

---

## **Abstracts 40e Wintermeeting Belgische Vereniging voor Gerontologie en Geriatrie 2017**

**Auteurs:** Belgische Vereniging voor Gerontologie en Geriatrie

### **1. The evaluation of a 1-year cognitive rehabilitation program for persons with dementia and their caregivers (a retrospective study)**

Greet Aerts, Patricia De Vriendt, Ellen Gorus, Elise Cornelis, Karen De Roover, Jan Versijpt, Nathalie Van De Walle, Inge Beyer

#### **Purpose**

The purpose of this research was to evaluate the effect of a one-year multicomponent cognitive rehabilitation program that is offered to persons with dementia (PwD) and their caregivers.

#### **Methodology**

Test-results collected from the PwD and their caregivers in the beginning and the end of the program were compared. Cognition (Mini Mental State Examination), behavioral problems (Neuropsychiatric Inventory, Severity Items), functionality (Lawton Scale) and quality of life (Quality Of Life, Alzheimer's Disease) of the PwD and burden (Zarit Burden Interview) and stress (Neuropsychiatric Inventory, Distress Items) perceived by the caregiver were measured.

#### **Results**

A total of 74 participants were included and 25 dropped out. There were no significant differences at baseline between the group that completed the program and the drop-outs. For the PwD who completed the program a significant decline was found for cognition ( $p = 0.01$ ) and there was an increase of behavioral problems ( $p = 0.038$ ), but not for functionality ( $p = 0.847$ ). Despite this, burden ( $p = 0.883$ ) and stress ( $p = 0.20$ ) did not rise significantly for the caregiver in the course of 1 year. When looking at the participants individually, Pwds 21, 20 and 23 improved for functionality, behavioral problems and quality of life, and 21 and 25 caregivers reported lower distress and burden.

#### **Conclusion**

The multi-component program appears to be beneficial for the PwD and the caregiver as maintenance of independence (functionality) of the PwD was achieved and an increase of caregiver burden and stress was prevented. This is highly important since high stress and caregiver's burden are key predictors for institutionalization of PwD.

### **2. Relationships between physical fatigue and fatigue perception in older adults undergoing elective abdominal surgery**

Mohammad Alturki, Ingo Beyer, Christian Simoens, Ivan Bautmans

#### **Purpose**

Older adults show an increased susceptibility and higher risks for muscle fatigue and weakness after elective abdominal surgery; which can exacerbate sarcopenia and frailty. Here we aimed to investigate the relationship between muscle endurance and subjective fatigue perception 1 day preoperatively in 30 elective abdominal surgery patients aged 62–86 years.

#### **Methodology**

Each patient was assessed 1 day before the surgical intervention including: maximum handgrip strength (GS), muscle fatigue resistance (FR, time for GS to drop to 50% of its maximum during sustained contraction) and grip work (GW, integrating GS and FR), fatigue subscales of the Profile of Mood State (POMS) and visual analogue scale (VAS) for pain and fatigue.

## **Results**

A total of 30 patients (female = 10, male = 20) were recruited. FR and GW negatively correlated ( $p < 0.05$ ) with fatigue subscales of the POMS ( $r = -0.547$  and  $r = -0.592$ , all  $p < 0.05$ ). Moreover, a positive correlation has been found between POMS fatigue and VAS for fatigue ( $r = 0.369$ ,  $p < 0.05$ ), as well as with VAS for pain ( $r = 0.405$ ,  $p < 0.05$ ).

## **Conclusion**

Overall, we have noted that lower muscle endurance was significantly related to higher self-perceived fatigue in older elective surgery patients. Prospective studies should confirm whether preoperative fatigue is predictive for postoperative recovery.

## **3. Is peripheral muscle fatigue in hospitalised geriatric patients associated with circulating markers of inflammation?**

Pauline Arnold, Rose Njemini, Stijn Vantieghem, Jacques Duchateau, Tony Mets

Geriatric patients with acute infection show increased muscle weakness and fatigability but the relative contribution of central and peripheral factors is unclear. Hospitalised patients with acute infections (mean age  $82 \pm 6$  years,  $N = 10$ ) and community-dwelling controls ( $76 \pm 6$  years,  $N = 19$ ) sustained a maximum voluntary isometric contraction of the adductor pollicis muscle until strength dropped to 50% of its maximum value. Voluntary muscle activation (VA) was assessed before and at the end of the fatigue protocol using twitch interpolation method and muscle activity was monitored using surface electromyography. Twenty-five circulating inflammatory biomarkers were determined. At pre-fatigue, no significant difference in VA was found between groups. VA decreased to similar levels (~50%) at the end of the fatigue protocol with no association with inflammatory biomarkers. In geriatric patients, muscle activity significantly decreased ( $p < 0.05$ ) during the fatigue protocol, whereas it increased in the controls (time \* group interaction  $p < 0.05$ ). The decrease in muscle activity was significantly related to higher levels of inflammation. Although slower muscle contraction and relaxation were significantly related to higher levels of inflammation, no statistical differences were found between groups. Our results confirm that ongoing inflammation significantly alters muscle performance and supports the hypothesis that local processes affecting muscle activity, muscle excitability and contractility are involved.

## **4. The effect of exercise on physical activity in older adults: a systematic review with meta-analysis**

Nikki Rommers, Manuel Gonzalez Sánchez, Veerle Baert, David Beckwée

### **Purpose**

Physical inactivity is the fourth leading cause of death worldwide. Exercise programmes, defined as structured physical activity (PA), are primarily presented to counter negative health outcomes in specific diseases; however, they are less frequently investigated than interventions to increase PA as such in healthy older adults. In this systematic review, we present a meta-analysis regarding the effect of exercise programmes on the level of PA in healthy older adults. Where meta-analysis was not possible, a best-evidence synthesis was presented.

### **Methodology**

Three databases were systematically searched using keywords corresponding to the PICO design. Randomised controlled trials (RCT) were included if evaluating the effect of exercise interventions on the level of PA in healthy older adults (age 65+ years).

### **Results**

Eight studies (2816 subjects) were included, investigating five non-supervised and five supervised exercise programmes with heterogeneous exercise modalities and outcome measures. Post intervention, best-evidence synthesis showed that none of the programmes significantly improved PA. At follow-up, meta-analysis demonstrated no effect of exercise on PA (standardised mean difference 0.05; 95% confidence interval  $-0.08, 0.18$ ,  $I^2 = 0\%$ ). Sensitivity analyses revealed that these results were robust for risk of bias and supervision.

### **Conclusion**

More large RCTs are needed to confirm these results and to investigate the effect of modalities and supervision.

## **5. Improving comfort around dying in older people: results from a cluster randomized controlled trial**

Kim Beernaert, Tinne Smets, Joachim Cohen, Rebecca Verhofstede, Massimo Costantini, Kim Eecloo, Nele Van Den Noortgate, Luc Deliens

### **Purpose**

Over 50% of older people die in acute hospital settings where the quality of dying is often suboptimal. The aim of this study was to assess the effectiveness of the Care Programme for the Last Days of Life (CAREFuL) in improving the comfort and quality of care in the dying phase in older people. CAREFuL involved a Care Guide for the Last Days of Life, training, supportive documentation and an implementation guide.

### **Methodology**

We conducted a cluster randomised controlled trial (RCT) in acute geriatric wards in ten hospitals in Flanders, Belgium between October 2012 and March 2015. The primary outcome was comfort around dying measured with the CAD-EOLD by nurses.

### **Results**

Nurses completed post-intervention assessments for 132 (81%) out of 164 of those in the intervention group and 109 (92%) in the control group. Implementation of the CAREFuL programme significantly improved comfort (CAD-EOLD) compared with the control (cluster-adjusted mean difference 4.3 [95% CI 2.07–6.53];  $p < 0.001$ , Cohen's  $d$  0.78).

### **Conclusion**

This is the first sufficiently powered RCT study to measure the effectiveness of an end-of-life care programme. As compared with usual care the CAREFuL programme resulted in a significant improvement in comfort around dying in the last days of life. Although a continuous monitoring of the programme is warranted, the results suggest that implementation of the programme might improve care during the last days of life for patients in acute geriatric hospital wards.

## **6. Invisible reality: caring for older Moroccan migrants with dementia in Flanders**

Saloua Berdai-Chaouni, Liesbeth De Donder

### **Purpose**

Moroccan elders reaching the age of high risk for dementia is increasing in Belgium. Yet no study has been performed to explore how Moroccan families faced with dementia experience and manage this condition.

### **Methodology**

This qualitative study, a combination of interviews and focus group, included 12 informal and 13 formal caregivers to answer this question.

### **Results**

Findings indicate that the experience of dementia has different invisible realities challenging the involved informal and formal caregivers. Besides the invisibility of dementia as a condition and the subtleties of the informal care execution there is a mutual invisibility of care options used by the both categories of caregivers. In addition, culture, migration and religion are overlooked influencers of the whole dementia experience.

### **Conclusion**

A better understanding of this hidden reality of migrant elders with dementia and their caregivers could lead to interventions to provide effective and tailored person-centered care sensitive to one's life experiences, culture and religious background.

## **7. Ervaringen van ouderen die deelnemen aan het Vlaamse Zorg Proeftuinen programma**

Charlotte Brys, Patricia De Vriendt, Ellen Gorus

### **Doel**

In 2013 werd het Vlaamse Zorg Proeftuinen (ZPT) programma gelanceerd met als doel nieuwe zorg-, hulpprocessen en -producten in de ouderenzorg te faciliteren, gericht op langer zelfstandig thuis wonen. Zes ZPT-platformen werden hiervoor opgericht, ter ondersteuning van oorspronkelijk 23 innovatieprojecten. De platformen bouwden een testpanel op met ouderen, mantelzorgers en professionals. Deze worden actief betrokken binnen de innovatietrajecten om innovaties zo optimaal mogelijk af te stemmen op de echte noden en behoeften van de eindgebruikers.

### **Methodologie**

Een heterogene mix van ouderen over de platformen heen ( $N = 25$ ), gebaseerd op bio-psycho-sociale kwetsbaarheidskenmerken volgens de Tilburg Frailty Indicator, werd aan de hand van een semi-gestructureerd interview bevraagd. Hierbij werd gepeild naar de invloeden van deelname aan het ZPT-platform op het eigen leven.

### **Resultaten**

Ouderen rapporteerden (nog) geen/weinig tot beduidend veel effect op het eigen leven. Aangehaalde invloeden zijn

1. bevordering van sociaal contact,
2. geïnformeerd worden over de mogelijkheden om zo lang mogelijk thuis te kunnen blijven wonen,
3. bewustwording van datgene wat met ouder worden het pad kan kruisen en de oplossingen die hiervoor ontwikkeld worden,
4. het zich nuttig voelen door deel te nemen aan betekenisvolle activiteiten en
5. zich gesteund voelen door anderen bij het ouder worden.

### **Conclusie**

Het betrekken van ouderen binnen het ZPT-programma levert naast interessante informatie voor ontwikkelaars van innovaties, ook positieve effecten op voor ouderen. Deze win-win situatie pleit ervoor om, ook buiten het ZPT-programma, ouderen (blijvend) actief te betrekken als volwaardige innovatiepartner, rekening houdend met de mogelijkheden en verwachtingen van de oudere zelf.

## **8. Association between senescent surface markers and pre-frailty in older subjects**

Cao Dinh H, Bautmans I, Beyer I, Mets T, Njemini R

### **Purpose**

Frailty is highly prevalent in old age and confers high risk for falls, disability, hospitalization, and mortality. Although the exact cause of frailty is still to be elucidated, immunosenescence has been implicated in the pathophysiology of the syndrome. Therefore, we investigated the relationship between senescence surface markers and the risk of frailty in community-dwelling older subjects.

### **Methodology**

A total of 175 apparently healthy older individuals (82 females and 93 males, 79.9–98.5 years) who presented no active pathology were enrolled in this study. Pre-frailty was defined by using the Fried et al. criteria. The surface markers of senescence were determined by using flow cytometry.

### **Results**

The overall prevalence of pre-frailty was 94 out of 175 (53.7%). Pre-frail subjects were significantly older than robust individuals ( $p < 0.001$ ) and the prevalence of pre-frailty was greater in men than women ( $p = 0.003$ ). Pre-frailty was associated with increased CD8-/CD8+ ratio ( $p = 0.026$ , unadjusted and  $p = 0.034$ , adjusted for age and sex). There were no significant differences in the expression of senescence surface markers in pre-frail compared to robust when men and women were treated separately. Although the percentage of CD8+CD28-CD57+ positively correlated with age ( $r = 0.214$ ,  $p = 0.004$ ), age did not affect the relationship between senescence marker expression and the risk of pre-frailty.

### **Conclusion**

Our results portray that pre-frailty depends on sex and age. Also, in accordance with another study on the oldest old in Belgium – the BELFRAIL Study – high CD8-/CD8+ ratios were associated with pre-frailty. Further investigation is necessary to shed more light onto this observation.

## **9. Including migrant elderly with dementia and family carers in longitudinal research exploring literature and good practices**

Ann Claeys, Saloua Berdai, Bart Claes, Liesbeth de Donder

### **Purpose**

Including elderly with dementia and with a migration background within a longitudinal research component calls for a careful preparation in order to succeed. We have to gather insights into the do's and don'ts for the recruitment and retention of these elderly and their family caregivers.

### **Methodology**

The methodology has built upon a review of the existing literature, followed by semi-structured interviews with ten acknowledged experts, who have experience in the inclusion of vulnerable groups.

### **Results**

When including vulnerable elderly in scientific research, the researcher has to invest in the relationship with the target groups. Key figures can introduce the researcher into the network so that the researcher can build trust. This process is time intensive, requires the contact with key figures and transparent communication techniques. This approach asks for qualitative research methods, which take into account a possible drop-out. Several studies have therefore invested in a proactive outreaching way of recruitment and retention for these elderly and their family carers by building trust. 'Ethnic matching', by recruiting bicultural, bilingual researchers is another good practice.

### **Conclusion**

Both the literature and experts underline the need for a considered approach, when involving elderly with dementia and a migration background and their family carers. Traditional research methods are inadequate to include this population in the research field. There is a need for specific and customized designs, instead of 'one-size-fits-all'. The approach requires that we take into account a number of specific elements but at the same time are flexible and are open for the input of those involved.

## **10. How do health care professionals support decisions in everyday activities for persons with dementia? An explorative qualitative study**

Elise Cornelis, Ruben Vanbosseghem, Valerie Desmet, Dominique Van de Velde, Patricia De Vriendt

### **Purpose**

Making decisions about daily life determines a person's well-being and quality of life, also for persons with dementia (PWD). Although decision-making ability gradually declines in dementia, it is not justified to think that PwD are incapable of making decisions. This study aimed to explore how PwD take decisions in everyday activities and how this is supported by health care professionals (HCP).

### **Methodology**

Eight focus groups were conducted with 64 HCP working in nursing homes and community care facilities. Data were coded open-minded and clustered in categories by using a constant comparative method. Categories were checked in literature and discussed by peer debriefing.

### **Results**

As described in literature, we distinguished "autonomous decisions", "shared decisions", "delegated decisions" and "pseudo-autonomous decisions" (HCP assumed to know the preferences of the PwD and made decisions on this without consulting the person). Additionally, this study identified "supported autonomous decisions" or "interpreted decisions". In some cases, PwD were not involved in decisions at all; however, HCP supported decision making in various ways by assisting comprehension,

stating options in a clear manner or consulting family and informal caregivers. Nevertheless, offering support is often experienced as difficult and not always possible because of lack of time and dementia-related factors.

### **Conclusion**

Despite many efforts, not all decisions of a PwD are taken autonomously or shared. HCP need to be aware of “pseudo-autonomous decisions” or decisions made without involving PwD. Making HCP aware of the different ways to support decisions may be helpful to improve communication with PwD about everyday activities.

## **11. Co-management of hip fractures in the elderly: a third retrospective analysis of patients on an orthogeriatric ward**

Nele Czech, Joris Meeuwissen, Hugo Daniëls, Steven Callens

### **Purpose**

Hip fractures increase the risk of death and major morbidity in the elderly. In this third retrospective study we evaluated characteristics of our geriatric population with hip fractures concerning their comorbidity and outcome.

### **Methodology**

Patients with hip fractures admitted to our orthogeriatric ward, between August 2009 and July 2016, were analysed. Descriptive analyses were used.

### **Results**

A total of 834 patients with a fall-related fracture with a mean age of 84.2 years were admitted to our orthogeriatric ward. A total of 535 patients were hospitalized because of a hip fracture, 251 patients were treated with Open Reduction and Internal Fixation (ORIF, 47%) and 284 patients were treated with total hip replacement (arthroplasty, 53%). In the case of ORIF there was a mean length of stay of 42.9 days. In the case of arthroplasty there was a mean length of stay of 36.7 days. Most frequent in-hospital complications after ORIF were delirium (20.8%), anemia without need for transfusion (17.9%), anemia with need for transfusion (15.7%), infections (15.4%) and electrolyte disorders (11.7%). Most frequent in-hospital complications after arthroplasty were anemia without need for transfusion (21.8%), delirium (20.3%), infections (14.9%), anemia with need for transfusion (12.8%) and electrolyte disorders (11.5%). Of the patients 44 died in hospital (8.2%), 28 patients died after ORIF (11.2%) and 15 patients died after arthroplasty (5.3%).

### **Conclusion**

ORIF is often associated with an increased length of stay (42.9 days vs. 36.7 days, +6.2 days or +16.9%), a higher number of complications (759 vs. 478, +58.8%), and an increased in-hospital mortality (11.2% vs. 5.3%, +5.9%).

## **12. Exploring innovative home care interventions for frail older people: a comparative effectiveness study in Belgium**

Johanna de Almeida Mello, Anja Leclerc, Sophie Cès, Thérèse Van Durme, Chantal Van Audenhove, Jean Macq

### **Purpose**

To examine the effects of home care interventions for frail older people in delaying permanent institutionalization during the first 6 months of follow-up.

### **Methodology**

This is a longitudinal quasi-experimental research study performed in Belgium in the period 2010–2014. The interRAI Home Care (HC) was completed at baseline and every 6 months. Data from a national database were used to establish a comparison group. The population of the study and the comparison group was stratified according to impairment levels. Subsequently, the relative risks of institutionalization and death were calculated by means of Poisson regression for each type of intervention.

### **Results**

A total of 1999 older people had mild impairment and 2608 older people had moderate to severe impairment. Interventions providing only occupational therapy and interventions providing case management with rehabilitation services were effective

in both sub-populations. Other interventions were effective but not for both levels of impairment.

### **Conclusion**

This information can help policy makers to better plan interventions in order to avoid early institutionalization of frail older people.

## **13. De Supportive and Palliative Care Indicators Tool (SPICT) als prognostische tool op de acute G?dienst**

Reine De Bock, Ruth Piers, Nele Van Den Noortgate

### **Doel**

Om de tijdige identificatie van palliatieve patiënten te verbeteren, werd de Supportive and Palliative Care Indicators Tool (SPICT) ontwikkeld. Deze tool combineert een aantal klinische parameters met ziektespecifieke parameters. De SPICT werd nog niet gevalideerd in een oudere populatie.

### **Methodologie**

Retrospectieve studie waarbij demografische, klinische en ziektespecifieke gegevens evenals de éénjaarsoverleving van 435 patiënten, opgenomen op de acute G dienst van het UZ Gent tussen 1 januari en 30 juni 2014, werden verzameld. De validiteit van de SPICT voor de éénjaarsoverleving werd berekend aan de hand van een ROC-curve.

### **Resultaten**

54.7% van de patiënten heeft een positieve SPICT. De éénjaarsoverleving bedraagt 51.3% vergeleken met 88.5% bij SPICT-negatieve patiënten ( $P < 0.001$ ). Patiënten die positief scoren op SPICT zijn ouder ( $P = 0.033$ ), frequenter van het mannelijk geslacht ( $P = 0.028$ ), hebben meer comorbiditeiten ( $P = 0.015$ ) en beschikken vaker over een DNR-code ( $P < 0.001$ ). De AUC voor de klinische en ziektespecifieke parameters bedraagt respectievelijk 0.758 en 0.748. De beste accuraatheid wordt bekomen met een combinatie van 2 positieve klinische en 1 positieve ziekte-specifieke parameter(s) die de éénjaarsoverleving met een sensitiviteit van 0.841 en een specificiteit van 0.579 voorspelt.

### **Conclusie**

Met cut-off waarden 2 + 1 blijkt SPICT een waardevolle tool voor de identificatie van patiënten die binnen het jaar zullen overlijden. SPICT kan aldus aangewend worden als hulpmiddel voor de opstart van vroegtijdige zorgplanning.

## **14. Cognitive decline is related to a physical ageing of 10 calendar years**

Anne-Marie De Cock, Stany Perkisas, Veronique Verhoeven, Maurits Vandewoude

### **Background**

Studying normal physical status in older people may enable differentiation between normal age groups and evolving geriatric syndromes. We investigated the concurrence of cognitive decline and physical regression in older community dwelling persons.

### **Methodology**

Cross-sectional analysis was performed on the retrospective Mechelen Memory Clinic registry using demographics, disability scores, physical evaluation, body composition and gait parameters at usual pace. Parameters were studied in different cognitive stages as cognitively healthy (CHI), mild cognitive impairment (MCI), mild and moderate dementia. Participants were grouped in two age decades (70–80 years old and older than 80 years). Univariate one-way Anova and cumulative distributions between groups were computed.

### **Results**

Disability and Rockwood's frailty index worsened in parallel with cognitive decline. Concurrence between cognitive stage and standard body composition variables was inconsistent. Skeletal muscle mass index (SMI) and free fat mass, however, decreased when dementia worsened in the age split and matched groups. Gait speed in CHI decreased per age decade (70–80 years old 89.5%  $> 0.8$  m/s and over 80 years old 64%  $> 0.8$  m/s). This indicated that the currently used general normal gait speed limit does not seem suitable for every age group. In this study, we stipulated the normal gait speed limit for

octogenarians at 0.7 m/s. Comparing gait speed, step length, swing time variability, timed chair stands test and SMI in CHI, MCI and mild demented persons 70–80 years old with over 80 years old CHI revealed that once dementia settled in the variables overlapped ( $p = 0.95$ ).

### **Conclusion**

We suggest that the normal gait speed cut-off values should be recalibrated according to age. Dementia abates the physical status and causes a physical ageing of 10 calendar years.

## **15. Development of a care model for transmural and multifactorial patient-centered falls prevention to improve compliance by community-dwelling elderly**

Van Cleynenbreugel E, De Coninck L, Spildooren J, Gielen E, Vander Weyden L, Stas M, Flamaing J, Milisen K

### **Background**

Although multifactorial intervention studies demonstrate reduction in falls, this is not always guaranteed due to low therapy compliance by older persons at risk of falls.

### **Purpose**

We aimed to develop a transmural and multifactorial patient-centered care model for older persons attending a falls clinic.

### **Methodology**

Development of the care model. First, a literature review has been conducted focusing on clinical and organizational aspects of falls clinics and compliance. Second, a qualitative study on clinical and organizational aspects was organized with clinicians of the falls clinic and referring primary care professionals. Third, a prospective observational study was conducted to measure patient characteristics and flow in the falls clinic. Based on these steps, a care model was developed and adapted after discussion with all health care professionals involved, which was pilot tested during 4 weeks.

### **Results**

The key components of the final care model are:

1. an information brochure about the falls clinic and a self-administered questionnaire about the patients falls history that is sent to each patient before consultation,
2. a multidisciplinary and multifactorial falls assessment,
3. discussion of the assessment results within the multidisciplinary team,
4. patient involvement in prioritizing the multifactorial recommendations,
5. an electronic communication platform that supports transmural data transfer,
6. a case manager enhancing patient compliance by follow-up visits, phone calls and coordination of care,
7. a fall-related educational program for primary care professionals.

### **Conclusion**

This process yielded a care model that has been implemented and is being tested in a controlled before/after sequential trial.

## **16. Does a multifactorial patient-centered fall prevention program increase the compliance of community dwelling older persons at high risk of falls?**

De Coninck L, Himpe ML, Spildoorn J, Van Cleynenbreugel E, Verschueren, S, Vander Weyden L, Stas M, Polfliet M, Flamaing J, Milisen K

### **Background**



Although multifactorial interventions have proven to reduce the risk of falls, falls reduction is not always guaranteed in community dwelling older persons at high risk of falls. Low compliance of the older person to the multifactorial advice can be a contributing factor, as well as lack of knowledge by professionals to handle falls. Our objective was to examine if a client-centered and tailor made counseling in a falls clinic and education of primary care professionals combined with care coordination performed by a fall coach and e data sharing, can enhance patient compliance to therapy.

### **Methodology**

A controlled before/after sequential trial with 2 cohorts. The control cohort received usual care at the falls clinic. The intervention cohort received a client-centered tailor-made approach including prioritized recommendations combined with transmural care coordination. Primary care professionals of the intervention cohort received specific fall-related education.

### **Results**

Preliminary results at 2 months follow-up show that the compliance with the recommendation to perform home modifications improved with 15.7% in the intervention cohort compared to the control cohort (64.3% versus 80%, respectively). Initiating physiotherapy improved with 26.1% (51.7% versus 77.8%, respectively) and using walking aids with 13.3% (26.7% versus 40%, respectively). A larger sample size and follow-up data at 6 months will be available at the conference.

### **Conclusion**

Preliminary results of this client-centered, tailor-made approach seem to positively affect compliance of community dwelling older persons with high risk of falling.

## **17. The effect of a multifactorial patient-centered fall prevention program on falls and fall-related injuries**

Spildooren J, Deconinck L, Van Cleynenbreugel E, Himpe ML, Verschueren S, Vander Weyden L, Stas M, Nieuwboer A, Polfliet M, Milisen K, Flamaing J

### **Introduction**

Multifactorial interventions can reduce the number of falls and fall-related injuries in older persons; however, patient compliance to these interventions is weak resulting in a poor effect on these outcomes. This study presents the effects on falls and fall-related injuries of a multifactorial patient-centered fall prevention program by focusing on increasing patient compliance.

### **Methodology**

This ongoing study is a pre-post-test design with two patient cohorts, standard of care, i. e. control cohort ( $n = 42$ ) and implementation of a fall prevention program, i. e. intervention cohort ( $n = 15$ ) to document the effect on falls and fall-related injuries 2 months after the initial evaluation in the falls clinic. During the conference, a larger sample size and follow-up data at 6 months will be available.

### **Results**

Fall incidents and fear of falling prior to the evaluation in the falls clinic was comparable for both groups. Preliminary results at 2 months follow-up showed that the amount of fallers and multiple fallers was 26.7% and 6.7% in the intervention group compared to 40.5% and 12.5% in the control group, respectively. In the intervention group, fall-related injuries were limited to minor injuries only (50%) in comparison to the control group were 52.9% and 23.5% of fall incidents resulted in minor and moderate injuries, respectively.

### **Conclusion**

Preliminary results of this intervention focusing on patient compliance show a decrease of falls and fall-related injuries 2 months after the consultation at the falls clinic. During the conference an update of the ongoing study results will be presented.

## **18. Do force-time characteristics during sustained contractions differ in young controls, old community-dwelling and hospitalized geriatric patients?**

De Dobbeleer L, Beyer I, Njemini R, Pleck S, Zonnekeijn N, Mets T, Bautmans I

### **Purpose**

Fatigue is considered as one of the key elements for physical frailty at higher age, but surprisingly data on strength drop characteristics during sustained maximum contraction in elderly are scarce.

### **Methodology**

A secondary data analysis was performed on continuously recorded force-time data during sustained maximum grip effort until exhaustion in 91 geriatric patients ( $83 \pm 5$  years), 100 old community-dwelling ( $74 \pm 5$  years) and 100 young adults ( $23 \pm 3$  years). Fatigue resistance (FR) was expressed as the time during which grip strength (GS) drops to a certain percentage of its maximum. The GS curve was divided into 4 parts for each participant:

1. from GSmax to 75% GSmax,
2. from 75 to 50% GSmax,
3. from 50 to 25% GSmax, and
4. from 25% GSmax to fatigue.

### **Results**

The initial phase (first 25% strength drop) was significantly shorter in geriatric patients compared to the 2 other groups. Subsequently, the second part was almost twice as long in old community-dwelling compared to old and young healthy patients; however, although the second part of the GS decay was longer in old community-dwelling patients, the third part was significantly shorter in this group compared to young controls and hospitalized patients. The last part of the GS decay was markedly longer in the young controls.

### **Conclusion**

Force-time characteristics during sustained maximum handgrip effort are different according to age and clinical condition. Especially the differences in the initial phases of the strength drop can be an opportunity for simplifying the procedure of the available FR test in the future.

## **19. Talking about meaningful activities of daily living of the older person with dementia enables biopsychosocial practice**

Patricia De Vriendt, Elise Cornelis, Ruben Vanbosseghem, Valerie Desmet, Dominique Van de Velde

### **Background**

The complexity of dementia forces healthcare professionals (HCP) to adopt a biopsychosocial (BPS) way of caring, in which client centeredness, shared decision-making and working with the context of the person with dementia (PwD) is pivotal but very demanding.

### **Purpose**

To evaluate BPS dementia care in Flanders. Alongside the BPS scale was validated for use in this population.

### **Methodology**

In a cross-sectional study design, 457 HCP completed the BPS scale through a digital platform. A factor analysis was performed to confirm underlying dimensions. Statistical coherence was expressed in Cronbach's alpha coefficient. Differences between groups were calculated using Student's *t*-test and one-way ANOVA.

### **Results**

The factor analysis confirmed five underlying dimensions labelled as:

1. networking,
2. using the client's expertise,
3. assessment and reporting,

4. professional knowledge and skills and
5. using the environment.

The results showed a good to strong internal consistency (Cronbach's alpha 0.75–0.85). The current status of the BPS practice in dementia care is globally good, though there is room for improvement that can be summarized as the necessity:

1. to improve client-centered practice,
2. to enable working in close collaboration with the patient's context and
3. to facilitate better assessment and reporting. The most interesting finding was that the more the HCP addressed the daily activities of the PwD, the more they were working with BPS.

### **Conclusion**

The BPS scale is a valid and reliable measure to rate the BPS practice in dementia care and provides opportunities for improvement. Addressing activities of daily living enables BPS practice.

## **20. Fysieke activiteit bij thuiswonende kwetsbare ouderen: kwalitatief onderzoek naar de bevorderende en belemmerende factoren van beweging**

Sara De Cauwer, Elien D'Hooghe, Tara Libbrecht, Renzo Frulleux, Simon De Groote, Wouter Geerinck, Marianne Belpaire, Kathleen Willems, Dimitri Vrancken, Patricia De Vriendt

### **Introductie**

Kwetsbare ouderen hebben vaak te kampen met gezondheidsproblemen, lopen meer risico op hospitalisatie, op functionele en cognitieve achteruitgang en/of op overlijden. Fysiek actief zijn kan deze negatieve gevolgen voorkomen, beperken en zelfs omdraaien. Het is echter zeer moeilijk om hen voldoende actief aan het bewegen te krijgen.

### **Methode**

Daarom werden in een kwalitatief onderzoeksdesign diepte-interviews met 25 thuiswonende kwetsbare ouderen afgenomen (Groninger Frailty Index > 4/15) met als doel de bevorderende en belemmerende factoren van beweging te achterhalen. Via de constant comparatieve methode werden de uitgetikte data geanalyseerd en in betekenisvolle thema's gesynthetiseerd.

### **Resultaten**

De geïdentificeerde factoren werden – conform het sociaal-ecologisch model van McLeroy – gerangschikt op vier niveaus: het intra-persoonlijk niveau, het inter-persoonlijk niveau, het niveau van de omgeving en dat van de gemeenschap. Meerdere factoren werden onderscheiden maar het intra-persoonlijk niveau – en dan vooral de psychische aspecten zoals angst en negatief zelfbeeld – de speelde de grootste rol. Daarnaast hadden omgevingsfactoren, zoals onbekendheid en onbereikbaarheid van het aanbod alsook het inter-persoonlijk niveau, zoals gebrek aan vrienden of kennissen om samen te bewegen evenals het ontbreken van een stimulerende familie – en/of vriendenkring, een belangrijke invloed.

### **Conclusie**

De redenen om al dan niet te bewegen zijn individueel bepaald en een combinatie van verschillende aspecten. Het is dan ook belangrijk om het beweegaanbod via de juiste kanalen bekend te maken en naar mogelijke deelnemers toe te brengen, alsook 'op maat' aan te bieden en daarbij mogelijks ook sociale steun te zoeken, zodat ouderen gemotiveerd worden om blijvend te bewegen.

## **21. Geriatric assessment and functional decline in older patients with lung cancer**

Lore Decoster, Cindy Kenis, Denis Schallier, Johan Vansteenkiste, Kristiaan Nackaerts, Leen Vanacker, Nathalie Vande Walle, Johan Flamaing, Jean-Pierre Lobelle, Koen Milisen, Jacques De Grève, Hans Wildiers

### **Purpose**

To evaluate the role of geriatric assessment (GA) and the evolution of functional status (FS) in older patients with lung cancer, and to identify predictors for functional decline and survival.

### **Methodology**

Patients  $\geq 70$  years with a new diagnosis of lung cancer were included. At baseline, GA was performed, including FS measured by activities of daily living (ADL) and instrumental activities of daily living (IADL). The ADL and IADL were re-evaluated after 2–3 months. Data on overall survival (OS) were collected. Determination of predictors of functional decline on ADL and IADL and of OS was performed.

### **Results**

A total of 245 patients (median age 76 years) were included from October 2009 through January 2015. The majority of patients (58%) had stage IV disease. At baseline, GA deficiencies were observed in all domains, most prominently for comorbidities (78%), fatigue (76%) and nutrition (76%). Of the patients 240 (98%) had at least 2 out of 10 abnormal domains with a median of 5. The ADL and IADL were abnormal in 51% and 63%, respectively. Functional decline on ADL and IADL was observed in 23% (95%CI 16.2; 29.9) and 45% (95%CI 36.9; 53.1), respectively. In multivariable analysis, radiotherapy was predictive for ADL decline and stage and ECOG-PS for OS. No other predictive factors for ADL or IADL decline or survival were identified.

### **Conclusion**

Older patients with lung cancer present with multiple GA deficiencies in all domains. During treatment functional decline was observed in half of the patients. None of the specific domains of the GA or cumulative deficits on GA were predictive for functional decline or survival.

## **22. Effects of multidomain interventions in (pre)frail elderly on frailty, functional and cognitive status: a systematic review**

Lenore Dedeyne, Mieke Deschodt, Sabine Verschuere, Jos Tournoy, Evelien Gielen

### **Objectives**

Frailty is an ageing syndrome caused by exceeding a threshold of decline across multiple organ systems leading to a decreased resistance to stressors. Frail elderly may show losses in several domains such as physical, cognitive, psychological and even the social domains. This systematic review aims to determine the effect of multidomain interventions on frailty, cognition, muscle mass, strength and power, functional and social outcomes in elderly ( $\geq 65$  years) defined as (pre)frail by an operationalized frailty definition. We focused on interventions targeting two or more domains (exercise, nutritional, pharmacological, psychological and social interventions).

### **Methodology**

We searched PubMed, EMBASE, CINAHL, PEDro, CENTRAL and the Cochrane Central register of controlled trials from inception until 14 September 2016. Additional articles were searched by citation search, author search and reference lists of relevant articles.

### **Results**

A total of 12 studies were included, reporting heterogeneous interventions in terms of content, duration and follow-up period. Multidomain interventions tended to be more effective than monodomain interventions on frailty status or score, muscle mass and strength and physical functioning. Results were inconclusive for cognitive, functional and social outcomes. Physical exercise seems to play an essential role in the multidomain intervention, with frequent improvements by an additional intervention (e.g. nutritional intervention).

### **Conclusion**

Evidence of beneficial effects of multidomain compared to monodomain interventions is limited but promising. Additional studies are needed, particularly in a frail population with specific attention to the individual contribution of each single intervention. This will contribute to the development of more effective interventions for frailty.

## **23. Dysphagia, an evaluation of its causes**

Dejaeger M, Goeleven A, Rommel N, VanBeckevoort D, Dejaeger E

Dysphagia is encountered more often in an elderly population although it spans all ages. Here we present an evaluation of its causes. From June 2014 through June 2016 all 355 patients presenting at the swallowing clinic of the KU Leuven were included. Retrospectively we looked for unique patients with mainly oropharyngeal dysphagia, but we also included patients with a globus sensation and those who complained of esophageal dysphagia. Of the 151 unique patients that were included we noted the presence of oropharyngeal dysphagia in 114, esophageal dysphagia in 15, globus in 12, both oropharyngeal dysphagia and globus in 6 and finally both types of dysphagia in 4 patients. The main cause of esophageal dysphagia was motor disturbances of the esophagus, while globus was often associated with pharyngolaryngeal reflux. The most complex problem proved to be oropharyngeal dysphagia. The etiology was heterogeneous and in one third this could only be found not just by performing a video of the swallowing region but also of the esophagus. In the other two thirds the cause was situated in the pharynx or the upper esophageal sphincter. When comparing two manometric items namely the hypocontractility of the pharynx to an incomplete relaxation of the upper esophageal sphincter, the former proved to be significantly more decisive in terms of stasis, aspiration and the score of the swallow risk index. In the case of oropharyngeal dysphagia an esophageal examination (endoscopy/manometry) needs to be added to the video fluoroscopy.

#### **24. Unplanned readmission prevention by the Geriatric Emergency Network for Transitional care: development and evaluation of an interdisciplinary care model (ICM)**

Els Devriendt

##### ***Purpose***

The aim of this study was to develop and evaluate an interdisciplinary care model (ICM) for older patients admitted to the emergency department (ED).

##### ***Methodology***

A stepwise mixed method approach was used to develop the URGENT ICM. First, a literature review was conducted to identify key processes and structural outcomes associated with effective geriatric interventions based on comprehensive geriatric assessment (CGA) in the ED. Second, observations and interviews were conducted to map the experiences and expectations of patients, family members and caregivers towards the care for older patients in the ED. Third, a prospective observational study was conducted (1) to compare the characteristics of older patients admitted and discharged from the ED, (2) to determine independent predictors for ED readmission and (3) to study the predictive accuracy of screening instruments. The effectiveness of the ICM was evaluated in a large single centre before-after study.

##### ***Results***

The key components of the URGENT ICM are geriatric screening, CGA, interdisciplinary care planning and follow-up. Inpatient follow-up is coordinated by the nurses of the inpatient geriatric consultation team. Outpatient follow-up is done by case managers in home care through telephone calls and home visits if indicated. Data analyses are ongoing. A total of 822 and 888 patients were included in the before and after group, respectively. Almost one out of every two patients were considered high risk patients and received the URGENT intervention. Home visits were conducted in 31 patients.

##### ***Conclusion***

Preliminary analyses suggest that the URGENT care model positively impacts the care process for geriatric patients at the ED and after discharge.

#### **25. Zorg in verbondenheid op een afdeling geriatrie. Een actieonderzoek voor, door en met zorgverleners, patiënten en familieleden**

Let Dillen, Liesbeth Van Humbeeck, Ruth Piers, Nele Van Den Noortgate

##### ***Doel***

Dat een opname op een acute ziekenhuisafdeling naast de patiënt zijn naasten treft, is veelvuldig beschreven. Toch lijkt het in de zorgpraktijk niet vanzelfsprekend om naasten te ondersteunen en betrekken bij de zorg. Huidig project wil deze kloof overbruggen en familiegerichte zorg (FgZ) op maat van de afdeling en patiëntengroep verankeren. Hiervoor is een wijziging in

onderliggende zorgcultuur, denken en handelen van zorgverleners essentieel.

### **Methodologie**

Participatief actieonderzoek laat toe om samen met zorgverleners, patiënten en familieleden op drie afdelingen in het UZ Gent een zorgverbeteringstraject uit te werken rond FgZ (in dit abstract focussen we op de dienst geriatrie).

### **Resultaten**

Een eerste fase omvatte "shadowing", sensibilisering, en een baselinemeting met de Inventaris Familiegerichte Zorg. Als afsluiting van deze diagnostische fase vond een inspiratiedag plaats waar zorgverleners konden proeven van methodieken van FgZ (genogram, ecogram, functionele analyse van een netwerk en de Samenspelscan). In de ontwikkelings- en actiefase werd in kleine reflectiegroepen het gekozen thema per afdeling uitgewerkt en een actieplan opgemaakt. De afdeling geriatrie ging aan de slag met onthaalgesprekken met familie. Tijdens de evaluatiefase (voorjaar 2017) zal stilgestaan worden bij hoe zorgverleners en familieleden dit onthaalgesprek ervaren (interview, focusgroepgesprek en vragenlijst).

### **Conclusie**

De methodiek van actieonderzoek is nieuw binnen het veld en laat toe om aan te sluiten bij de mogelijkheden en noden van een afdeling, patiënten en familieleden. Deze methodiek laat een flexibel traject toe zodoende de 'fit' tussen noden en mogelijkheden beter op elkaar kan afgestemd worden en zorgverleners 'eigenaar' worden van.

## **26. Teruggetrokken**

## **27. Evolutie van mentale gezondheid en levenskwaliteit van Vlaamse rusthuisbewoners (Ageing@NH studie)**

Monique M Elseviers, Maarten Wauters, Ivana Ivanova, Jonas De Wolf, Tinne Dilles, Robert Vander Stichele

### **Doel**

De Ageing@NH studie volgt de evolutie van mentale gezondheid en levenskwaliteit van nieuwe rusthuisbewoners tot 2 jaar na opname.

### **Methodologie**

Vlaamse WZC (gemengd profiel, >60 bedden) werd gevraagd om nieuwe bewoners (periode sept-dec 2013) te includeren. Jaarlijks werden administratieve gegevens (KATZ, hospitalisatie, mortaliteit) verzameld. Mentaal gave bewoners werden jaarlijks bevroegd met gestructureerde vragenlijsten en standaardtesten voor mentale gezondheid (MMSE), depressie (GDS) en levenskwaliteit (NHP). Via een verpleegkundige checklijst werden bijkomend gegevens verzameld over zorgproblemen en probleemgedrag (NPI). Medicatiegegevens werden verzameld via een kopie van de medicatiefiche.

### **Resultaten**

In totaal werden 1066 nieuwe bewoners (gem leeftijd 84.2, 65% vrouwen) gerekruteerd in 67 WZC. Twee maanden na opname konden 389 bewoners bevroagd worden, twee jaar later daalde dit aantal tot 104. Bij opname vertoonden 34% van de bewoners symptomen van ernstige dementie, stijgend tot 46% na 2 jaar. Depressieve symptomen stegen van 25% naar 28%. De levenskwaliteit daalde, vooral op gebied van pijnbeleving, emotionele toestand en sociale isolatie. Chronisch medicatiegebruik steeg van gem. 8.9 (range 1-28) tot 10.1 na 2 jaar. Neurologische medicatie werd meest gebruikt, vooral benzodiazepines (43%), antidepressiva (36%) en antipsychotica (29%). Bij stijgende dementie was er een significante daling van chronische medicatie, ook voor pijnmedicatie. Mortaliteit in de totale cohort was 22% na 1 jaar en 42% na 2 jaar. Bewoners met dementie vertoonden een hogere mortaliteit (54% na 2 jaar).

### **Conclusie**

Mentale gezondheid en levenskwaliteit vertonen een geleidelijke daling twee jaar na opname in WZC. Bewoners met dementie hebben een hogere mortaliteit. Hun medicatiegebruik wordt afgebouwd.

## **28. Value of geriatric screening and assessment in predicting postoperative complications in patients older than 70 years undergoing surgery for colorectal cancer**

Katleen Fagard, Julie Casaer, Albert Wolthuis, Johan Flamaing, Koen Milisen, Jean-Pierre Lobelle, Hans Wildiers, Cindy Kenis

### **Purpose**

This study examined the association between geriatric screening and geriatric assessment (GA) and the risk of 30-day postoperative complications (30d-POCs) in older patients undergoing surgery for colorectal cancer (CRC).

### **Materials and Methods**

Patients were identified from a prospectively collected database (2009–2015). All patients underwent geriatric screening with the G8 screening tool and the Flemish version of the Triage Risk Screening Tool. The G8-frail patients ( $G8 \leq 14$ ) received a GA, including living situation, basic and instrumental activities of daily living (ADL and I ADL), falls, fatigue, cognition, depression, nutrition, comorbidities and polypharmacy. The 30d-POCs were retrospectively collected from the medical records and classified into severity grades (Clavien-Dindo classification). The primary endpoint was the occurrence of Clavien-Dindo grade 2 and above ( $CD \geq 2$ ) 30d-POCs. For identifying predictive variables logistic regression analyses were used.

### **Results**

The study included 190 patients of whom 115 G8-frail patients received a GA. Of the patients 49.5% had 30d-POCs, 83% were  $CD \geq 2$ , and 3 patients died. In univariable logistic regressions, the following variables were associated with  $CD \geq 2$  30d-POCs in the whole group ( $p(\text{Wald}) < 0.05$ ): age, G8, ECOG performance status (ECOG-PS), tumor location, type of surgery and surgical approach, the latter being the only independent predictor in multivariable analysis, besides age. In the 115 G8-frail patients, ADL, ECOG-PS and surgical approach were predictive factors for  $CD \geq 2$  POCs. In multivariable analyses only surgical approach and ADL remained.

### **Conclusion**

Our findings suggest that patients identified as frail with an abnormal result on the G8 screening tool and G8-frail patients scoring dependent on ADL-assessment are at increased risk of  $CD \geq 2$  30d-POCs.

## **29. Postoperative complications in individuals aged 70 years and over undergoing surgery for colorectal cancer**

Katleen Fagard, Julie Casaer, Albert Wolthuis, Johan Flamaing, Koen Milisen, Jean-Pierre Lobelle, Hans Wildiers, Cindy Kenis

### **Purpose**

This study aimed to describe the nature, incidence, severity and outcomes of in-hospital postoperative complications (POCs) in individuals aged 70 years and over operated on for colorectal cancer (CRC).

### **Methodology**

Patients were identified from a prospectively collected database (2009–2015) focusing on the implementation of geriatric screening and assessment in older cancer patients. Medical and surgical POCs were retrospectively retrieved from the medical records. The severity of the POCs was graded by the Clavien-Dindo system. The following outcomes are reported for patients with and without POCs: length of stay (LOS), transfer to the intensive care unit (ICU), 30-day and 1 year mortality and 30-day readmission rates.

### **Results**

The study included 190 patients, 44.7% experienced POCs, 40.5% had medical and 17.9% had surgical POCs, 37.9% experienced Clavien-Dindo grade 2 and above ( $CD \geq 2$ ) POCs. The most common medical POCs in descending order were: infectious (26.8%), transient confusion or altered mental function (12.1%), cardiac arrhythmia (4.7%), ileus/gastroparesis/prolonged recovery of transit (4.7%), urinary retention (3.2%), and heart failure (3.2%). The most common surgical POCs were surgical site infections (12.1%), wound dehiscence/bleeding (4.7%), anastomotic leak (3.7%) and surgical site bleeding (3.7%). The reoperation rate was 7.9%,  $CD \geq 2$  POCs led to 11 ICU admissions and increased median LOS by 114% ( $P < 0.0001$  for both), but did not significantly alter 30-day readmission and 30-day and 1 year mortality rates.

### **Conclusion**

Our findings show that in-hospital medical and surgical complications after surgery for CRC in patients  $\geq 70$  years old are frequent and that complications lead to less favorable outcomes.

### **30. Management of osteoporosis**

Aparna George, Stany Perkisas, Ilse Engelmann, Maurits Vandewoude

#### **Purpose**

To develop a management plan for osteoporosis.

#### **Methodology**

Study of existing guidelines on osteoporosis. Pubmed, Uptodate and Google Scholar were used. Reference lists of the guidelines were further searched to identify relevant articles, which were also reviewed.

#### **Results**

The WHO diagnostic criteria require bone densitometry, but in clinical practice treatment can be started in the presence of a fragility fracture. Bone densitometry can be considered in 'fit' elderly, in order to follow up the effect of treatment after 3 years. This can aid in assessing the need for continuation of therapy. In Belgium, bone mineral density (BMD) measurements may also be needed for reimbursement of certain medications. Daily calcium and vitamin D supplementation is recommended in all guidelines irrespective of dietary intake. Among antiresorptive therapy, bisphosphonates remain the first choice. Oral form is the most cost-effective, and can be considered in patients without peptic disorders, in those who can follow correct usage instructions and in those known to have good adherence to medication use. In others, yearly intravenous zoledronine acid infusion can be used. Renal dysfunction ( $eGFR < 35 \text{ ml/min/1.73 m}^2$ ) is a contraindication for bisphosphonates. In such patients, a twice-yearly subcutaneous denosumab administration a good alternative. In treatment resistant osteoporosis recombinant human parathyroid hormone treatment can also be considered; however, this treatment is extremely expensive.

#### **Conclusion**

Starting treatment after a fragility fracture is proven to reduce the incidence of subsequent fractures. Along with lifestyle changes osteoporosis treatment must also be considered in all patients after a fragility fracture, especially in those with an increased fall risk.

### **31. Comparison of mortality between traditional orthopedic care and orthogeriatric care**

Aparna George, Stany Perkisas, Ilse Engelmann, Maurits Vandewoude

#### **Purpose**

Several models of joint orthopedic geriatric care exist for the management of geriatric patients with a femoral fracture. One model is the geriatric fracture clinic (GFC), where a patient is admitted to an orthopedic ward and a GFC team, comprised of a geriatrician and a geriatric nurse, consults from admission until discharge. The purpose of this study is to compare mortality between traditional orthopedic care without geriatric evaluation and the GFC model.

#### **Methodology**

Patients aged 75 years and older admitted to orthopedic wards (ZNA Middelheim/ZNA Jan Palfijn) with a femoral fracture between 01/01/2014 and 31/12/2014 were included. Patient selection was made from geriatric liaison nurse records. Patients from the Middelheim hospital did not receive GFC consultation and formed the control group. Data collection was carried out from 01/08/2016 through e-mail contact with the patients' general practitioner. Data regarding mortality and the date of death were collected.

#### **Results**

Mortality data is available for 40 out of 113 patients (35%) in the study group and for 29 out of 59 patients (49%) in the control group. Of the 40 patients in the study group 29 (72.5%) patients and 26 out of 29 patients (89.7%) in the control group were



deceased.

### **Conclusion**

The results until now indicate a reduced mortality in the group that received GFC consultation.

## **32. Gebruik van antidepressiva bij ouderen**

Lynn Gers

### **Doel**

Antidepressiva worden frequent gebruikt in de geriatrische populatie. Gezien de problematiek van polyfarmacie en frequente aanwezigheid van multipathologie bij ouderen, is het belangrijk deze medicatie enkel voor te schrijven voor de juiste indicaties én dient rekening gehouden te worden met medicatie-interacties en co-morbiditeiten. Deze review heeft als doel de clinicus bij te staan in beslissingen rond het gebruik van antidepressiva bij ouderen, door een samenvatting te geven van de bestaande evidentie rond dit onderwerp.

### **Methodologie**

Er werd via de OvidSP databanken gezocht naar artikels rond het gebruik van antidepressiva bij ouderen in 4 specifieke situaties: depressie, angststoornissen, neuropathische pijn en neuropsychiatrische stoornissen bij dementie.

### **Resultaten**

Bij depressie blijken de SSRI's (met name citalopram, escitalopram, sertraline) en enkele nieuwere antidepressiva (venlafaxine, bupropion, mirtazapine) de eerste keuze voor gebruik bij ouderen. Bij angststoornissen lijken citalopram, sertraline en venlafaxine de beste keuze, hoewel er weinig studies voorhanden zijn bij ouderen. In het kader van neuropathische pijn lijkt venlafaxine de eerste keuze, al of niet in combinatie met topische analgetica, doch ook hier zijn weinig gegevens voorhanden. Voor gedragsstoornissen bij dementie kan een trial met citalopram overwogen worden.

### **Conclusie**

De huidige evidentie rond gebruik van antidepressiva bij ouderen beperkt zich voornamelijk tot gebruik bij depressie in de strikte zin, waarbij de SSRI's en enkele nieuwere preparaten de voorkeur verdienen. Meer onderzoek is nodig om het gebruik en de keuze van antidepressiva bij andere aandoeningen in deze populatie grondig te onderbouwen.

## **33. Stratification of older adults in the emergency department: predictive accuracy of the interRAI emergency department screener**

Heeren P, Jonckers M, Ooms E, Devriendt E, Deschodt M, Sabbe M, Flamaing J, Milisen K

### **Purpose**

The interRAI emergency department (ED) screener is a new screening instrument to identify vulnerable older adults at the ED. The aim of this study was to evaluate this instrument's accuracy in predicting need for hospitalization (NFH), prolonged hospitalization (PH) and 3 month mortality.

### **Methodology**

Trained research nurses consecutively included 780 community-dwelling patients aged 70 years and older at the ED of University Hospitals Leuven. The data on NFH, PH (i. e. more than 28 days) and 3 month mortality were obtained through patient chart review and telephone calls. Sensitivity, negative predictive value (NPV) and accuracy were calculated.

### **Results**

Patients were categorized by the interRAI ED screener into groups with low (score 1–2; 29.1%), intermediate (score 3–4; 34.1%) or high (score 5–6; 36.8%) risk. The NFH, PH and 3 month mortality were present in 522 (66.9%), 58 (7.4%) and 72 (9.2%) patients, respectively. Sensitivity and NPV for the cut-off score of at least 5 were 42.7% and 39.4% for NFH, 65.5% and 95.9% for PH and 56.9% and 93.7% for 3 month mortality, respectively. Sensitivity and NPV for the cut-off score of at least 3 were 75.3% and 43.2% for NFH, 86.2% and 96.5% for PH and 87.5% and 96.0% for mortality, respectively. Accuracy varied between 53.5% and 65.5% with cut-off at least 5 and between 34.5% and 63.0% with cut-off at least 3.

### **Conclusion**

Although the interRAI emergency department screener can be used to rule out some of the outcomes, it has shown insufficient accuracy in predicting NFH, PH and 3 month mortality among older ED patients.

## **34. Integratie van palliatieve zorg in Vlaamse woonzorgcentra**

Sofie Hermans, Aline Sevenants, Anja Declercq, Luc Deliens, Joachim Cohen, Chantal Van Audenhove

### **Doel**

Het INTEGRATE project heeft tot doel palliatieve zorg te integreren in de reguliere zorg en kadert binnen een partnerschap van KU Leuven, VUB en UGent. De deelstudie vanuit LUCAS KU Leuven focust specifiek op de palliatieve bewoners van Vlaamse woonzorgcentra. De vergrijzing van de Belgische populatie vergroot de druk op palliatieve zorg. Deze zal geconfronteerd worden met een meer complexe zorgvraag omwille van chronische ouderdomsziekten. Het huidige ondersteuningsmodel is in de toekomst daarom niet langer houdbaar. Deze studie beoogt de inbedding van palliatieve zorg in de dagelijkse zorgpraktijk voor ouderen te bevorderen door de samenwerking van de verschillende organisaties die betrokken zijn in het palliatief zorgproces, te optimaliseren.

### **Methodologie**

Op basis van vragenlijstonderzoek aangevuld met focusgroepen wordt vanuit het vier-dimensionaal model van D'Amour en collega's (2008) de huidige samenwerking tussen woonzorgcentra en thuiszorgdiensten enerzijds en woonzorgcentra en ziekenhuizen anderzijds in kaart gebracht voor de 15 palliatieve netwerken in Vlaanderen. Gebaseerd op deze resultaten en een literatuurstudie, wordt een interventie ontwikkeld en geëvalueerd (MRC 0.1 en 2).

### **Resultaten**

Voorlopige resultaten die zullen worden voorgesteld op de Wintermeeting, vormen de basis voor het ontwikkelen van een piloot-interventie. Deze interventie zal bijdragen tot een geoptimaliseerde samenwerking binnen de levenseindezorg voor ouderen in Vlaanderen.

### **Conclusie**

Het onderzoek zal leiden tot concrete aanbevelingen voor het beleid en de praktijk van samenwerking rond levenseindezorg in de palliatieve netwerken.

## **35. Does using the interRAI palliative care instrument reduce the needs and symptoms of nursing home residents receiving palliative care?**

Kirsten Hermans, Johanna de Almeida Mello, Nele Spruytte, Joachim Cohen, Chantal Van Audenhove, Anja Declercq

### **Purpose**

This study aims to evaluate whether using the interRAI palliative care instrument (the interRAI PC) in nursing homes is associated with reduced needs and symptoms in residents nearing the end of their lives.

### **Methodology**

This study has a quasi-experimental pre-post test design. At baseline and 1 year after introducing the interRAI PC in 15 nursing homes, care professionals of 15 intervention and 15 control nursing homes filled out the Palliative care Outcome Scale (POS) for all nursing home residents aged 65 years and over, nearing the end of their lives. After the baseline, during a period of 1 year, caregivers of the intervention nursing homes filled out the interRAI PC for all included residents.

### **Results**

Posttest POS scores for 'wasted time' were higher (less favourable) than pretest scores in the intervention nursing homes. In the intervention nursing homes that were already working with the interRAI long-term care facilities ( $n = 8/15$ ), total POS scores were lower (more favourable) in the posttest.

### **Conclusion**

One year after introducing the interRAI PC, no reduced needs and symptoms were detected in the intervention nursing homes. The effect found in the subgroup of intervention nursing homes without prior experience with interRAI long-term care facilities might suggest that the use of an interRAI instrument rather than the use of the interRAI PC specifically can improve care. Future research should aim to replicate these findings in a long-term design in order to evaluate the effect of integrating the use of the interRAI PC in the day-to-day practices of the nursing homes (Kirsten.Hermans@kuleuven.be).

## **36. Urinary retention on an acute geriatric ward: prevalence, presentation, and the role of screening**

Kasper Hermans, Sofie Vande Wouwer, Johan Flamaing, Frank Van der Aa, Mieke Deschodt, Katleen Fagard

### **Purpose**

To determine the prevalence of urinary retention (UR) on an acute geriatric ward, assess clinical presentation and evaluate the role of screening.

### **Methodology**

Post-void residual volume (PVR) was measured by ultrasound/bladder scan within 72 h of admission ( $\geq 75$  years old, informed consent). Urinary symptoms, defecation habits, living situation, cognition and mobility were assessed; furthermore comorbidities, medication use, falls, renal function and urinary tract infection were recorded. Descriptive, comparative statistics and logistic regression analysis were used.

### **Results**

In this study 94 patients (mean age 85.3 years) were included. A PVR of  $\geq 150$  ml and  $\geq 300$  ml were recorded in 28.9% and 16.0% of the patients, respectively. Factors associated with a PVR  $\geq 150$  ml in univariate analysis were urologic antecedents, overflow incontinence, difficulty voiding, feeling of incomplete bladder emptying and fecal impaction. Difficulty voiding (OR 9.93, 95% CI 2.12–46.53,  $P = 0.004$ ) had the strongest association with PVR  $\geq 150$  ml in multivariate logistic regression. Factors associated with a PVR  $\geq 300$  ml (univariate analysis) were not living at home, urologic antecedents, burning micturition, difficulty voiding, feeling of incomplete bladder emptying, constipation and fecal impaction. In multivariate logistic regression living situation (OR 17.17, 95% CI 2.18–135.31,  $P = 0.007$ ), feeling of incomplete bladder emptying (OR 10.98, 95% CI 1.15–104.64,  $P = 0.037$ ) and fecal impaction or constipation (OR 9.19, 95% CI 1.38–61.08,  $P = 0.022$ ) were predictors.

### **Conclusion**

On an acute geriatric ward UR is prevalent on admission. Although several clinical symptoms and living situation were associated with UR, a larger cohort study with longitudinal data collection is needed to allow the development of a screening algorithm. In the meantime, we recommend screening all patients on admission.

## **37. ECG monitoring in patients with a treatment of psychotropic drugs: monitoring adherence to guidelines**

Eva Jacxsens, Hans van den Ameel, Jürgen De Fruyt, Frank Vancoillie, Yves Vandekerckhove, Veerle Grootaert

### **Purpose**

Several psychotropic drugs can induce QT prolongation, which is a well-known risk factor for developing Torsade de Pointes (TdP) and sudden death. The clinical relevance of this side effect of psychotropic medication remains unclear, particularly for patients hospitalized in an acute hospital. Guidelines recommend the recording of an electrocardiogram (ECG) prior to treatment with psychotropic drugs at risk and after dose increases.

### **Methodology**

A retrospective evaluation was conducted on four psychiatric wards in a general hospital: two acute, short-term psychiatric

units (ASP1 & ASP2), one addiction service unit (ASU) and one geriatric psychiatric ward (GPW). Based on the AZERT classification, a list of QT-prolonging psychotropic drugs was compiled. Adult patients who were admitted between 01/09/2014 and 28/02/2015 on a psychiatric ward and treated with minimum of one psychotropic risk drug were included. Statistical analysis (R software) was performed on demographic factors, frequency of hospitalization, performed ECGs, QT(c) intervals and creatinine and potassium levels were registered.

### **Results**

An ECG was performed in 24.6% (184/747) of the included patients (average age 54 years, 36.4% male). The prevalence of ECG monitoring was significantly different between the 4 psychiatric wards ( $p < 2.2e-16$ ): 66% (111/168) in the ASU population and 19%(29/153) in the geriatric population. The latter is very low despite multiple risk factors for developing QT prolongation (average age 76 years, 72.4% female). Highly abnormal QT(c) prolongation (>500 ms) occurred only in 2 patients (2/143).

### **Conclusion**

Adherence to recommendations on performing an ECG in patients on QT-prolonging psychotropic drugs is very low. Recording an ECG should be encouraged, especially in patients with multiple risk factors for developing QT prolongation.

## **38. QT prolongation in an acute psychiatric setting: fact or fiction?**

Eva Jacxsens, Hans van den Ameele, Jürgen De Fruyt, Frank Vancoillie, Yves Vandekerckhove, Veerle Grootaert

### **Purpose**

Several psychotropic drugs can induce QT prolongation, which can provoke Torsade de Pointes (TdP) and sudden death. To interpret the clinical importance of psychotropic drug-induced QT prolongation, we investigated the prevalence of these electrocardiographic changes.

### **Methodology**

A prospective study was conducted on 4 psychiatric wards in a general hospital, including one geriatric psychiatric ward (GPW). All adult patients admitted between 01/10/2015 and 15/03/2016 were eligible for inclusion. At admission, an electrocardiogram (ECG0) was performed, creatinine and potassium levels were measured. A second ECG (ECG1) was performed at least 7 days after the start of a psychotropic risk drug and QTc prolongation was defined as 470 ms (males)/480 ms (females). Clinically relevant QTc prolongation was defined as  $\geq 500$  ms.

### **Results**

In this study 268 patients (mean age 55 years, 59% female) were included. In 85 patients, an ECG1 was performed. QTc0 + 1 were prolonged in 2.3% (5/220) of females and 3.7% (5/136) of males. No clinical relevant prolongation ( $\geq 500$  ms) was registered. Higher QTc intervals were measured in the geriatric population: 28.5% (36/126) of all measured QTc were situated between  $450 \geq$  QTc0 + 1500 ms in GPW versus 9.4% (22/233) in the other units. Significant difference in QTc changes was associated with sex ( $p = 0.02246$ ). There was no correlation assessed between QTc prolongation and age, number of psychotropic drugs or a specific single psychotropic drug ( $p > 0.05$ ).

### **Conclusion**

In this study QTc prolongation due to psychotropic drugs was less common than previously described. Avoiding unnecessary ECGs could reduce hospital and community costs; however, considering the potential harm of TdP, we recommend recording an ECG before the initiation of a QT-prolonging psychotropic drug in risk patients: patients with a chronic alcohol or drug addiction, a cardiac history, on concomitant therapy with at least 2QT-prolonging psychotropic drugs and geriatric patients (>65 years).

## **39. Hospitalization-associated disability in older adults with valvular heart disease: incidence, risk factors and its association with care processes**

Maren Jonckers, Bastiaan Van Grootven, Lindsey De Graeve, Ester Willemyns, Miek Hornikx, Christophe Dubois, Marie-Christine Herregods, Mieke Deschodt

### **Purpose**

To determine the incidence and recovery of hospitalization-associated disability (HAD), the associated risk factors, and its link with care processes in patients aged  $\geq 70$  years with valvular heart disease (VHD).

### **Methodology**

Prospective cohort study performed on the cardiology and cardiac surgery units of University Hospital Leuven, Belgium. HAD was defined as the loss of independence to complete one of the activities of daily living (ADL) between hospital admission and discharge. Recovery of HAD at 30 days post-hospital discharge was achieved when patients recovered their baseline ADL status (2 weeks before hospital admission).

### **Results**

A total of 80 patients were enrolled in the study, 77 completed the assessment at discharge and 62 responded at 30 days follow-up. Of the patients 40 (51.9%) developed HAD and 18 of them (45.0%) recovered their baseline ADL status. The risk of HAD increased when patients were physically restrained (relative risk RR 1.83, 95% confidence interval CI 1.11–3.03), had an indwelling catheter (RR 1.27, 95% CI 0.98–1.65) and received preventive pressure ulcer measures (RR 2.09, 95% CI 1.18–3.73). Patients with HAD had a longer hospital stay (+3 days,  $p = 0.010$ ), and a longer use of physical restraints (+4 days,  $p = 0.007$ ), mandatory bed rest (+1.5 days,  $p = 0.031$ ) and indwelling catheters (+2 days,  $p = 0.011$ ).

### **Conclusion**

Half of the older adults with VHD developed HAD. The results indicate the importance of care processes in the development of HAD, which could be used as quality measures and intervention targets. Validation in larger cohort studies is recommended.

## **40. Types of interprofessional teamwork in acute geriatric units and its relation to patient and carer outcomes**

Karen Versluys, Johan Devoghel, André Vyt, Nele Van Den Noortgate

### **Introduction**

Interprofessional teamwork (ITW) is a cornerstone of specialist geriatric care; however, research is lacking.

### **Methodology**

Perceptions of ITW, quality of care (QC) and intentional job leave (JL) among healthcare providers (HCP) of 55 acute geriatric units in Belgium were measured, using a self-assessment questionnaire. K means cluster analysis was used to determine types of ITW. A multilevel linear regression model for QC and multilevel logistic regression for JL were performed.

### **Results**

Out of 1538 HCPs 890 returned the questionnaire (58%) and four meaningful clusters were identified. Of the teams 14 were categorized as type 1 with HCPs perceiving that team members effectively cooperate together, but perceive lack of support from patient files and team leaders. Within type 2 (13 teams), HCPs have a strong belief that ITW is worthwhile, however they experience a lack of managerial support. HCPs in type 3 (21 teams) indicate as strong elements management, patient records and incident reporting; however the perception of effectively working together is average. Within type 4 (7 teams) HCPs gave the highest scores on management stimulating ITW; however, HCPs have the least belief in the strength of ITW and gave the lowest scores on reporting incidents. Type 1 scored significantly lower compared to type 4 on QC ( $p < 0.01$ ), JL ranged from 10% in type 1, 6% type 2, 3% in type 3 and 1% type 4 after adjusting for AGU and HCP characteristics ( $p = 0.001$ ).

### **Conclusion**

We identified four meaningful types of ITW that are related to patient and HCP outcomes providing opportunities to develop tailored interventions.

## **41. Evaluation of the process of completion of the oral health-related section of the interRAI using a qualitative approach**

Stefanie Krausch-Hofmann, Johanna De Almeida Mello, Jan De Lepeleire, Dominique Declerck, Anja Declercq, Tran Trun Dung,

Emmanuel Lesaffre, Joke Duyck

### **Purpose**

Accurate registration of oral health with the interRAI assessment is important as compromised oral health causes discomfort and is associated with poor physical and cognitive status. It has been shown that oral treatment need is not adequately identified by the interRAI when compared to professional oral examinations. The current study analyzed the process of completion of the oral health-related section of the interRAI (ohr-interRAI) to contribute to a more profound evaluation of validity.

### **Methodology**

In March 2016, 4 focus group discussions with 23 caregivers, experienced with the interRAI assessment, were organized in Flanders. A semi-structured question guide was designed to direct the discussion. The following topics were explored: experiences and problems with the ohr-interRAI, approach of data collection, perceived competency and reasons for missingness. Discussions were audio-taped and transcribed verbatim. The software Nvivo.11 was used for data management of the qualitative analysis that followed the principles of content structuring.

### **Results**

The majority of participants considered the ohr-interRAI explicit and felt competent to complete the items; however, oral health assessment of the client was done superficially and purely based on interview and observation during mealtime or conversation. Participants considered inspection of the mouth of the clients inappropriate and too private. When no suitable response categories were available, items were not filled in. Participants criticized that oral hygiene is not included in the ohr-interRAI.

### **Conclusion**

Results indicate that the ohr-interRAI as it is used today is lacking validity. A revision of the instrument and/or the process of completion should be considered.

## **42. Rebound-associated vertebral fractures after stopping denosumab: report of two cases**

Michaël R. Laurent, Marian Dejaeger, Frank P. Luyten, Evelien Gielen

### **Purpose**

Denosumab is a potent reversible antiresorptive which increases bone mineral density (BMD) and reduces fracture risk in osteoporosis. After discontinuation of denosumab, bone turnover markers (BTMs) transiently rebound above baseline levels, BMD and fracture risk decline to baseline, but recent clinical trial data and case reports suggest a small but significant transiently increased risk for severe vertebral fractures on denosumab discontinuation.

### **Methodology**

Two clinical case reports on rebound-associated vertebral fractures (RAVFs).

### **Results**

In a 59-year-old woman without prior fractures or risk factors, denosumab was discontinued after 3 years for dental implantations. She developed 3 clinical VFs after lifting a heavy object. The BMD T scores at L1-4 had declined from -3.3 to -3.6 and went from -2.0 to -2.1 at the hips. Biochemical results showed hypercalcemia from iatrogenic vitamin D intoxication. A 74-year-old woman had a history of insulin resistance, monoclonal gammopathy of undetermined significance (MGUS), previous wrist, ankle and L2/4 vertebral fractures. She was switched from raloxifene to denosumab, which was discontinued after 5 years for investigation of low alkaline phosphatase; 9 months later, she sustained 2 spontaneous clinical VFs treated with double vertebroplasty. Both patients had increased BTMs and vertebral bone marrow edema on magnetic resonance imaging (MRI) and were switched to bisphosphonates.

### **Conclusion**

We report two cases of RAVFs after discontinuation of several years of denosumab treatment. Both patients were not

previously treated with bisphosphonates, which are known to blunt the bone turnover rebound after stopping denosumab. Thus, in bisphosphonate-naïve patients at high baseline risk of vertebral fractures, treatment interruptions should be avoided if possible.

### **43. New Flemish guidelines for preventing falls in community-dwelling older people**

Greet Leysens, Deborah Vanaken, Koen Milisen

#### **Purpose**

Falls in community-dwelling older persons frequently occur. The consequences emphasize the need to screen for an increased fall risk and targeted multifactorial and multidisciplinary prevention strategies. Literature indicates that effective implementation of such an approach can significantly reduce the number of falls. In this respect, the Center of Expertise for Fall and Fracture Prevention Flanders (EVV) developed guidelines in 2010. To provide Flemish primary healthcare workers the most recent evidence, the EVV updated the guidelines.

#### **Methodology**

The EVV used the format of EBMPracticeNet.be. A multidisciplinary working group monitored and consolidated input regarding eight clinical questions. A systematic literature search was conducted in multiple databases and scientific websites from 2010–August 2015. The updated guideline was peer reviewed by the working group and stakeholder group.

#### **Results**

The new guidelines provide recommendations for the following clinical questions:

1. What are the main risk factors associated with falls in community-dwelling older persons?
2. What is the effectiveness of a multifactorial approach on fall incidents?
3. What is the effectiveness of a multifactorial approach on fall-related injuries?
4. What is the best method to assess older persons at high risk?
5. Which multifactorial evaluation is indicated?
6. Which multifactorial interventions are indicated?
7. How can primary healthcare workers ensure compliance in older persons?
8. Which primary healthcare workers should be involved in falls prevention?

#### **Conclusion**

The new guidelines are submitted to CEBAM for validation.

### **44. Changes in the inflammatory profile, muscle strength, body composition, and physical functioning of older adults after exercise: a systematic review**

Keliane Liberman, Louis N. Fortia, Ingo Beyer, Ivan Bautmans

Aging is associated with reduced muscle mass (sarcopenia), muscle performance and strength (dynapenia) and increased inflammatory profile. Also lower physical function and changes in body composition, such as increased fat mass are noticed. Physical exercise is one of the most effective means to attenuate characteristics of aging. This systematic review aims to provide the most recent literature regarding changes in muscle strength, body composition, physical functioning and inflammation in older adults after an exercise intervention. Included articles were assessed for methodological quality and where possible effects size was calculated. A total of 34 articles were included, 4 involving frail, 24 healthy and 5 older adults with a specific disease. Articles reported many exercise types: resistance training, aerobic training, combined resistance training and aerobic training and others. In frail older adults, moderate to large beneficial exercise effects were obtained in inflammation, muscle strength and physical functioning. None of the articles compared different exercise types, which makes an exercise recommendation for frail older persons difficult. In healthy older adults, effects of resistance training (most frequently investigated) on inflammation or muscle strength can be influenced by the exercise modalities (intensity and rest interval between sets). Muscle strength seemed the most frequently used outcome measure, with moderate to large effects obtained regardless of the exercise intervention studied. Similar effects were found in patients with specific diseases. Exercise

has moderate to large effects on muscle strength, body composition, physical functioning and inflammation in older adults. Future studies should focus on the influence of specific exercise modalities and target the frail population.

#### **45. WTF is geriatric liaison??! Interview of GPs about the report sent by the geriatric liaison team**

Catherine Magnette, Alexandra Gillet, Marie Gillet, Marie Lardin, Christine Lhoas, Sarah Pirson, Dominique Piette.

##### ***Purpose***

To assess the relevance and the impact of the report sent to GPs, and to improve our way to broadcast the geriatric culture outside of hospitals.

##### ***Methodology***

We realized a retrospective study about the 174 patients evaluated by our geriatric liaison team during the first 6 months of 2016. Using a questionnaire, we contacted the 115 GPs in charge of those patients by telephone.

##### ***Results***

Our first observation was that the GPs are very hard to reach by telephone! Of the 115 GPs, we could reach 58 quite easily and 18 declined the interview. The others could not be reached, either not reached at all, or to be reached later or on another day where it was impossible for our team to call them back. Our second observation was the lack of information of the GPs: more than 60% did not know what geriatric liaison is! Hopefully most of the contacted GPs think that it is important that an elderly frail patient can benefit from a global geriatric evaluation whatever the ward of hospitalization is. Our study describes the expectations of the GPs and tries to clarify with them the best means of communication. We provide different solutions for improvement.

##### ***Conclusion***

Geriatric liaison is widely unknown by the GPs and there is a lot to do to improve communication outside of hospitals.

#### **46. Case Report: treatment-resistant ipilimumab-related colitis in an elderly metastatic melanoma patient**

Nicolas Maréchal, Sofie Wilgenhof, Bart Neyns, Veerle Morlion, Daniel Urbain, Tony Mets, Ingo Beyer

##### ***Background***

Ipilimumab is a fully humanized monoclonal antibody against cytotoxic T lymphocyte-associated antigen 4 (CTLA-4). In 2010, ipilimumab became the first systemic therapy to improve the overall survival of patients with advanced melanoma in two randomized phase III clinical trials. Related to its immune cell activating mode of action, ipilimumab therapy is associated with a spectrum of immune-related adverse events (irAE), most commonly located in the skin and gastrointestinal tract. IrAEs are managed by early administration of high-dose corticosteroids and withdrawal of ipilimumab. Ipilimumab-related colitis, refractory to corticotherapy has been reported to readily respond to treatment with the antitumor necrosis factor monoclonal antibody infliximab.

##### ***Case report***

An 82-year-old female patient with metastatic melanoma (melanoma right ankle with in-transit metastases) was admitted to the Universitair Ziekenhuis Brussel with grade 4 diarrhea and severe dehydration, 4 weeks after a second administration of ipilimumab. Colonoscopy revealed anal and rectosigmoid ulcerations, compatible with ipilimumab-induced colitis. The patient was not responding to either high-dose corticosteroids or to infliximab. Several immunosuppression-related complications were encountered: recurrent urinary tract infections, herpes simplex stomatitis, pneumonia, oropharyngeal candidiasis, and catheter septicemia. During hospital stay, the diarrhea gradually resolved and methylprednisolone was tapered. Complete resolution was only seen after 2 months, likely due to the wash-out of ipilimumab (half-life of 14 days).

##### ***Conclusion***

Now that immunotherapy for cancer has become available for the older patient as well, irAEs will be more frequently encountered by geriatricians. As demonstrated by our case, older patients might not readily react to standard treatment.



#### **47. Engaging older adults to validate their medication list by use of an electronic tool to facilitate medication continuity: preliminary results**

Sophie Marien; Catherine Forget, Delphine Legrand, Pierre Pagazc, Ravi Ramdoyal, Valery Ramon, Anne Spinewine

##### **Background**

Continuity of medication management is a worldwide patient safety concern. Patient engagement and information technology (IT) can improve medication continuity by supporting information sharing across different settings. The SEAMPAT patient application, allows patients to validate their medication list.

##### **Purpose**

The aim of this study is to evaluate the accuracy and completeness of medication history collection. Besides this purpose, usability and patient participation will be evaluated.

##### **Methodology**

We elaborated a 3-month (September–December 2016) prospective observational study. Patients older than 65 years from the Namur Region, volunteering to participate and at high risk of medication discrepancies were eligible for inclusion.

##### **Results**

A total of 25 patients were included. The majority were men (84%) taking on average 8 daily medications. Participants found the patient application easy to use. The average System Usability Scale score was 65% and 69% if patients were familiar with IT. Participants were convinced that the patient application could help their physician save time. A large majority thought it could help improve communication and reduce medication errors. At the start of the study, 50% of the patients were considered at the highest level of activation using the patient activation measure. Accuracy and completeness of medication lists will be evaluated when patients are more experienced with the patient application.

##### **Conclusion**

Our preliminary results show that age is not a barrier to IT use but IT familiarity influences usability. Most elderly were convinced of the potential benefit of the patient application on medication error reduction. To evaluate improvement in medication continuity, number and type of medication discrepancies will be assessed in December.

#### **48. Evolutie in medicatiegebruik bij kankerpatiënten met een vergevorderde kanker die palliatief verzorgd worden**

Kristel Paque, Monique Elseviers, Robert Vander Stichele, Koen Pardon, Marianne Hjermsstad, Stein Kaasa, Thierry Christiaens, Luc Deliens

##### **Doel**

Beschrijven van het medicatiegebruik en de evolutie hiervan gedurende de laatste 6 maanden vóór overlijden bij kankerpatiënten met een vergevorderde kanker die palliatief verzorgd worden.

##### **Methodologie**

Voor deze internationale, multicentrische cohortstudie werden medische data en symptomen geregistreerd om de 3–5 weken vanaf inclusie door gestructureerde vragenlijsten die ingevuld werden bij elk patiëntencontact zowel door patiënten als door zorgverstrekkers. Medicatie werd dichotoom bevraagd: neen/ja voor 19 therapeutische groepen. Data analyse gebeurde retrospectief, enkel bij patiënten met een gekende overlijdensdatum en minstens 1 meting, met de dood als indexpunt. We vergeleken medicatiegebruik op 1, 2, 3, 4 en 5 maanden voor overlijden door constructie van 5 cross-sectionele subgroepen van medicatiegebruik gedurende die maand. Trends in medicatiegebruik gedurende de laatste 6 maanden voor overlijden werden in kaart gebracht.

##### **Resultaten**

Patiënten (gemiddeld 67 jaar (SD 12.735), 54% mannen) werden gerekruteerd op 30 afdelingen waar palliatieve zorg wordt verstrekt in 16 landen. Darm- (37%), long- (22%) en borstkanker (9%) kwamen het meeste voor ( $n = 653$ ). Algemeen steeg het aantal therapeutische medicatiegroepen van 6 naar 7 naarmate de dood naderde. Kankertherapie daalde van 43.8% op 5 ( $n =$

249) tot 15.5% op 1 maand ( $n = 400$ ) voor overlijden. In deze periode daalden niet-opiaten (54.8–46.4%), terwijl opiaten stegen (61.8–80.5%). Verder stegen corticosteroïden (43.9–70.6%), neuroleptica (9.6–19.6%), sedativa (35.1–46%), laxativa (56.5–65.5%), antibiotica (9.7–18.6%), diuretica (18.9–28%) en antitrombotica (27.1–38.3%) en daalden cardiovasculaire middelen (36.6–26.9%).

### **Conclusie**

Algemeen steeg het medicatiegebruik naarmate de dood naderde. Om na te gaan of het gebruik van preventieve geneesmiddelen daalde zijn meer gedetailleerde medicatiedata nodig.

## **49. Sarcopenie en mortaliteit in WZC-residenten: 8?jaar follow-up**

Stany Perkisas, Anne-Marie De Cock, Veronique Verhoeven, Maurits Vandewoude

### **Doel**

De link tussen sarcopenie en mortaliteit is niet nieuw, doch de meeste data handelen over thuiswonende ouderen. Over geïnstitutionaliseerde ouderen zijn relatief weinig data bekend, zeker niet met lange termijn follow-up. Het doel van deze studie is het vaststellen van de relatie tussen lange termijn mortaliteit en sarcopenie bij een specifieke populatie van geïnstitutionaliseerde ouderen.

### **Methodologie**

In 2007 werd er in 53 woon- en zorgcentra in Vlaanderen een screening uitgevoerd naar sarcopenie door middel van bio-impedantiemetrie. De berekening van al dan niet sarcopeen zijn werd berekend aan de hand van de formule van Janssen et al. ( $0.401 * (\text{lengte}^2/\text{weerstand}) + (3.825 * \text{geslacht}) - (0.071 * \text{leeftijd}) + 5.102$ ). Vanaf 03/2016 werd er door middel van contact met de woon- en zorgcentra en burgerlijke standen van de desbetreffende gemeenten nagegaan of de residenten nog leefden.

### **Resultaten**

In totaal werden er 748 patiënten geïncludeerd in de studie. Er kon van 93% van de patiënten follow-up data worden verzameld. Gemiddelde leeftijd bij follow-up bedroeg  $89 \pm 6$  jaar (mediaan 89, spreiding 62–108 jaar) Gemiddelde follow-up duur is  $1629 \pm 1025$  dagen (mediaan 1540 dagen, spreiding 40–3296 dagen). Bio-impedantiemetrie data was beschikbaar bij 509 patiënten. Van 405 patiënten kon berekend worden of sarcopenie aanwezig was of niet, dit was zo in 261 (64%) gevallen. Het verschil in 8 jaarsmortaliteit was significant verschillend en bedroeg 85.1% in de sarcopenie groep en 76.4% in de niet-sarcopenie groep ( $p = 0.03$ ).

### **Conclusie**

De positieve relatie tussen sarcopenie en lange termijn mortaliteit werd bevestigd bij geïnstitutionaliseerde ouderen. Er is blijvende nood aan screening en behandeling van dit ziektebeeld, zelfs in een geïnstitutionaliseerde omgeving.

## **50. Predicting risk of adverse drug reactions in older inpatients: external validation of the GerontoNet ADR risk score using the CRIME cohort**

Mirko Petrovic, Balamurugan Tangiisuran, Chakravarthi Rajkumar, Tischa van der Cammen, Graziano Onder

### **Purpose**

Purpose of this study is to externally validate the GerontoNet adverse drug reactions (ADR) risk score and to assess its validity in specific subpopulations of older inpatients.

### **Methodology**

Data from the prospective criteria to assess appropriate medication use among elderly complex patients (CRIME) cohort were used. Dose-dependent and predictable ADRs were classified as type A. Probable or definite ADRs were defined according to the Naranjo algorithm. Diagnostic accuracy was tested using receiver operating characteristics (ROC) analyses. Sensitivity and specificity were calculated for a cut-off point of 4.

### **Results**

Mean age (SD) of the 1075 patients was 81.4 (7.4) years and the median number of drugs was 10 (7-13). At least 1 ADR was observed in 70 patients (6.5%), in 50 (4.7%) ADRs were classified as type A and in 41 (3.8%) defined as probable or definite. Fair diagnostic accuracy to predict both type A and probable or definite ADRs was found in subpopulations aged < 70 or ≥ 80 years, heart failure, diabetes, or a previous ADR. Good accuracy to predict ADRs type A was found in patients with a low body mass index (BMI < 18.5 kg/m<sup>2</sup>), a Mini-Mental State Examination (MMSE) score of >24/30 points and patients with osteoarthritis. The cut-off point of 4 points yielded very good sensitivity, but poor specificity results in these subpopulations.

### **Conclusion**

This study suggests that the GerontoNet ADR risk score might represent a pragmatic approach to identifying specific subpopulations of older inpatients at increased risk of an ADR with a fair to good diagnostic accuracy.

## **51. Older patients perceptions of the interpersonal care relationship (IPCR) in non-geriatric wards of hospitals: results from a qualitative study**

Melissa Riviere, Tina Vandecasteele, Dimitri Beeckman, Aurélie Van Lancker, Tine Vanderplancke, Heidi Dufoort, Ann Van Hecke, Sofie Verhaeghe

### **Purpose**

The aim of this study was to gain insights into experiences and perceptions of older patients on the interpersonal care relationship (IPCR) in non-geriatric wards of hospitals.

### **Methodology**

A qualitative research design based on the principles of the grounded theory was used. Semi-structured interviews were conducted with 13 older patients who were selected using purposive and theoretical sampling. Data were analysed by the constant comparative method and data analysis was done simultaneously with data collection in an iterative process. Researcher triangulation was used to increase the credibility and validity of the results.

### **Results**

Older patients want to get through the hospital admission uninjured by guaranteeing the care for themselves. They strive to get the care they need. Avoiding to be seen as a burden and adapting to the nurses are key elements in guaranteeing their care. Despite their adaptations some needs remain unanswered. They seek explanations for and make excuses for the nurses. Older patients doubt whether their explanations and excuses are justified when they are faced with the fact that nurses have a share in what the contact and care is like. Within this context, older patients try to guarantee their care by attuning to the nurses by finding solutions without nurses' intervention, stoically undergoing the care and adjusting their expectations.

### **Conclusion**

The findings indicate that older people are vulnerable because of the way they deal with their experiences on the IPCR. Their needs often remain invisible which does not make the provision of quality care self-evident.

## **52. Verworven hemofilie A: casuïstiek en bespreking**

Tim Rodrigus; Johan De Smet; Philip Matthyssen

### **Doel**

Ziekteverloop, diagnostiek en behandeling van verworven hemofilie A.

### **Methodologie**

Een gevalsstudie van 3 patiënten wordt gepresenteerd en besproken met de meest recente literatuur.

### **Resultaten**

Verworven hemofilie A heeft een lage incidentie in de algemene bevolking (1.5/miljoen/jaar), met een piek bij vrouwen in de post-partumperiode en bij ouderen (>85 jaar). De klinische presentatie zijn uitgesproken bloedingen met een verlengde aPTT.

De diagnose wordt gesteld door een blijvend verhoogde aPTT na een mengtest, met vervolgens het aantonen van lage FVIII-activiteit en de aanwezigheid van een FVIII-remmer. In de helft van de gevallen wordt een onderliggende etiologie (maligniteit, infectie, auto-immuunaandoeningen, medicatie ...) gevonden. De aanpak is het stoppen van de bloeding met bypassing agents zoals recombinant factor VII of geactiveerd protrombine complex concentraat (aPCC). Het is van belang dringend te starten met immunosuppressiva zoals steroïden en cytostatica (cyclofosfamide). De besproken patiënten presenteerden zich met een levensbedreigende post-operatieve anemie, een gastro-intestinale bloeding en een therapieresistente epistaxis. Bij geen van hen werd een uitlokkende etiologie aangetoond. Ze werden allen behandeld met steroïden, al dan niet in combinatie met cyclofosfamide. Er werden geen bypassing agents gebruikt. Een van de patiënten overleed door bloedingscomplicaties.

### **Conclusie**

Door de hoge mortaliteit bij ouderen door verworven hemofilie A is het van belang de ziekte tijdig te herkennen en adequaat te behandelen.

## **53. Woonzorgcentra in Brussel: klaar voor kleur?**

Ilse Rooms

### **Doel**

Welke cultuurgevoelige drempels bestaan er bij etnisch-culturele minderheden wanneer een plaatsing in een woonzorgcentrum zich opdringt en hoe zijn deze drempels weg te werken? Zijn woonzorgcentra in Brussel bereid om stappen tot verandering te zetten en hoe moeten ze dit aanpakken?

### **Methodologie**

1. Beschrijving van een theoretisch kader met onder andere de verschuiving van onze samenleving naar superdiversiteit en een inkijk in cultuursensitieve drempels.
2. Een kwalitatief onderzoek geeft de bevindingen een weerslag van zes experts op het terrein.
3. In een kwantitatief onderzoek wordt middels een elektronische enquête een bevraging opgezet van 157 Brusselse woonzorgcentra, waarvan er 26 geantwoord hebben.
4. Voorstellen uit de praktijk tonen met welke acties men vraag (ouderen van een etnisch-culturele minderheid) en aanbod (woonzorgcentra in Brussel) dichter naar elkaar kan laten toegroeien.

### **Resultaten**

Inzicht in de specifieke moeilijkheden van ouderen van etnisch-culturele minderheid: ze hebben te maken met cultuursensitieve drempels tegenover woonzorgcentra, in de eerste plaats taal en communicatie, maar ook onbekendheid, betaalbaarheid en pragmatische moeilijkheden. Woonzorgcentra in Brussel werden attent gemaakt op de problematiek en enkele centra zijn gemotiveerd om de handen uit de mouwen te steken. Ze kunnen hiertoe concrete acties aanvaarden, deze studie kan hen hiertoe inspireren.

### **Conclusie**

De vergrijzing van mensen van etnisch-culturele minderheid vraagt om interculturalisering van de woonzorgcentra en om een betere bekendmaking van het aanbod van woonzorg bij de doelgroep.

## **54. Evaluatie van het gebruik van antibiotica bij gehospitaliseerde geriatrische patiënten**

Pieter Samaey, Stijn Blot, Mirko Petrovic

### **Doel**

Inzicht krijgen in (on)oordeelkundig antibioticagebruik op de dienst geriatrie (Universitair Ziekenhuis Gent) met het oog op opstellen van aanbevelingen, richtlijnen en verbeteracties.

### **Methodologie**

Retrospectieve analyse van antibiotische voorschriften van gehospitaliseerde patiënten over een periode van 9 maanden. Nazicht gebeurde met gebruik van een aangepaste versie van het "Gyssens et al." algoritme en The Sanford Guide to

Antimicrobial Therapy 2012–2013, Belgian/Luxembourg edition. Behandeling werd geklasseerd als oordeelkundig als de indicatie, het spectrum van activiteit, het aanpassen aan het antibiogram van de oorzakelijke kiem én de therapieduur correct waren. Therapie werd beschouwd als onnodig bij afwezigheid van indicatie voor antibiotica; als niet aangepast bij correcte indicatie maar niet optimale behandelingsmodaliteiten.

### **Resultaten**

De voorschriften van 155 patiënten werden nagekeken. Behandeling werd voornamelijk voorgeschreven voor respiratoire infecties (54.2%), gevolgd door urinaire infecties (24.5%). Antibiotische therapie werd als onoordeelkundig beschouwd bij 50 gevallen (32.3%): bij respectievelijk 5 en 45 voorschriften hiervan spreken we over onnodig en niet aangepast antibioticumgebruik. Niet aangepast gebruik is in 29 gevallen het gevolg van foutieve empirische therapie, in 7 gevallen werd de therapie niet of foutief aangepast aan de beschikbare microbiologie en in 9 gevallen was de therapieduur incorrect.

### **Conclusie**

Er werd beter inzicht bekomen in het voorschrijven van antibiotica op een acute dienst geriatrie. Verschillende aspecten tot verbetering werden geïdentificeerd: nood aan een lokale richtlijn die eenvoudig beschikbaar is op het intranet; betere opleiding betreffende antibioticabeleid voor assistenten; audit en feedback periodes; creatie van een ondersteunend computersysteem dat sturing biedt tijdens verschillende stappen van het antibiotica voorschrift.

## **55. Age-dependent changes in visceral adipose tissue distribution: relationship with WC and WHR**

Aldo Scafoglieri, Sofie Vermeiren, Ivan Bautmans, Jan Pieter Clarys, Steven Heymsfield

### **Purpose**

Excess visceral adipose tissue (VAT) is associated with future loss of skeletal muscle (SM) with aging. In clinical settings waist circumference (WC) and waist-hip ratio (WHR) are commonly used to estimate body composition (BC). We aimed to study:

1. the linearity of the BC-age relationships from 18 to 88 years,
2. the relationships of WC and WHR with VAT distribution.

### **Methodology**

Body composition was determined using magnetic resonance imaging (MRI) in a large multiracial group of 419 adults. For different age groups Pearson's correlation coefficients were calculated to assess their association with BC in relation to gender. Polynomial regression analysis examined the linearity of the BC-age relationships. The relationship between VAT distribution (VAT/SAT, VAT/SM) and anthropometry was assessed separately.

### **Results**

There was a positive correlation between VAT and age for premenopausal women ( $r = 0.43, p < 0.001$ ) and young to middle-aged men ( $r = 0.50, p < 0.001$ ). Skeletal muscle mass and age were only significantly correlated in postmenopausal women ( $r = -0.30, p < 0.01$ ) and in middle-aged to old men ( $r = -0.35, p < 0.05$ ). Linear relationships between BC, anthropometry and age in young and middle-aged adults developed into curvilinear relationships in old age, except for VAT/SAT and VAT/SM. The VAT/SAT-ratio correlated best with WHR (men:  $r = 0.67, p < 0.001$ , women:  $r = 0.48, p < 0.001$ ) while the VAT/SM ratio correlated best with WC in men ( $r = 0.73, p < 0.001$ ) and in women ( $r = 0.68, p < 0.001$ ).

### **Conclusion**

VAT/SAT and VAT/SM increase quasi linearly with age in both genders while anthropometric indices show curvilinear relationships. The use of WC and WHR as measures of VAT distribution is more likely to be fraught to errors in older subjects due to their differential development during aging.

## **56. Medication use in the last 3 days of life in nursing homes. Results from the FP7 EU-funded PACE project in 6 European countries**

Marc Tanghe, Nele Van Den Noortgate, Lara Pivodic

### **Background**

Nursing home (NH) residents increasingly present multiple, incurable pathologies, making palliative care (PC) a key component of NH care. Little is known about medication use at the end of life (EOL) in NHs. This study focused on the use of opioids (OP), antipsychotics (AP) and hypnotics (HP) in the last 3 days of life of residents dying in the NH.

### **Methodology**

In a retrospective cross-sectional study, EOL and PC administration in NHs in 6 EU countries (BE, FI, IT, NL, PL, UK) was studied. NHs were selected by proportional stratified random sampling. Facilities reported all resident deaths over the previous 3 months. Logistic regression was performed to adjust for patient characteristics.

### **Results**

The response rate for the nursing questionnaires was 81%. Medication use was evaluated in 1047 NH deaths, occurring in 270 NHs. The prevalence of opioid use ranged from 20% to 76% of dying NH residents, antipsychotic use from 5% to 22% and hypnotic use from 8% to 47% in the 6 European countries. The differences in medication use between countries were significant for OP use ( $P < 0.001$ ) and HP use ( $P = 0.001$ ). These differences remained significant when controlling for patient characteristics (e.g. age, gender, length of stay, cause of death and dementia) in multivariate analyses.

### **Conclusion**

Opioid and hypnotic use in the dying phase significantly differs between European countries. Detailed study of EOL medication use is needed to develop good practice guidelines.

## **57. Terugkeer naar thuissituatie gerelateerd aan de levels van het Cognitive Disabilities Model**

Ils Van Bouwel

### **Doel**

In ZNA Joostens (SP afdeling) worden geriatrie patiënten met neurocognitieve stoornissen opgenomen voor verdere oppuntstelling. Alle patiënten volgen het klinisch pad waarbij enkele standaard testen worden afgenomen waaronder het Cognitive Disabilities Model (CDM). Er wordt een antwoord gezocht op de vraag in welke mate het CDM-level verband houdt met een terugkeer naar een thuissituatie.

### **Methodologie**

Gegevens werden cross-sectioneel verzameld. Levelbepaling gebeurde aan de hand van de Cognitive Performance Test (CPT), aangevuld met dagelijkse observaties en afgenomen door de ergotherapeute. Afnames gebeurden na een opname van 4 à 5 weken. Resultaten zijn verzameld tussen 09/2012 en 09/2016.

### **Resultaten**

Van 475 patiënten werden gegevens verzameld, waarvan 174 mannen (36.6%) en 301 vrouwen (63.4%). Gemiddelde leeftijd bedroeg  $82.2 \pm 7$  jaar (mediaan 83, spreiding 58–96). Van alle patiënten ging 14.53% ( $n = 69$ ) terug naar een thuissituatie. Vereenvoudigd per level: level één 12.5% ( $n = 1/8$ ); level twee 7.02% ( $n = 4/57$ ); level twee ½ 4.76% ( $n = 1/21$ ); level drie 6.49% ( $n = 5/77$ ); level drie ½ 9.49% ( $n = 13/137$ ); level vier 19.86% ( $n = 29/146$ ); level vier ½ 45.45% ( $n = 10/22$ ) en level vijf 85.71% ( $n = 6/7$ ). Er is een positieve relatie tussen het CDM en de terugkeer naar huis (Pearson's correlatiecoëfficiënt 0.229,  $p < 0.001$ ).

### **Conclusie**

Er is een positieve relatie tussen het CDM en de terugkeer naar huis; hoe hoger het gescoorde level, hoe vaker de patiënt terug kon keren naar zijn thuissituatie. Er werd geen rekening gehouden met confounding factors. Het CDM is te gebruiken bij patiënten met neurocognitieve stoornissen in de oppuntstelling van oriëntatie na opname.

## **58. Study on the use of bevacizumab and conventional chemotherapy for first line treatment of MCRC patients: screening and geriatric assesment (GA)**

Cindy Kenis, Lore Decoster, Ghislain Houbiers, Benedicte Naessens, Marc De Man, Guy Lambrecht, Veerle Moons, Els Monsaert, Philippe Vergauwe, Hans Prenen, Eric Van Cutsem, Elke Beutels, Jan Van de Vyver, Hans Wildiers

### **Purpose**

This observational study aims to complement the knowledge on chemotherapy and bevacizumab usage in the elderly with metastatic colorectal cancer (MCRC) in current practice in Belgium and evaluates the impact of baseline geriatric screening and assessment (GA) on treatment duration (TD), progression-free survival (PFS) and severe toxicity.

### **Methodology**

A total of 252 patients  $\geq 70$  years with MCRC receiving chemotherapy with/without bevacizumab were included in the study. Geriatric screening with G8, fTRST, ECOG, as well as GA including ADL, iADL, MMSE, GDS-15, MNA, CCI and Mob-T was performed in all patients at baseline. Log rank tests, Wilcoxon or Student's *t*-tests and multivariate analyses were used for correlations with the different screening and GA components.

### **Results**

In the total safety population, median TD (95% CI) was 5.5 (5.1–6.2) months. The only baseline parameters significantly associated with TD in univariate analysis were ECOG  $> 1$ , which was only 14.6% of patients, and MNA ( $p = 0.0006$  and  $p = 0.0162$ , respectively), while G8 showed a trend ( $p = 0.0607$ ). Significant correlations were observed for PFS versus ECOG ( $p < 0.0001$ ), MNA ( $p = 0.0001$ ) and G8 ( $p = 0.0208$ ) and for severe toxicity versus ECOG ( $p < 0.0001$ ) and G8 ( $p = 0.005$ ). Both TD and PFS were significantly associated with G8 ( $p = 0.0093$  and  $p = 0.0002$ , respectively) when lowering the G8 cut-off to 12.

### **Conclusion**

In this real-life study in older MCRC patients, ECOG is a strong predictive marker for TD, PFS and severe toxicity (mainly driven by patients with ECOG  $\geq 2$ ). The MNA and G8 are predictive markers for TD and PFS (and toxicity for G8) in the large group of patients with ECOG  $\leq 1$ .

## **59. Study on the use of bevacizumab and conventional chemotherapy for first line treatment of MCRC patients: treatment duration and toxicity**

Lore Decoster, Cindy Kenis, Ghislain Houbiers, Benedicte Naessens, Marc De Man, Guy Lambrecht, Veerle Moons, Els Monsaert, Philippe Vergauwe, Hans Prenen, Eric Van Cutsem, Elke Beutels, Jan Van de Vyver, Hans Wildiers

### **Purpose**

This observational study aims to complement the knowledge on chemotherapy and bevacizumab usage in older patients. The primary objective of the study was treatment duration of first line chemotherapy containing bevacizumab .

### **Methodology**

Patients  $\geq 70$  years with untreated MCRC, considered suitable to receive chemotherapy with or without bevacizumab were eligible for inclusion. Dosing and treatment were at the discretion of the investigator. In this observational study progression-free survival (PFS) assessments were not carried out at protocol prespecified fixed intervals and were not independently assessed.

### **Results**

In this study 34 Belgian centres included a total of 252 patients in the safety population (SA). The reference population (REF) consisted of 250 patients with efficacy data. Median treatment duration, defined as the time between the first and the last treatment administration, in the SA population was 6.5 (5.5–7.4) months and 4.8 (3.8–5.5) months ( $p = 0.0002$ ) in bevacizumab-containing and conventional chemotherapy, respectively. Median PFS in the REF population was 9.2 (8.0–11.2) months and 8.7 (6.9–9.8) months in bevacizumab and conventional chemotherapy, respectively ( $p = 0.2132$ ). The most common severe AE was diarrhea, which was reported by 18 patients (14.1%) of the bevacizumab group and 10 patients (8.1%) of the conventional group. One patient (0.8%) experienced an AE leading to death related to bevacizumab (intestinal perforation), four patients (3.1%) experienced AEs leading to death related to chemotherapy in the bevacizumab arm and four patients (3.2%) in the conventional arm.

### **Conclusion**

The results of this study are consistent with existing data on the efficacy and tolerability of first line chemotherapy containing

bevacizumab in elderly patients with MCRC.

## **60. Organisational care models in the European Community care setting: first results**

Liza Van Eenoo, Henriëtte van der Roest, Graziano Onder, Vjenka Garms-Homolova, Palmi Jonsson, Harriet Finne-Soveri, Jan Smit, Hein van Hout, Anja Declercq

### **Purpose**

To identify and benchmark community care models in six European countries.

### **Methodology**

Within the IBeNC project, we collected data on the structure and the care processes of 36 community care organisations across 6 European countries. Data on the work environment and job outcomes were collected by 1067 care professionals. In order to measure the quality of the delivered care, we collected comprehensive geriatric assessments of 2884 clients by means of the interRAI home care instrument. We conducted a principal component analysis, followed by hierarchical cluster analyses in order to identify care models. In order to benchmark the care models, we used multilevel analyses.

### **Results**

Based on three rotated factors, six clusters were identified. The clusters or care models can be described with three core elements: a limited, strong or very strong focus on patient-centered care delivery (factor 1), a limited or high availability of specialised care professionals in several domains within an organisation (factor 2) and the presence or absence of a standardised way of monitoring the quality of care and the clients' satisfaction (factor 3). The 18 Belgian care organisations are spread over 5 of the care models. Further analyses will benchmark the community care models in terms of quality of care, work environment elements and job outcomes for the care professionals.

### **Conclusion**

The results show how community care models can be linked to quality of care, elements of the work environment and job-related outcomes. This can influence policy by identifying best practices.

## **61. Effectiveness of in-hospital geriatric co-management: a meta-analysis**

Bastiaan Van Grootven, Koen Milisen, Johan Flamaing, Mieke Deschodt

### **Purpose**

To determine the effectiveness of in-hospital geriatric co-management on functional status, length of stay, mortality, readmission rate, complications or the number of patients discharged home up to 1 year follow-up.

### **Methodology**

MEDLINE, EMBASE, CINAHL and CENTRAL were searched from inception to 6 May 2016. Reference lists, trial registers and PubMed Central Citations were additionally searched. (Quasiexperimental studies published in English, Dutch, German, French or Spanish were included if they included patients aged 65 years or older and reported the effect of an in-hospital geriatric co-management intervention. Study selection, data extraction and assessment of risk of bias was performed independently by two of the authors. Data were pooled in a fixed effect meta-analysis, and random effect model as sensitivity analysis, where appropriate. Subanalyses were performed to determine the influence of randomization, risk of bias, patient population and intervention characteristics on the observed effects.

### **Results**

A total of 12 studies with 3590 patients were included. Geriatric co-management improved functional status and reduced the number of patients with complications in 3 out of 4 studies, but data could not be pooled. Co-management reduced length of stay (MD, -1.88, 95% CI, -2.44 to -1.33), but had no effect on mortality, readmission rate and number of patients discharged home in the meta-analysis. High risk of bias was observed across studies and outcomes downgrading the level of evidence.

### **Conclusion**

There was low evidence of a reduced length of stay and a reduced number of patients with complications, and very low



evidence of better functional status as a result of geriatric co-management.

## **62. Een kwalitatieve studie over de langetermijnevolgen die ouders (65+) ervaren ten minste 20 jaar na de dood van een kind (?25 jaar)**

Marie-Pierre van Meel, Ellen Gorus

### **Doel**

Inzicht geven in langetermijnevolgen die ouders (65+) ten minste 20 jaar na het overlijden van hun kind ervaren waarbij tevens de betekenis die ouders aan de gevolgen geven, geduid wordt.

### **Methodologie**

Kwalitatief fenomenologisch onderzoek waarbij 13 individuele open diepte-interviews werden afgenomen bij ouders (65+) van een overleden kind. In deze gesprekken gaven de ouders hun ervaringen en belevingen ten aanzien van de impact van de dood van een kind weer. De dataverzameling en de analyse vonden plaats in een cyclisch proces. Er werd gebruik gemaakt van een inductieve analyse volgens de methode van voortdurende vergelijking.

### **Resultaten**

De analyse laat vijf thema's zien. Het eerste thema beschrijft de invloed die het overlijden heeft op de relatie van de ouders met diverse anderen in de omgeving. Het tweede thema "Voortdurend verdriet" laat zien dat de ouders na het overlijden nog steeds gemis en verdriet voelen. In "Band met het overleden kind" wordt de huidige relatie met het overleden kind geschetst. Vervolgens komen in "Gezondheid" fysieke en mentale aspecten naar voren die volgens de ouders door het leven met verlies zijn ontstaan. Ten slotte wordt de overwegend positieve levenshouding aan de orde gesteld.

### **Conclusie**

Vijf thema's beschrijven meerdere langetermijnevolgen na het overlijden van kind bij ouders. Het verdriet blijft, maar er zijn wel individuele verschillen in het omgaan met het verlies, waarbij ieder verliesverhaal uniek is en individuele aspecten uit de verkregen thema's een rol spelen. Kennisverspreiding over langetermijnevolgen is van belang voor zorg- en hulpverleners van ouders van een overleden kind.

## **63. Het verband tussen executieve functies en het dagelijks functioneren bij cognitief gezonde ouderen en patiënten met mild cognitive impairment**

Nele Van Schelvergem, Ellen Gorus, Elise Cornelis, Charlotte Brys, Patricia De Vriendt

### **Doel**

Het is belangrijk vroegtijdige cognitieve beperkingen bij ouderen snel en efficiënt op te sporen. Executieve functies (EF) en Activiteiten Dagelijks Leven (ADL) zijn onderdelen in de diagnostiek naar milde cognitieve problemen, de samenhang is nog onbekend. Daarom werd in deze studie de relatie onderzocht tussen EF en ADL.

### **Methodologie**

Bij 37 personen met Mild Cognitive Impairment, 31 met de ziekte van Alzheimer en 36 cognitief gezonde ouderen werden: testen voor EF (Dierfluency, kloktekentest, abstract denken en redeneren uit de Cambridge Cognitive Examination, Frontal Assessment Battery en Trail Making Test (TMT)) en voor ADL (Brussels Integrated Activities of Daily living-questionnaire (BIA)) afgenomen. ADL werd uitgedrukt in globale en cognitieve afhankelijkheidsindexen voor basale (b-)instrumentele (i)- en geavanceerde (a)-ADL. Deze indexen werden gecorreleerd met de EF-testen. De bijdrage van EF-scores in beperkingen in gerapporteerde ADL werd onderzocht met stapsgewijze meervoudige regressieanalyses.

### **Resultaten**

Uit de resultaten bleek:

1. de algemene b ADL-index had zwakke correlaties met alle EF testen ( $0.249 < r < 0.428$ ,  $\text{all } p < 0.05$ ),
2. de cognitieve b ADL-index had zwakke correlaties ( $0.208 < r < 0.336$ ,  $\text{all } p < 0.05$ ) met de meeste EF-testen en geen correlatie met TMT b en b-a en de kloktekentest,

3. alle i en a ADL-indexen correleerden zwak tot matig met de EF-testen ( $0.361 < r < 0.589$ , alle  $p < 0.05$ ).

Dierfluency en de kloktekentest verklaarden 50% van de variantie in de a ADL-indexen.

### **Conclusie**

Inzicht in de wisselwerking tussen EF en ADL kan helpen om beter en sneller milde cognitieve problemen te voorspellen. Mindere resultaten op dierfluency en/of kloktekentest tonen de nood aan voor bijkomende a ADL-testen en/of opvolging ervan,  $r < 0.428$ .

## **64. No decisions about me without me. Do professionals make use of shared decision making for daily activities for people with dementia?**

Ruben Vanbosseghem, Elise Cornelis, Valerie Desmet, Dominique Van de Velde, Patricia De Vriendt

### **Purpose**

In Flanders, 122,000 persons live with dementia and it is expected that this number will rise to 152,000 in 2030. Having dementia is not the same as the inability to make decisions. The aim of this study was to explore if health care professionals make use of the concept of shared decision making for daily and meaningful activities for people with dementia (PwD).

### **Methodology**

A digital questionnaire was completed by 457 professional caregivers in Flanders, 51% of whom were working with PwD in a nursing home, 49% in community care.

### **Results**

Of the professionals 89.7% talked with PwD about their daily activities and 86.6% explored whether the activity was meaningful for the person. In 44.9%, a third person was involved, particularly family, which is often experienced as a barrier (10%). Professionals have a positive attitude towards PwD. They accept them as they are (96.8%), care about them (93.4%), but nearly 2 out of 5 of the professionals do not have confidence that the PwD can make the right decision about their daily activities. Barriers were mostly related to the PwD, their disease or the environment. Caregivers can improve their use of SDM by giving more information to PwD about options, advantages and disadvantages and the ability to come back to a decision.

### **Conclusion**

Involving people with dementia in the decision making is crucial; therefore, it is important for professionals to have (1) adequate knowledge about dementia, (2) insights into shared decision making and (3) awareness of their own actions.

## **65. Body composition in well-functioning adults aged 80 years and over: bioelectrical impedance analysis compared to dual energy X-ray absorptiometry**

Sofie Vermeiren, David Beckwee, Andreas Delaere, Antoine Axel, Bart Jansen, Ivan Bautmans Ivan, Aldo Scafoglieri

### **Purpose**

Sarcopenia is an age-related syndrome signifying a progressive and generalized loss of muscle mass (MM). Dual energy X ray absorptiometry (DXA) and bioelectrical impedance analysis (BIA) are often used for measuring body composition. To date, the accuracy of BIA to identify sarcopenia remains unclear. Our aim was to assess different BIA equations for MM using DXA as reference method.

### **Methodology**

In this study 140 community dwelling well-functioning persons aged 80 years and older underwent DXA and BIA assessment. The MM was estimated by using several published BIA equations and compared to DXA measurements. Finally, subjects were classified for sarcopenia according to MM measured by DXA and predicted by BIA equations.

### **Results**

The MM as predicted by the BIA equations showed a high positive correlation when compared to DXA, but all systematically overestimated MM (mean differences ranging between 0.93 kg and 3.76 kg, all  $p < 0.001$ ). In general, a very low agreement between DXA and BIA methods was found for sarcopenia classification, as the highest Cohen's kappa was 0.377.

### **Conclusion**

Estimation of MM by BIA in persons aged 80 years and over is highly correlated with DXA, but susceptible to overestimation. The use of these equations for diagnosing sarcopenia in a clinical setting remains doubtful. Future research is necessary to generate population-specific equations to estimate MM based on BIA measurements.

## **66. The correlation between static and dynamic balance among community-dwelling older adults: a cross-sectional study**

Sofie Vermeiren, Heij Ward, Aldo Scafoglieri, Ivan Bautmans, Bart Jansen

### **Purpose**

Instrumented assessment of gait and balance in relation to frailty is not well described. Our aim was to investigate differences in instrumented gait and balance parameters between robust and pre-frail community-dwelling older adults aged 80 years and over.

### **Methodology**

In this study 85 participants (mean age  $82.96 \pm 2.79$  years) were asked to walk 20 m at habitual speed while wearing a 3D accelerometer. Balance assessment was performed by standing still in various positions on a Wii balance board. Differences between robust and pre-frail participants (based on Fried's 5 component frailty model) were analysed using Mann-Whitney U and independent samples *T*-tests. Correlations between gait and balance parameters were computed, corrected for sex and height.

### **Results**

Robust and pre-frail subjects showed significant differences in step symmetry ( $p < 0.05$ ) and step regularity ( $p < 0.05$ ). Regarding balance, significant differences were found in single leg stance ( $p < 0.05$ ) and standing on both feet with eyes open ( $p < 0.05$ ). Significant correlations were found between single leg stance and both step symmetry ( $r = -0.336$ ) and step regularity ( $r = -0.320$ ).

### **Conclusion**

Robust older adults walk more symmetrically and more regularly than their pre-frail counterparts. In addition, a better balance is observed while standing on one leg; however, pre-frail older adults have a better balance while standing on both feet with their eyes open. Balance while standing on one leg correlates with step symmetry and step regularity. Further research is needed to analyse the predictive values of these parameters in the identification of changes in frailty status.

## **67. Moral distress in acute geriatric units**

Karen Versluys, Ilse Vandecaveye, Linus Vanlaere

### **Purpose**

Moral distress (MD) is increasingly being recognized as a concern for health care. This study explored the lived experiences of MD among caregivers in acute geriatric units.

### **Methodology**

A total of 4 focus group discussions with health care providers of 4 geriatric units in Belgium ( $n = 28$ ) were undertaken to understand geriatric caregivers confronted with MD. Data collection and analysis using the principles of grounded theory (constant comparative method, data triangulation, reflection) was carried out by three researchers.

### **Results**

MD is present in multidisciplinary geriatric teams and affects the identity of health care providers at a deep level. Three levels of barriers to provide good care are described. Barriers in health care providers, such as lack of knowledge and lack of

mandate depriving them from truly taking up a patient advocacy role. Barriers related to patient and families, for example insoluble suffering in the patient that causes feelings of powerlessness. Barriers belonging to the team and the organisation, such as inefficient teamwork that counteracts caregivers to deliver person-centered care. Although experiences of MD can be an opportunity to discuss and facilitate improvements in care, caregivers only describe negative effects of MD. A good team climate helps to cope with MD better.

### **Conclusion**

Geriatric care team leaders should be aware of MD in individual team members and facilitate a team approach addressing barriers for good care.

## **68. Systematic exposure experience as a condition for person-centered care**

Karen Versluys, Sarah Janssens, Maria Grypdonck, Ruth Piers

### **Introduction**

Person-centered care requires appropriate attitudes of the caregivers. To foster these attitudes, a systematic exposure experience for geriatric caregivers, using an open interview with a patient followed by a reflection process, was set up.

### **Methodology**

All the individual and focus group interviews and discussions held as part of the exposure experience were recorded and transcribed. The data were qualitatively analysed using methods of grounded theory and using data and researcher triangulation.

### **Results**

The analysis showed that the participants found it highly relevant to participate. Caregivers show a greater openness to listen and more attention is given to the patients' experiences and concerns. The participants experience this as an important change. Participants report that open, not goal-oriented conversations in which they create a supportive space for the patient lead to a better relationship with the patient. They realize that open conversations from person to person, help to know the patient better and bring them to interventions in care focused on patients' needs. Participants described having fear that the conversation will not be good enough. They mentioned great satisfaction in their contact with the patient as soon as the fear was removed.

### **Conclusion**

Participation in the systematic exposure experience using an open interview with a patient followed by a reflection process leads to changes in attitudes of caregivers needed for person-centered care.

## **69. Too many, too few or too unsafe? Impact of inappropriate prescribing on mortality, and hospitalisation in a cohort of community-dwelling oldest old**

Maarten Wauters, Monique Elseviers, Bert Vaes, Jan Degryse, Olivia Dalleur, Robert Vander Stichele, Thierry Christiaens, Majda Azermai

### **Purpose**

Little is known on the impact of inappropriate prescribing (IP) in community-dwelling adults, aged 80 years and older. The prevalence at baseline (November 2008–September 2009) and impact of IP (misuse, and underuse) after 18 months on mortality, and hospitalisation in a cohort of community-dwelling adults, aged 80 years and older ( $n = 503$ ) was studied.

### **Methodology**

Screening Tool of Older People's Prescriptions (STOPP, misuse) and Screening Tool to Alert to Right Treatment (START, underuse) criteria were cross-referenced and linked to the medication use (in anatomical therapeutic chemical coding) and clinical problems. Survival analysis until death or first hospitalisation was performed at 18 months after inclusion using Kaplan-Meier estimates, with Cox regression to control for covariates.

## **Results**

Mean age was 84.4 years (range 80–102 years). Mean number of medications prescribed was 5 (range 0–16). Polypharmacy ( $\geq 5$  medications, 58%), underuse (67%), and misuse (56%) were high. Underuse and misuse coexisted in 40%, and were absent in 17% of the study population. A higher number of prescribed medications was correlated with more misused medications ( $r_s = 0.51, p < 0.001$ ), and underused medications ( $r_s = 0.26, p < 0.001$ ). Mortality and hospitalisation rate were 8.9%, and 31.0%, respectively. After adjustment for number of medications and misused medications, there was an increased risk of mortality (HR 1.39; 95% CI 1.10–1.76), and hospitalisation (HR 1.26; 95% CI 1.10–1.45) for every additional underused medication. Associations with misuse were less clear.

## **Conclusion**

IP (polypharmacy, underuse and misuse) was highly prevalent in adults, aged 80 years and older. Surprisingly, underuse and not misuse, had strong associations with mortality and hospitalisation.

## **70. A novel scale linking potency and dosage to estimate anticholinergic exposure in older adults: the MARANTE scale**

Maarten Wauters, Therese T. Klamer, Majda Azermai, Carlos Durán, Thierry Christiaens, Monique Elseviers, Robert Vander Stichele

### **Background**

Quantification of the anticholinergic exposure insufficiently or imprecisely incorporates dosage information, leading to inaccurate estimations.

### **Purpose**

To construct a novel scale, including potency and dosage for the quantification of the anticholinergic exposure in older adults.

### **Methodology**

Potency information was retrieved from a previous systematic review. The dosage range for each drug was delineated in minimum, maintenance, and maximum dosages for adults and older adults. Dosage information was collected from authoritative sources and reviewed in an expert panel. The Muscarinic Acetylcholinergic Receptor ANTAGONIST Exposure (MARANTE) scale was tested for clinical metric properties using cohorts of community-dwelling older adults and nursing home residents.

### **Results**

After 3 data collection rounds, data for the dosage ranges remained incomplete for 32 active substances. Remaining gaps were filled in, and 11 dosage adjustments were proposed during the expert panel meeting. We chose the values (0; 1; 2) for the categories of potency and (0; 0.5; 1; 1.5; 2) for the levels of dosage ranges, showing good clinical metric properties. In the 2 cohorts 41 anticholinergic drugs were prescribed. Most (61%) were low potency anticholinergics, used for depression (19%, e.g. citalopram). There were 31.8% (median MARANTE 1.5, IQR 1.5–2.5) and 37.6% (median 2, IQR 1.5–2.5) anticholinergic users in the community-dwelling cohort and nursing home cohort, respectively.

### **Conclusion**

The MARANTE scale combines potency with the dosage spectrum, to quantify the anticholinergic exposure in older adults. An open feedback system on the list of anticholinergic and proposed anticholinergic potency and dosage values is advised.

## **71. Anticholinergic exposure in a cohort of adults aged 80 years and over. Associations of the MARANTE scale with mortality and hospitalisation**

Maarten Wauters, Therese Klamer, Monique Elseviers, Bert Vaes, Olivia Dalleur, Jan Degryse, Carlos Durán, Thierry Christiaens, Majda Azermai, Robert Vander Stichele

### **Background**

Anticholinergic medications are frequently prescribed in older adults, and can lead to adverse drug events. The novel Muscarinic Acetylcholinergic Receptor ANTAGONIST Exposure (MARANTE) scale measures the anticholinergic exposure by

incorporating potency and dosages of each medication into calculations.

### **Purpose**

To assess prevalence and intensity of the anticholinergic exposure in a cohort of community-dwelling patients aged 80 years and over ( $n = 503$ ), and to study the impact on mortality and hospitalisation, after an observation period of 18 months.

### **Methodology**

Chronic medication use at baseline was entered and codified with the anatomical therapeutic chemical classification. Survival analysis until first hospitalisation or death was performed at 18 months after inclusion, using Kaplan-Meier curves. Cox regression was used to control for covariates.

### **Results**

Mean age was 84 years (age 80–102), and mean number of medications was 5 (range 0–16). Prevalence of anticholinergic use was 31.8%, with 9% taking  $\geq 2$  anticholinergics (range 0–4). Main indications were depression, pain, gastric dysfunction, urinary problems, and asthma. Female gender, the level of multimorbidity, and the number of medications were associated with anticholinergic use. Mortality and hospitalisation rates were 8.9%, and 31.0%, respectively. After adjustment for the level of multimorbidity and medication intake, multivariate analysis showed increased risks for mortality (HR 2.3, 95% CI 1.07–4.78) and hospitalisation (HR 1.7; 95% CI 1.13–2.59) in those with high anticholinergic exposure.

### **Conclusion**

The anticholinergic exposure was high among Belgian community-dwelling oldest old. A high anticholinergic exposure was associated with increased mortality and hospitalisation risks.

## **72. Het effect van home-based trainingsprogramma's op de zelfredzaamheid van kwetsbare thuiswonende ouderen Een systematische literatuurstudie**

Kathleen Willems, Ellen Gorus, Patricia De Vriendt

### **Doel**

Door de toename van de levensverwachting groeit de groep oudste ouderen en stijgt de prevalentie op kwetsbaarheid. Dit uit zich in toenemende verliezen, functionele beperkingen en verminderde zelfredzaamheid. Een gebrek aan beweging lijkt het proces te versnellen. Het doel van de literatuurstudie is een beeld geven van de huidige evidence base voor het effect van een functioneel home-based trainingsprogramma op de zelfredzaamheid van kwetsbare thuiswonende ouderen.

### **Methodologie**

PubMed, Web of Science en Psycinfo werden systematisch gescreend. Van de 1978 gerandomiseerde en gecontroleerde klinische trials bleven er zeven studies over die voldeden aan de in- en exclusiecriteria. Deze artikelen werden zowel methodologisch als inhoudelijk geanalyseerd en beoordeeld.

### **Resultaten**

De analyse van de literatuurstudie omvat in totaal 1223 deelnemers. Alle interventies hadden tot doel de mate van zelfredzaamheid na afloop van het programma te beoordelen. Vijf studies werden gezien als "zorg op maat", twee boden een afgelijnd standaardprogramma aan. Vier onderzoeken vermeldden systematische effecten op de zelfredzaamheid. De studie met het functionele oefenprogramma, waarbij ouderen taakgericht traiden, rapporteerde ook na zes maand nog zichtbare effecten. Gemeenschappelijke kenmerken van succesvolle programma's waren: geen ernstig kwetsbare deelnemers, oefenprogramma op maat, zowel in groep als individueel oefenen, focus op gedragsverandering en aandacht voor cognitieve, sociale en emotionele aspecten.

### **Conclusie**

Variaties in de begrippen kwetsbaarheid en zelfredzaamheid, en verschillen tussen de interventies maken de bevindingen inconsistent. Het lijkt erop dat een functioneel oefenprogramma een langdurig effect kan hebben op de zelfredzaamheid van ouderen, maar meer onderzoek is nodig om hierover betrouwbare uitspraken te kunnen doen.

### **Funding**

The Flemish government agency for Innovation by Science and Technology and the Belgian Cancer Society “Kom Op Tegen Kanker”; ClinicalTrials.gov nrNCT01890239.

---

### **Auteurs**

#### ***Belgische Vereniging voor Gerontologie en Geriatrie***

Belgische Vereniging voor Gerontologie en Geriatrie

<https://geriatrie.be/nl/>

---