and declaration of professional incapacity at 53 years of age. She presents with long-lasting

delirium characterized by paranoid and persecutory themes, accompanied by self-referential and allusive ideation. Deterioration of functioning in family and social relationships is noted. In 2022 she suffered an acute decompensation requiring hospitalization, followed by a 6-month prolonged stay in a medium-stay psychiatric facility. Subsequently, she was transferred to a nursing home, where she developed psychotic episodes attributable to her expressed aversion to living with elderly people, with the risk of a potentially fatal outcome for both herself and the other elderly residents. The case was referred to psychogeriatrics who prescribed Fluphenazine 50 mg every 15 days, and the paranoid symptoms improved. She is now stable and adapted to the new social environment.

**Conclusions:** This complex case presents a challenge in healthcare when determining the most suitable facility for her continued admission and care.

## LB-20

### The Impact of COVID-19 on Orthopedic Trauma in two Basic Health Areas in Castilla y León (Spain)

Iker Sierra.Martinez (1), Leticia Sierra-Martinez (2), Rosario Martinez.Fuerte (2)

(1) Traumatology Department, Hospital of Medina de Campo, vALLADOLID (sPAIN), (2) Valladolid Este Primary Assistance Gerency, Valladolid, Spain

**Background and aims:** 1. Determine the frequency of trauma in covid patients, in the population of two urban Basic Health Zones. 2. Analyze the priority of assessment by the trauma service.

Method: Design. Descriptive, cross study. Setting. Two Basic Urban Health Zones. Subjects. All patients > 14 years of age with a diagnosis of Coronavirus disease and a positive test between 05/01/2020 and 01/31/2021. Main measurements. Indicator used: number of covid patients with orthopedic trauma per 100 patients seen in the usual consultation of the health center.

**Results:** 1178 patients with covid were included. Their medical records were reviewed, 15 patients had orthopedic trauma (1.3%) Trauma locations without fracture: lower limb (30%), upper limb (13%), multiple (12%). Fractures in: Upper limb (20%), lower limb (25%) 0.67% were referred to trauma as normal referral, 13% with preference and only 20% urgently).

**Conclusions:** The study period compared to the same period in 2019, presented a record of trauma cases four times lower in the pandemic. While the global COVID-19 pandemic has led to a reduction in the number of trauma patients; Primary care and trauma services have continued to function despite changes in health systems infrastructure, personnel, and pathways.

## LB-21

### Effects of COVID-19 on the Musculoskeletal System: Arthralgias and Myalgias in Extremities

IKER SIERRA.MARTINEZ (1), LETICIA SIERRA.MARTINEZ (2), ROSARIO MARTINEZ.FUERTE (2)

(1) Traumatology Department, Hospital of Medina de Campo (Valladolid), Spain, (2) Valladolid Este Primary Assistance Gerency, Valladolid, Spain

**Background and aims:** 1. To determine the frequency of arthralgias and myalgias in the extremities in covid patients, in the population of

two urban Basic Health Zones. 2. Analyze arthralgias that require evaluation by the trauma and rehabilitation service.

**Method:** Descriptive, cross study. **Setting:** Two Basic Urban Health Zones. **Subjects:** All patients > 14 years of age with a diagnosis of Coronavirus disease and a positive test between 05/01/2020 and 01/31/2021. **Main measurements.** Indicator used: number of covid patients with joint pain and/or myalgia in the extremities per 100 patients seen in the regular consultation at the health center.

**Results:** 1178 covid patients were included. Their medical records were reviewed, 36 patients presented arthritis and/or myalgia in the lower limb (3.1%). Pain locations, leg (27.8%), hand (22.2%), shoulder (20%), thigh and pelvis (11%), ankle and foot (2%), multiple (17%) 0.12% were referred to trauma (92% with normal referral character, 6.5% with preference and only 2.5% urgently).

**Conclusions:** The clinical evaluation of the COVID-19 patient with arthralgia and/or myalgia in the extremities in primary care should follow principles similar to those of the usual clinical practice of processes outside the pandemic in the CP setting. Evidence-based clinical practice guidelines are necessary for pain management and COVID-19 in PCIt should be noted the incidence of arthralgias in the lower limb, especially in the leg.

## LB-22

### Cost-utility analysis of elderly patients attended in teledermatology units vs. conventional dermatology consultations at the hospital

Antonio López-Villegas (1), Remedios López-Liria (2), César Leal-Costa (3), Mercedes Pérez-Heredia (4)

(1) Laboratory for Research, Education and Planning in Critical and Intensive Care Medicine, CTS-609 Research Group, Poniente University Hospital, 04700 El Ejido-Almería, Spain, (2) Health Research Centre, Department of Nursing, Physiotherapy and Medicine, University of Almería, 04120 Almería, Spain, (3) Nursing Department, University of Murcia, 30,003 El Palmar-Murcia, Spain; cleal@um.es, (4) Research Management Department, Primary Care District Poniente of Almería, 04700 El Ejido-Almería, Spain

**Introduction:** Studies on the costs and perceived quality of life of patients with skin problems are very limited. The main objective of this study was to conduct a cost-utility analysis of patients attended in teledermatology (TD) units in Primary Care compared to conventional face-to-face dermatology (F-F/D) consultations performed at the hospital.

**Methods:** This is a randomized, controlled, non-blinded and multicenter study. During the six months of follow-up, 450 patients were included in this study, who were assigned to two different groups: TD versus F-F/D. A cost-utility analysis was performed to assess whether TD units are cost-effective concerning the cost per quality-adjusted life years (QALYs), from the Spanish Public Health System (PHS) and patients perspectives.

**Results:** After the 6-month follow-up, 450 patients completed the study (TD = 225; F-F/D = 225), of whom 36.7% were older than 60 years-old, and women accounted for 53.3% of the patients studied. From PHS perspective, patients in the TD group gained 0.05 QALYs more than the patients included in the F-F/D group. Additionally, TD

reduced costs by 53.04% ( $p < 0.001$ ) per participant. In-person visits decreased by 72.43% in the TD group. For the patients, TD reduced costs by 77.59% ( $p < 0.001$ ). The cost per QALY was 63.34% higher for the patients in the F-F/D group. Finally, patients in the TD group saved 56.34% of the costs compared to F-F/D group ( $p < 0.001$ ).

**Conclusion:** The results of this analysis showed that the implementation of TD units was associated with significant cost savings from both alternatives. Therefore, TD units are a significant cost-effective alternative to conventional hospital follow-ups.

## LB-23

### The Stepping Threshold Test for assessing reactive balance discriminates between older adult fallers and non-fallers

Christian Werner (1), Natalie Hezel (1), Theresa Buchner (1), Lizeth H. Sloot (2), Clemens Becker (3), Juergen M. Bauer (1), Simon Steib (4)

(1) Geriatric Centre, Heidelberg University Hospital, Heidelberg, Germany, (2) Institute of Computer Engineering, Heidelberg University, Heidelberg, Germany, (3) Unit of Digital Geriatric Medicine, Heidelberg University Hospital, Heidelberg, Germany, (4) Institute for Sports and Sports Science, Heidelberg University, Heidelberg, Germany

**Introduction:** The ability to appropriately react to unexpected balance perturbations is crucial for avoiding falls. The Stepping Threshold Test (STT) has recently been developed and validated for assessing this reactive balance ability. The aim of this study was to evaluate the discriminant validity of the STT for identifying older adults with a fall history, and compare it with that of other motor assessments.

**Methods:** Thirty-six older adults (age =  $80 \pm 5$  years, females:  $n = 26$ , 68%) participated in this study, with 13 (36%) of them reporting a fall history. They completed the STT on a perturbation-based treadmill (BalanceTutorTM), receiving unexpected surface perturbations in four directions with progressively increasing magnitude. Single- and multiple-step thresholds were determined and combined into a STT total score. The Timed Up and Go, Short Physical Performance Battery, 4-m gait speed test, 5-chair stand test, Brief Balance Evaluation Systems Test, and Four-Square Step Test were also conducted.

**Results:** Fallers and non-fallers significantly differed in the STT ( $p = 0.034$ ), but in no other motor assessment ( $p = 0.181-0.558$ ). Receiver operating curves revealed the highest and acceptable discrimination accuracy for the STT (area under the curve,  $AUC = 0.72$ ). All other motor assessment showed poor discrimination accuracy ( $AUC = 0.57-0.64$ ). The optimal cut-off of the STT for identifying fallers was 15.5 points, with a sensitivity of 96% and a specificity of 42%.

**Key Conclusions:** These results suggest that the STT is able to discriminate between older adult fallers and non-fallers, and is more suitable for this than other motor assessments not specifically targeting reactive balance.

## LB-24

### High level PA and low level SB didn't improve the poor health status of older adults living in rural areas of China

Xin Zhang (1)

(1) University of Groningen

**Introduction:** Older adults living in rural areas usually experience poorer health status. One of them is frailty, which could be described as a clinical state in which there is an increase in an individual's vulnerability for developing an increased dependency when exposed to a stressor. Health behavior has emerged as the foremost modifiable factor in improving physical performance, with physical activity being widely recognized as the most prominent among them. However, the role of sedentary behavior is still controversial among the improvement of health by PA.

**Objective:** This study aims to describe the health status of older adults living in north-east rural area of China and explore the possible risk factors.

**Methods:** This is an observational study, 367 participants, aged  $\geq 60$  years old have been recruited from 10 villages in rural areas of northeast China. Frailty was defined by Fried Phenotype, PA and SB were recorded according self-reported Short Form International Physical Activity Questionnaire (IPAQ-SF). Physical, psychological and cognitive function were assessed by PHQ-9, GAD-7, MMSE, SPPB, and other physical tests. In addition, social support was also investigated. Statistical analysis was conducted based on SPSS 25.0. The test criteria were defined as bilateral  $\alpha = 0.05$ ,  $P < 0.05$  was considered statistically significant.

**Results:** A total of 289 subjects completed the assessment, only 1.3% ( $n = 4$ ) of them were described as robust, almost all of them ( $> 98.6\%$ ) suffered different degree of health damage, although most of them have high level PA (70.53%) and low level SB (73.7%). Among the pre-frail and frail subjects, slowing walking speed (99.3%) is the most common manifestation, followed by limited mobility (74.4%), and most of them are low-income (94.4%), farmer (86.7%), and just complete primary compulsory education (79.6%). It is note worthy that the incidence of psychological problems is higher (depression: 67.4%; anxiety: 61.4%), which plays a negative mediation role to physical health ( $R^2 0.363$ ,  $p < 0.001$ ).

**Conclusion:** Besides physical activity and sedentary behavior, there are other key factors which effect the health status of older adults living in rural areas of China. Perceived and psychological health may need more attention in the future research.

## LB-25

### Reference values of muscle mass in Greek healthy male and female adults. A step needed to better assess sarcopenia

George Soulis (1), Eleni Zigkiri (2), Athina Maniati (2), Konstantina Antoniou (3), Artemis Kalimeri (4), Efstratios Georgiadis (4), Anastasia Koutsouri (2)

(1) Outpatient Geriatric Assessment Unit, Henry Dunant Hospital Center, Athens, (2) Outpatient Geriatric Assessment Unit, Henry Dunant Hospital Center, Athens, (3) Dietetics Department, Henry Dunant Hospital Center, Athens, (4) Radiology Department, Henry Dunant Hospital Center, Athens

**Introduction:** Sarcopenia is a condition that involves loss of muscle mass and function that can arise across ageing or in the course of

certain diseases. Clinical practice recognition is relatively new but continuously growing in importance since it has been demonstrated to correlate with health outcomes. Several studies have attempted to calculate the prevalence of sarcopenia in community dwelling older people using more than one of the available diagnostic criteria. They concluded that the prevalence of sarcopenia for the same population differed depending on the tool used to estimate its presence. This differences and discrepancies make it urgent to develop a method to accurately estimate sarcopenia for each population. For this reason, it is of great importance to establish country specific muscle mass reference values using several methods of muscle mass measurement, since it is suggested that results for skeletal mass can only be compared with the values of the appropriate reference population.

**Materials and Methods:** 185 healthy subjects (102 males) 20 and 44 years old have been evaluated between January 2020 and March 2022 for their muscle mass using dual-energy x-ray absorptiometry (DEXA with QDR 4500 A fan Beam densitometer Hologic, Inc., Bedford, MA) and Bioelectrical Impedance Analysis (BIA) with TANITA Body Composition Analyzer device, model BC-418MA. Data was expressed using descriptive statistics including mean, standard deviation, median, percentiles, min and max for continuous variables and frequencies, percentages for categorical variables. The Kolmogorov–Smirnov test was utilized for normality analysis of the parameters.

**Results:** Appendicular Lean Mass per height measured by DEXA for healthy males was  $7.37 \text{ kg/m}^2$  with Standard Deviation (SD)  $0.90 \text{ kg/m}^2$  and lean mass/height<sup>2</sup> was  $16.40 \text{ kg/m}^2$  (1.99) Lean mass measured by BIA was  $68.02 \text{ kg}$  for males (SD 9.22). For females appendicular lean mass was  $5.30 \text{ kg/m}^2$  with SD  $0.62 \text{ kg/m}^2$  while lean mass/height<sup>2</sup> was  $12.83 \text{ kg/m}^2$  (SD 1.22) and lean mass  $44.59 \text{ kg}$  (SD 4.40).

**Discussion:** It is of great importance to set the reference values of muscle mass at population level in order to better define and assess sarcopenia. Here we present the results for a relatively representative, though small, sample the Greek population. Using these results, we will be able to define sarcopenia and make comparisons with other countries (neighbouring or distant).

## LB-26

### The effect of floods on older people's health and social care utilisation: preliminary results of a scoping review

Jennifer Farren (1), Matthew Prina (2), Shereen Hussein (3), Sari Kovats (4)

(1) London Clinical Frailty Network, NHS England, UK, (2) Population Health Sciences Institute, Faculty of Medical Sciences, Newcastle University, UK, (3) Department of Health Services Research and Policy, Faculty of Public Health and Policy, London School of Hygiene and Tropical Medicine, UK, (4) Department of Public Health, Environments and Society, Faculty of Public Health and Policy, London School of Hygiene and Tropical Medicine, UK

**Background:** Floods are becoming more frequent and devastating, as happened in Italy this year. We aim to ascertain the effect of floods on older people's health and social care utilisation.

**Methods:** Scoping review methodology outlined by Arksey and O'Malley. Comprehensive searches on older people, floods, and health and social care services on MEDLINE, EMBASE, PsycINFO, Global Health and CINAHL from January 2000 to June 2023 performed. Two reviewers screened all titles and abstracts. One reviewer extracted all data and mapped the evidence.

**Results:** We retained six articles from two countries for analysis, all of which high quality and based on extensive databases. Two studies focussed on healthcare utilisation and four on social care provision. Floods led to a significant increase in hospitalisation for chronic respiratory conditions (RR 1.58 95% CI 1.24–2.00) and food-and-waterborne diseases (RR 3.02 95% CI 1.60–5.69) on the day of the event and an increase for cardiovascular disease (RR 1.06 95% CI 0.93–1.20) and respiratory infections (RR 1.85 95% CI 1.35–2.53) six days post-exposure. Floods led to increased prescriptions for acute mental health problems, peaking two months post-exposure. Also, floods contributed to an 8.2% increase in home-based support and care home admissions (adj HR 3.23 95% CI 2.88–3.64) within a month of exposure. More worryingly, flood exposure led to a permanent increase in care needs in older people (adj HR 1.24 95% CI 1.06–1.45).

**Conclusions:** Older people affected by floods have an increased risk of hospital admission and psychological distress requiring medication. Moreover, exposure to floods seems to exacerbate social care needs permanently.

## LB-27

### Sedative Use is Associated with Slower Gait and Recent Falls in Community Dwelling Older Adults

Dr Gavin Sedgwick (1), Dr Helena Dolphin (1), Dr Conor Young (1), Dr Adam Dyer (1), Prof. Sean Kennelly (1), Dr Paul McElwaine (1)

(1) Tallaght University Hospital

**Background:** Community-dwelling older adults have specific care needs, and maintaining independence at home for as long as possible is a common goal of care. Antipsychotic and sedative medications have well documented harmful side effects, however the community prevalence of their use varies between countries.

**Methods:** A consecutive sample of patients referred to Integrated Care and seen by case worker on domiciliary visit from August 2021 to April 2023 were included for analysis.

**Results:** Of 279 individual patient contacts, 182 had complete data to analyse. There were 103 women in the sample, age range 63–97 (mean 80.8) years old. Eighty-two (45%) patients had no home care package, 56 (31%) had 1–11.5 h a week and 44 (24%) had  $\geq 12$  h care a week. The average number of medications prescribed per patient was 7.5 ( $\pm 3.7$ ) with 82.4% (150/182) prescribed  $\geq 5$  medications. Thirty-two (32/182; 17.5%) patients were prescribed regular antipsychotics, 48 (26.3%) were prescribed regular sedatives (benzodiazepines or Z-drugs) and 68 (37.3%) were prescribed antidepressants (SSRI/SNRI/Trazodone/TcAs). Both recent falls in past 6 months ( $\times 2 = 9.37$ ;  $p < 0.05$ ) and slower timed up and go (TUG) ( $r = 0.29$ ;  $p < 0.05$ ) were significantly associated with sedative use however antipsychotic use was not associated with falls or slower TUG. Fear of falling was significantly associated with falls ( $\times 2 = 16.12$ ;  $p < 0.05$ ) and antidepressant use ( $\times 2 = 21.5$ ;  $p < 0.05$ ).

**Conclusion:** These data suggest higher than previously reported prevalence rates of antipsychotic and sedative prescription for community-dwelling older adults. Targeted de-prescribing where appropriate may mitigate the deleterious side effects of these drugs in this group.

## LB-28

### The effect of real-world interaction on the perception of a social robot in care for older people

Slawomir Tobis (1), Joanna Piasek-Skupna (2), Aleksandra Suwalska (3)

(1) Department of Occupational Therapy, Poznan University of Medical Sciences, Poznan, Poland, (2) Institute of Robotics and Machine Intelligence, Poznan University of Technology, Poznan, Poland, (3) Department of Mental Health, Chair of Psychiatry, Poznan University of Medical Sciences, Poznan, Poland

**Introduction:** Effective implementation of a social robot in care for older adults is not possible without adequate acceptance tests. Many studies using photographs or videos depicting a robot have been conducted without the possibility of interacting with it. The aim of our study was to analyse changes in older people's perception of a humanoid social robot (HSR) after a real-world interaction.

**Methods:** One hundred older people were assessed twice with the Godspeed Questionnaire Series (GQS) : after viewing a photograph of HSR TIAGo only and after interacting with the machine in a practical manner. GQS evaluates the robot's perception parameters as semantic differentials on a scale of 1–5, grouped into five series: 1-Anthropomorphism, 2-Animation, 3-Likeability, 4-Perceived intelligence, 5-Perceived safety (e.g., 1-Unintelligent...5-Intelligent) .

**Results:** In the post-interaction assessment of the TIAGo robot, no lower scores were observed for any item relative to the first (photo-based) scoring. The largest positive changes were observed for the Likeability series ( $p < 0.001$ ) due to the change in the items Unfriendly-Friendly ( $p < 0.01$ ), Unkind-Kind ( $p < 0.01$ ), Unpleasant-Pleasant ( $p < 0.01$ ) and Awful-Nice ( $p < 0.001$ ). Interaction with the robot also had a positive effect on the results of the Anthropomorphism series ( $p < 0.01$ ), mainly due to the improvement of the Moving rigidly-Moving elegant item ( $p < 0.001$ ).

**Key Conclusions:** Our study shows a positive change in the perception of an HSR by older people after interacting with it. This is one of the first studies of this type showing that interaction positively changes perception, so it must be an indispensable element of the robot's design.

## LB-29

### Obstructive sleep apnoea, oxidative stress and age-related frailty: A-OX-FRAIL study protocol

María Juárez España (1), Victoria Sánchez-Flor Alfaro (1), Ana Isabel Soria Robles (1), Cristina Aguado Blanco (1), Marina Alcaraz Barcelona (2), Jesús Jiménez López (3), Ramón Coloma Navarro (3), Esther López Jiménez (1), Mariano Esbrí Víctor (1), Melisa

(1) Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain., (2) Neumology Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain., (3) Neumology Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. Facultad de Medicina de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain., (4) Geriatrics Department, Complejo Hospitalario Universitario de Albacete,

Albacete, Spain. Facultad de Enfermería de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain. CIBERFES, Instituto de Salud Carlos III, Madrid, Spain., (5) Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. CIBERFES, Instituto de Salud Carlos III, Madrid, Spain. Fundación Hospital Nacional de Paraplégicos, Toledo, Spain., (6) Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. Facultad de Medicina de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain. CIBERFES, Instituto de Salud Carlos III, Madrid, Spain

**Introduction:** Obstructive sleep apnea (OSA) is a highly prevalent respiratory disorder and its prevalence increases with age. OSA may contribute to the development of frailty and increase oxidative stress in older people. This could be attributed to the fact that the intermittent hypoxia that occurs during apnea episodes can lead to inflammation and oxidative stress in the body, which can accelerate the aging process and increase the risk of chronic diseases. The main objective of this study will be to analyse whether the summative oxidative stress burden associated with the ageing process, frailty and OSA is differentially associated with adverse health events in real life.

**Methods:** Prospective cohort study, followed up for 2 years. The study will include 198 adult participants seen in outpatient clinics categorised into 6 homogeneous groups according to their age, diagnosis of OSA and frailty, which will allow a more accurate comparison of the results and a better understanding of the effects of OSA and frailty in ageing as well as the modulating effect of oxidative stress. A cardio-respiratory polygraphy will be performed at the beginning of the study. At baseline, 12 and 24 months, densitometry, muscle ultrasound and hand grip strength will be performed to assess nutritional status, sarcopenia and frailty, as well as determination of markers of oxidative stress and low-grade inflammation in plasma.

**Key Conclusions:** The hypothesis of this study is that OSA and frailty are two health conditions that are interrelated in older adults and that increased levels of chronic low-grade inflammation and oxidative stress modulate the development of adverse health events in this age group.

## LB-30

### Real-life study of a physical activity intervention programme in elderly patients after admission to an Intensive Care Unit: ACTIVA-UCI study protocol

María Juárez España (1), Alicia Noguero García (1), Rafael García Molina (2), Isabel Murcia Sáez (3), Martín Mario Pérez Villena (3), Álvaro Jara Gutiérrez (1), Juan Diego Egido Riscos (1), Isabel de Siles Crespo (1), Marta Sáez Blesa (1), Laura Plaza Ca

(1) Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain., (2) Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. CIBERFES, Instituto de Salud Carlos III, Madrid, Spain., (3) Intensive Care Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain., (4) Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. CIBERFES, Instituto de Salud Carlos III, Madrid, Spain. Facultad de Enfermería de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain., (5) Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. CIBERFES, Instituto de Salud Carlos III, Madrid, Spain. Fundación Hospital Nacional de Paraplégicos, Toledo, Spain., (6) Geriatrics Department, Complejo Hospitalario Universitario de Albacete, Albacete, Spain. CIBERFES, Instituto de Salud Carlos III,

Madrid, Spain. Facultad de Medicina de Albacete, Universidad de Castilla-La Mancha, Albacete, Spain

**Introduction:** Older adults that survive a critical illness present with higher functional and cognitive decline than its counterparts hospitalized in a conventional bed, which entails a higher risk of rehospitalization and institutionalization. The creation of multicomponent physical rehabilitation programs-starting from ICU and after discharge-is a necessity, particularly as a crucial intervention to prevent physical and functional disability secondary to hospitalization. The aim of the study is to analyse whether a multicomponent real-life intervention (nutrition, exercise and geriatric assessment) is effective in reducing the loss of physical function measured by the Short Physical Performance Battery in older patients after ICU admission.

**Methods:** Prospective in real life study. The study population will be 40 frail, sarcopenic or malnourished subjects aged 70 years or older attending the Intensive Care Unit of Albacete Hospital who agree to participate. On discharge, a multidisciplinary intervention will be carried out by the Geriatrics Department that will include multicomponent physical exercise for 16 weeks, nutritional intervention and Geriatric Assessment with management of geriatric syndromes. Other effects caused by physical exercise will be monitored, such as quality of life improvement, body composition and muscle mass changes, balance and gait patterns changes, mental health changes (depression, anxiety, post-traumatic stress responses, cognition and delirium) and feelings of loneliness; as well as if multicomponent interventions improve nutritional state and reduce disability and dependency.

**Key Conclusions:** The following study will carry out a holistic patient evaluation from the point of view of both intensive care and geriatricians, through early follow-up consultations and the development of a physical exercise and nutritional program focused on the patient.

## LB-31

### Identifying Delirium and Dementia Through Electronic Falls Reporting

Shiraz Mehmood (1), Ahmad Roney (1), Cynthia Zimuto (1), Krishanthi Sathanandan (1), Mark J Rawle (2)

(1) Whipps Cross University Hospital, London, UK, (2) Whipps Cross University Hospital, London, UK and MRC Unit for Lifelong Health and Ageing at UCL, London, UK

**Introduction:** Hospital inpatients with dementia have increased falls risk [1], exacerbated during delirium [2]. Preventing these falls requires adjusted strategies accounting for cognitive impairment. Electronic falls reporting systems provide an opportunity to identify trends in this population to target these stratagems. We assessed local reporting systems' ability to identify persons with dementia and delirium.

**Methods:** Two months of electronic falls reports from a UK teaching hospital were assessed for responses to the questions "Was confusion/dementia present?" and "Was restlessness/agitation present?". Two geriatric medicine doctors analysed these patients' medical records for delirium and dementia at the time of fall. Sensitivity and specificity were calculated for positive responses to either question, plus a combined metric (a positive answer to either question).

**Results:** One-hundred falls were identified. Dementia was best identified through the combined metric which had a sensitivity of 67% (95% CI 46–83%) and a specificity of 79% (95% CI 68–88%). Delirium was also best detected by this measure (sensitivity 75%, 95% CI 67–83%, and specificity 71%, 95% CI 62–78%). The most

specific metric was restlessness/agitation alone, which had a specificity of 89% (95% CI 78–94%) for dementia and 83% (95% CI 75–90%) for delirium; however, this measure had low sensitivity (37% for dementia, 25% for delirium).

**Key Conclusions:** Electronic falls reports can accurately identify a proportion of persons presenting with dementia and delirium, yet even with best available data approximately 30% of cases might be missed using this method alone. Upskilling teams involved in reporting may improve these measures.

**References:** .

1. Fernando E, Fraser M, Hendriksen J, et al. Risk Factors Associated with Falls in Older Adults with Dementia: A Systematic Review. *Physiother Can.* 2017;69 (2) :161–170. <https://doi.org/10.3138/ptc.2016-14>.
2. Kalivas B, Zhang J, Harper K, et al. The Association between Delirium and In-Hospital Falls: A Cross-Sectional Analysis of a Delirium Screening Program. *J Aging Res.* 2023 Jan 30;2023:1,562,773. <https://doi.org/10.1155/2023/1562773>.

### LB-32

#### Protocol of the Translation of 4AT delirium screening tool in Greek, in Hospitalized Geriatric Patients

Anastasia Koutsouri (1), Konstantina Giannopoulou (2), Konstantina Manolopoulou (3), Theodora Tsikatu (4), Eleni Zigkiri (5), George Soulis (6)

(1) Internist Director 1st Internal Medicine Department Henry Dunant Hospital Center, Outpatient Geriatric Assessment Unit, Henry Dunant Hospital Center, (2) Konstantina Giannopoulou (Director Neurologist 2nd Clinic Henry Dunant Hospital Center), (3) Nurse Henry Dunant Hospital Center, (4) Nurse Henry Dunant Hospital, (5) Physiotherapist, Outpatient Geriatric Assessment Unit, Henry Dunant Hospital Center, (6) Geriatrician, Outpatient Geriatric Assessment

Delirium is a severe neuropsychiatric syndrome, usually triggered by underlying medical illness, surgery, or drugs, which affects hospital patients. It is more common in older people and people with dementia ranging from 22 to 76% among hospitalized patients. Early detection and appropriate management of delirium plays an important role in the discharge of the patient. The 4AT is a valid delirium screening tool (two minutes duration) that include four items: (1) bedside evaluation of alertness; (2) the Abbreviated Mental Test 4 (AMT4); (3) attention and (4) an evaluation of recent acute changes in mental status. The aim of this study is to translate and validate the 4AT tool in Greek population in order to promote geriatric medicine in hospital care in a country without acknowledged geriatric specialization. The procedure includes forward and back translation of the English version of the questionnaire by bilingual translators and the synthesis to the Greek version, following international guidelines. As a next step the pilot evaluation of the questionnaire shall be tested by two independent nurses in fifteen hospitalized patients, reporting on feasibility of the test. The convergent validity of the questionnaire will be tested into the same hospitalized patients in accordance with the DSM V scale by two independent health care professionals (a doctor and a nurse), with

half hour time difference. The results of the study shall be analyzed in order to validate the 4AT questionnaire into the Greek population.

### LB-33

#### Longitudinal Profiles of Physical Activity during a Seven-year Follow-up in the Finnish Geriatric Intervention Study to Prevent Cognitive Impairment and Disability (FINGER)

Saila Kyrönlahti (1), Tiia Ngandu (2), Jenni Lehtisalo (2), Miia Kivipelto (3), Jenni Kulmala (4)

(1) 1 Department of Public Health and Welfare, Population Health Unit, Finnish Institute for Health and Welfare (THL); 2 Faculty of Social Sciences (Health Sciences) and Gerontology Research Center, Tampere University, Finland, (2) Department of Public Health and Welfare, Population Health Unit, Finnish Institute for Health and Welfare (THL), (3) 1 School of Medicine, Institute of Public Health and Clinical Nutrition, University of Eastern Finland, Kuopio, Finland; 2 Division of Clinical Geriatrics, Center for Alzheimer Research, Department of Neurobiology, Care Sciences and Society, Karolinska Institute, Stockholm, Sweden; 3 Ageing Epidemiology Research Unit, School of Public Health Imperial College London, London, United Kingdom, (4) 1 Department of Public Health and Welfare, Population Health Unit, Finnish Institute for Health and Welfare (THL); 2 Faculty of Social Sciences (Health Sciences) and Gerontology Research Center, Tampere University

**Objectives:** This study examined the longitudinal profiles of physical activity (PA) during a seven-year follow-up among the participants of the Finnish Geriatric Intervention Study to Prevent Cognitive Impairment and Disability (FINGER). Second aim was to investigate baseline factors that predicted membership in the derived profiles.

**Methods:** Participants were randomized to a control group receiving general health guidance and an intervention group receiving a multimodal intervention that included guided physical exercise, diet advice, cognitive training, and vascular risk factor management for two years. The participants repeatedly reported their weekly frequency of moderate-intensity PA, and it was analyzed on a scale from 0 to 5. Data were used from five time points: baseline and 1, 2, 5, and 7 years after baseline. Persons who had PA data available on at least at two time points were included (n = 1188, 46% women, mean age 68.8 years (SD 4.7) ). Latent class growth analysis was used to identify PA profiles, and multinomial logistic regression to determine the associations of baseline predictors with the derived PA profiles.

**Results:** Six distinct PA profiles were identified: "Very high-stable" (5%), "High-stable" (20%), "Moderate-stable" (47%), "Moderate-steeply declining" (5%), "Low-slightly increasing" (13%), and "Constantly inactive" (10%). Men were more likely than women to belong to the two most active profiles, whereas older age predicted membership in "Moderate-steeply declining" profile. Having more depressive symptoms as assessed by Zung total score predicted membership in "Constantly inactive" and "Low-slightly increasing" profiles. Participants with higher scores on internal and social motivational factors belonged more often to the most active profiles. Baseline cognition or randomization status did not differ between the



profiles.

**Conclusions:** For the majority, PA remained rather stable during the follow-up, however heterogeneity in the development of PA was also identified as well as factors associated with the least and most optimal PA profiles.

## LB-34

### Medication Therapy Management for patients with polypharmacy—breaking news from Poland

Agnieszka Neumann-Podczaska (1), Sławomir Tobis (1), (2), Katarzyna Wieczorowska—Tobis (1)

(1) Poznan University of Medical Sciences, (2)

**Background:** Pharmaceutical care is an integral part of any healthcare system. Taking into account polypharmacy among elderly and potentially inappropriate pharmacotherapy in these patients there was a need to create both substantive foundations and practical solutions in the area of pharmaceutical care in geriatrics. Medication Therapy Management (MTM) pilot project was established by the Ministry of Health in Poland in order to develop an implementing act to the Act on the Pharmacist Profession of 10/12/2020 (Regulation of the Minister of Health of December 2021), which are groundbreaking legislation for pharmacists in Poland.

**Objective:** According to these acts patients with polypharmacy were provided MTM by certified pharmacists in order to create a new guaranteed health service as an integral part of the healthcare system in Poland.

**Method:** This was an intervention study carried out in the period of 1.01.2022–30.06.2023 based on the Regulation of the Minister of Health of December 2021 and financed by the National Health Fund. The pilot project involved 75 experienced pharmacists who provided MTM in community pharmacies all over the Poland (14 voivodships) and 850 patients (1557 women (65,5%) 293 men (34,5%), Av.age 73,5 ± 10,1 (74; 32-95) Females 74,5 ± 9,8 (75; 32–95), Males 71,6 ± 10,4 (72; 38–94) with polypharmacy (5 + medications) and major polypharmacy (10 + medications) .

**Results:** The implementation of the pilot program of drug reviews allowed to reduce the intensity of polypharmacy in 65% of patients who completed the full cycle of activities under the project. This effect was independent of the age and sex of the patients. Most of the pharmacists' recommendations were accepted by patients and physicians and contributed to a significant reduction in the number of drug-related problems. That was also proved that the frequency of clinically significant interactions i.e. triple whammy interaction, NSAIDs and antihypertensives drugs was substantially lower in the patients in whom MRM was provided. Thanks to the tripartite cooperation of patients, pharmacists and doctors, it was possible to reduce the symptoms and improve the general well-being of patients who took advantage of the opportunity to participate in the pilot program.

**Conclusions:** Results of the study confirms the usefulness of MTM model. The results were summarized in the Evaluation Report and Service Implementation Analysis along with the appendix—National Health Fund pharmacoeconomic analysis and the MTM Standard as a

guaranteed service—consensus document and presented to the Ministry of Health and the Agency for Health Technology Assessment and Tariff System in Poland in order to create a new pharmaceutical service dedicated for elderly with polypharmacy, financed by the National Health Fund.

## LB-35

### Translation and validation of PRISMA 7 in Greek

Efstathia Kyriakopoulou (1), Eleni Zigkiri (2), Zikos Kentros (1), Anastasia Koutsouri (2), George Soulis (2)

(1) Department of Physiotherapy, Henry Dunant Hospital Center, Athens, (2) Outpatient Geriatric Assessment Unit, Henry Dunant Hospital Center, Athens

**Introduction:** Frailty is already a long known and well studied entity with a continuously expanding literature concerning it. At the same time there are countries with less developed Geriatrics, such as Greece with an important lack of tools to screen and detect frailty. There is little if no such tools translated and validated in Greek. Aim: We wanted to translate and validate the PRISMA 7 tool which is an established screening instrument used in Primary Health Care setting in order to provide the opportunity to early detect frailty in the community and advance appropriate study of frailty in Greece.

**Materials and Methods:** Permission was granted by the authors of PRISMA-7 for the translation. The validation was conducted at the "Henry Dunant" Hospital Center between October 2022 and May 2023. The sample was seventy-four males and females older than 65 years either outpatients or relatives of them or people that directly contacted the study expressing personal interest to participate. The PRISMA-7 questionnaire was translated and filled while the Short Physical Performance Battery (SPPB) was measured. Data were analyzed with IBM® SPSS® version 25.

**Results:** PRISMA-7 was translated by two translators into the Greek language. After combination and agreeing on a Greek translation, the text was back-translated by two translators into English. The translation was then compiled into a text and compared with the original text and agreement was achieved. Seventy-four participants participated in this study. The majority of the participants were female (n = 44, 59.5%) while 30 (40.5%) were men. Participants' mean age was 80.47 years (SD = 7.45 years, minimum—maximum age = 65–95). The age group with highest frequency was the age category of 76–80 years (n = 21, 28.4%). The sample was gender-age matched (p-value = 0.298). All items had acceptable Measures of Sampling Adequacy (MSA) over the value of 0.7 except item 6 (0.282). Because of the low MSA in item 6, which was lower than 0.5, according Hair et al. (1998), it was decided to be removed from the analysis. A new factor analysis was assessed with a higher KMO equal to 0.783. Using the SPPB questionnaire as a reference (gold) standard, PRISMA scale (with the 6 items) showed an excellent discrimination (AUC = 0.915, 95% CI 0.848–0.981). A cut-off point of 2 or higher for PRISMA-7 was applied, and indicated sensitivity of 88.1%, and specificity of 99.9%.

**Discussion:** PRISMA 7 tool translated in Greek can be a very useful tool that can accurately detect frailty in the community setting, if we

set cut-of values of 2 points and we remove the item 6 when delivering it.

**Reference:**

Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis* (5th ed.). Upper Saddle River, NJ: Prentice Hall.

### LB-36

**Cross-cultural Adaptation and Clinical Validation of TIME (Turkish inappropriate medication use in the elderly) Criteria to Detect Potentially Inappropriate Prescribing in Older Adults: Methodological Report from the TIME International Study Group**

Gulistan Bahat (1), Tugba Erdogan (1), Busra Can (2), Serdar Ozkok (1), Birkan Ilhan (1), Asli Tufan (2), Mehmet Akif Karan (1), Georg Ruppe (3), Antonio Cherubini (4), Lisa McCarthy (5), Onder Graziano (6), Jerzy Gasowski (7), Karolina Piotrowicz (7), Mi

(1) Istanbul University Faculty of Medicine, Department of Geriatrics, (2) Marmara University Faculty of Medicine, Department of Geriatrics, (3) Geriatrician, Vienna, Austria, (4) Geriatrician, IRCCS INRCA Istituto Nazionale di Ricovero e Cura per Anziani, (5) University of Toronto, (6) Catholic University of the Sacred Heart, Department of Geriatrics, (7) Jagiellonian University, Department of Internal Medicine and Gerontology, (8) University of Munich, Department of Geriatrics, (9) University Hospital Parc de Salut Mar, Barcelona, Department of Geriatrics, (10) University of Heidelberg, (11) Tel Aviv University, Department of Geriatrics, (12) University College Cork, Geriatric Medicine, (13) Ghent University

**Introduction:** The TIME Criteria is an explicit screening tool designed to manage inappropriate medication use (IMU) and has received validation from European experts. The initial draft was based on the STOPP/STARTV2 and CRIME criteria but underwent further development to create the final-criteria-set. A mobile application is freely available to facilitate its practical use. Translating/adapting tools to the native language of clinicians increases applicability. As part of an international initiative, we aim to validate the TIME Criteria across various countries. In this paper, we present the methodology to guide research teams in their validation studies.

**Methods:** Cross-cultural adaptation will involve three bilingual professionals with expertise in geriatrics. In clinical validation studies, a minimum of 536 participants will be included. We will analyze the prevalence of IMU (determined by the TIME Criteria) and its cross-sectional associations with geriatric syndromes (GS). Subsequently, participants will be randomized into two groups: the first group will receive standard care, while the intervention group will have their treatment modified according to the TIME Criteria. Outcome measures will include the number of hospital admissions, quality-of-life, number of medications, GS, and mortality.

**Results:** This international initiative is designed for broad dissemination. The outcomes will be presented in a series of research papers.

**Key Conclusions:** This study aims to raise awareness of the significance of IMU and the validation of IMU-tools across different languages. The organization of this intercontinental initiative has taken significant time, resulting in its submission as a late-breaking-

abstract. Its possible presentation is expected to expedite its goals by reaching a wide audience of clinicians/researchers.

### LB-37

**Introducing the Minimal Important Clinical Change (MIC) for Handgrip Strength (HGS) in Geriatric Setting to Guide Management of Sarcopenia in Practice and Researches**

Gulistan Bahat Ozturk (1), Caglar Ozer Aydin (1), Duygu Erbas Sacar (1), Meryem Merve Oren (2), Cihan Kilic (1), Zeynep Fetullahoglu (1), Sirin Zelal Sahin Timova (1), Stany Perkisas (3), Karolina Piotrowicz (4), Jerzy Gasowski (4), Joanna Czesak (4), Si

(1) Istanbul University, Istanbul Medical School, Department of Internal Medicine, Division of Geriatrics, (2) Istanbul University, Istanbul Medical School, Department of Public Health, (3) University of Antwerp, University Center of Geriatrics, (4) Department of Internal Medicine and Gerontology, Faculty of Medicine, Jagiellonian University Medical College, (5) Ege University, Department of Internal Medicine, Division of Geriatrics, (6) Department of Geriatrics, Medical University of Bialystok, (7) Kırıkkale University, Department of Internal Medicine, Division of Geriatrics, (8) Outpatient Geriatric Assessment Unit, Henry Dunant Hospital Center, (9) Hospital Universitario Ramón y Cajal Geriatrics Department

**Introduction:** Sarcopenia is characterized by the loss of skeletal muscle mass and strength with well-known negative consequences. Minimal-important-clinical-change (MIC) is “the smallest difference in score in the domain-of-interest which patients perceive as beneficial and would mandate its management”. MIC for handgrip-strength (HGS) is required to follow the course and determine if a suggested therapeutics is successful in sarcopenia. We aimed to identify MIC for HGS to be used in geriatrics setting.

**Methods:** An international multicenter, observational-longitudinal study conducted in post-acute older patients between November 2021-June 2023. Required minimal sample size was  $n = 214$ . HGS was assessed by a Jamar or Takei dynamometer. Baseline-measurement was taken within 48 h after-admission and last-measurement within 48 h before-being-discharged. Patients and professionals (-proxies) were asked to provide a global rating of perceived changes in patients' upper extremity using a 7-point Likert scale. Scores  $\leq 2$  and  $> 6$  were considered minimal important (significant) change clinically. We performed receiver operating characteristic (ROC) analysis to identify the optimal HGS-change-to-detect-MIC via using an anchor-based method.

**Results:** We included 229 patients [mean age (SD) : 80 (8)] (Table). According to patients' evaluation, MIC-for-HGS-change providing best balanced value with sensitivity (Se) and specificity (Sp) values was  $> 2.6$  (Se, 43.2%; Sp 75.1%) (AUC = 0.622,  $p = 0.01$ ). HGS-change:  $> 3$  had Sp  $> 80\%$  and  $> 4$  had Sp  $> 90\%$  (Fig. 1). According to proxys' evaluation, MIC for HGS-change was again  $> 2.6$  and HGS-change:  $> 3$  had Sp  $> 80\%$  and  $> 4$  had Sp  $> 90\%$  (Fig. 2).

**Key Conclusions:** To-our-knowledge, this study provided MIC for HGS to be used in geriatrics setting for the first time. Table. Basal and follow-up characteristics of the study population (patients) ( $n = 229$ ) Age (mean, SD) 80 (8) Sex (n,%) female (136, 59.4%) male (93, 40.6%) Dominant hand right (93, 92.1%) No of chronic diseases

(mean) (SD); (median) (min–max) 5 (2); 5 (0–11) CIRS-G (mean) (SD); (median) (min–max) 12.9 (6.4); 11 (2–27) No of regular drugs/d (mean) (SD); (median) (min–max) 7 (4); 7 (0–18) ADL score-1 4 (2); 4 (0–6) ADL score-3 5 (2); 5 (0–6) MNA-SF score-1 9 (3); 9 (1–14) MNA-SF score-3 9 (3); 10 (1–14) SARC-F score-1 5 (3); 5 (0–11) SARC-F score-3 4 (3); 4 (0–10) SARC-GG score-1 3 (2); 3 (0–7) SARC-GG score-3 3 (2); 3 (0–10) FRAILscore-1 3 (1); 3 (0–5) FRAILscore-3 3 (1); 3 (0–5) Fried score-1 3 (1); 3 (0–5) Fried score-3 3 (1); 3 (0–5) GDS-4 score-1 1 (1); 0 (0–5) GDS-4 score-3 2 (1); 1 (0–5) EQ-5D score-1 8 (2); 8 (5–15) EQ-5D score-3 8 (2); 8 (5–14) Change between HGS-1 and HGS-3 2.2 (2.1); 2.0 (0–14.1) Change by Likert scale according to the patient in the second evaluation 1 (Much better) 2, 1.4% 2 (A little better, meaningful) 23, 16.0% 3 (A little better, not meaningful) 30, 20.8% 4 (About the same) 56, 38.9% 5 (A little worse, not meaningful) 26, 18.1% 6 (A little worse, meaningful) 5 (3.5%) 7 (Much worse) 2 (1.4%) Change by Likert scale according to the health professional in the second evaluation (-proxy) 1 (Much better) 2, 1.4% 2 (A little better, meaningful) 19, 13.2% 3 (A little better, not meaningful) 32, 22.2% 4 (About the same) 58, 40.3% 5 (A

little worse, not meaningful) 27, 18.8% 6 (A little worse, meaningful) 3 (2.1%) 7 (Much worse) 2 (1.4%) Fig. 1. MIC for HGS change according to the patient evaluation HGS Change: > 2.6 (sensitivity, 43.2%; specificity; 75.1%) (best cut-off with balanced Se and Sp values) AUC = 0.622 (95% CI 0.556–0.685),  $p = 0.01$ ; Youden index = 0.183 HGS Change: > 3 (sensitivity, 31.8%; specificity; 81.1%) (Sp values > 80%) HGS Change: > 4 (sensitivity, 22.7%; specificity; 90.3%) (Sp values > 90%) Fig. 2. MIC for HGS change according to the health professional evaluation (-proxy) HGS Change: > 2.6 (sensitivity, 47.7%; specificity; 76.2%) (best cut-off with balanced Se and Sp values) AUC = 0.636 (95% CI 0.570–0.70),  $p < 0.001$ ; Youden index = 0.239 HGS Change: > 3 (sensitivity, 36.4%; specificity; 82.2%) (Sp values > 80%) HGS Change: > 4 (sensitivity, 27.3%; specificity; 91.4%) (Sp values > 90%).

**Publisher's Note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.