

Safety Literature 19th November 2023

Outcomes of elevated blood alcohol concentrations in elderly patients following a ground level fall: a matched analysis from the National Trauma Quality Program

Ahmed N, Kuo YH. Alcohol 2023; ePub(ePub): ePub.

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PMID: 37967774

Abstract

BACKGROUND: The rising elderly population and the concomitant increase in alcohol consumption can result in a ground level fall (GLF). The purpose of this study is to evaluate the in-hospital mortality, hospital length of stay, and discharge disposition of elderly patients who sustained a ground level fall (GLF) and tested positive for an elevated blood alcohol concentration (BAC).

METHODS: The data of patients who were 65 years and older, had an injury after a GLF, and tested for BAC were accessed from the American College of Surgeon -Trauma Quality Improvement Program (ACS-TQIP) from the calendar year of 2011-2016. Patients' demography, injury, comorbidities, and outcomes were compared between the groups who tested positive ($>0.08\text{g/dl}$) and negative (0 mg/dl) for BAC. Univariate, followed by matched analyses were performed. All p values are two sided, and a p value <0.05 is considered statistically significant.

RESULTS: Out of 20,163 patients who satisfied the inclusion criteria, 2,398 (~12%) patients tested positive for an elevated BAC. There were significant differences found between the two groups, BAC positive vs. BAC negative, in univariate analysis for age and sex with P values <0.001 . Propensity score matching balanced demographic characteristics; however, differences remained in certain comorbidities. Exact matching balanced patient demography, injury, and comorbidities. The paired matched analysis showed no significant differences between the two groups for in-hospital mortality (2.1% vs. 2.1%, $P=1$) and median hospital length of stay (5[4-5] vs. 5[5-5], $P=0.307$). A higher proportion of patients in BAC group suffered from alcohol withdrawal syndrome (AWS) and deep vein thrombosis (DVT) complications (9.5% vs. 1.4%, $P<0.001$ and 1.5% vs. 0.5%, $P=0.018$) compared to BAC negative patients. A slightly higher percentage of patients in the BAC positive group were discharged home without any additional services (39.6% vs. 36.9%, $P<0.001$).

CONCLUSION: Of the elderly patients who sustained a GLF and tested for BAC, approximately 12% tested positive for BAC. The overall in-hospital mortality was 2.1%. The BAC-positive group suffered from higher complications of AWS and DVT, and more than 60% of patients required additional services at the time of discharge.

Language: en

Keywords: accidental fall; alcoholism; Geriatric

Staff's insights into fall prevention solutions in long-term care facilities: a cross-sectional study

Albasha N, Curtin C, McCullagh R, Cornally N, Timmons S. *BMC Geriatr.* 2023; 23(1): e738.

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PMCID: PMC10644547

Abstract

BACKGROUND: Falls are one of the most common and serious health issues in long-term care facilities (LTCFs), impacting not just residents, but staff and the healthcare system. This study aimed to explore LTCF staff's current practices around falls prevention, and their suggested solutions for better falls prevention.

METHODS: In the southwest of Ireland, a descriptive cross-sectional study was conducted in 13 LTCF sites, across a range of provider types and facility sizes. A survey, measuring staff knowledge, skills and attitudes, was distributed in physical and online formats. Staff suggestions for prioritising fall and fall-related injury prevention activities, and current staff practices regarding fall incidents were also sought. Content analysis was used to analyse responses, mapping categories and subcategories to the refined theoretical domains framework (TDF) and to an existing fall prevention guideline.

RESULTS: There were 155 respondents (15% response rate), from staff of the LTCFs. Environmental reviews and modifications (aligned to the TDF environmental context and resource domain) were the most common suggestions for preventing both falls and fall-related injuries. Other common suggestions for preventing falls were staff education, monitoring of residents, and using alarm/calling systems, while few staff members, across all roles, reported assessing residents, exercises, reviewing medications, and vitamin D supplements. For preventing fall-related injuries, suggestions included protective equipment, hip protectors and alarm/calling systems. Staff used a standardised approach when responding to a fall incident, with intensive and holistic post-fall control measures. HCAs focussed on transferring residents safely, while nurses of all grades focused more on post-fall assessment. Respondents believed that staff education, communication, increasing staffing levels and enhancing specialist care could support their practice.

CONCLUSION: Noting the low response rate, the results suggest an awareness gap regarding some evidence-based, resident-focussed falls prevention solutions, such as proactive fall-risk assessment, exercise, medication review, and Vitamin D supplements. These aspects should be included in future fall prevention education programmes in LTCFs.

Language: en

Keywords: Education; Humans; Cross-Sectional Studies; Fall prevention; Older person; *Long-Term Care/methods; *Skilled Nursing Facilities; Current practices; Long-term care; Solutions; Staff; Vitamin D

Predictors of fall risk in older adults using the G-STRIDE inertial sensor: an observational multicenter case-control study

Álvarez MN, Rodríguez-Sánchez C, Huertas-Hoyas E, García-Villamil-Neira G, Espinoza-Cerda MT, Pérez-Delgado L, Reina-Robles E, Martín IB, Del-Ama AJ, Ruiz-Ruiz L, Jiménez-Ruiz AR. *BMC Geriatr.* 2023; 23(1): e737.

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Abstract

BACKGROUND: There are a lot of tools to use for fall assessment, but there is not yet one that predicts the risk of falls in the elderly. This study aims to evaluate the use of the G-STRIDE prototype in the analysis of fall risk, defining the cut-off points to predict the risk of falling and developing a predictive model that allows discriminating between subjects with and without fall risks and those at risk of future falls.

METHODS: An observational, multicenter case-control study was conducted with older people coming from two different public hospitals and three different nursing homes. We gathered clinical variables (Short Physical Performance Battery (SPPB), Standardized Frailty Criteria, Speed 4 m walk, Falls Efficacy Scale-International (FES-I), Time-Up Go Test, and Global Deterioration Scale (GDS)) and measured gait kinematics using an inertial measure unit (IMU). We performed a logistic regression model using a training set of observations (70% of the participants) to predict the probability of falls.

RESULTS: A total of 163 participants were included, 86 people with gait and balance disorders or falls and 77 without falls; 67,8% were females, with a mean age of $82,63 \pm 6,01$ years. G-STRIDE made it possible to measure gait parameters under normal living conditions. There are 46 cut-off values of conventional clinical parameters and those estimated with the G-STRIDE solution. A logistic regression mixed model, with four conventional and 2 kinematic variables allows us to identify people at risk of falls showing good predictive value with AUC of 77,6% (sensitivity 0,773 y specificity 0,780). In addition, we could predict the fallers in the test group (30% observations not in the model) with similar performance to conventional methods.

CONCLUSIONS: The G-STRIDE IMU device allows to predict the risk of falls using a mixed model with an accuracy of 0,776 with similar performance to conventional model. This approach allows better precision, low cost and less infrastructures for an early intervention and prevention of future falls.

Language: en

Keywords: Aged; Humans; Female; Male; Falls; Elderly; Telemedicine; Risk Assessment/methods; *Gait; *Walking; Accidental Falls/prevention & control; Case-Control Studies; Frailty; Gait analysis; IMU; Postural Balance; Sensitivity and Specificity

Patients' preferences for fracture risk communication: the Risk Communication in Osteoporosis (RICO) study

Beaudart C, Sharma M, Clark P, Fujiwara S, Adachi JD, Messina OD, Morin SN, Kohlmeier LA, Sangan CB, Nogués X, Cruz-Priego GA, Cavallo A, Cooper F, Grier J, Leckie C, Montiel-Ojeda D, Papaioannou A, Raskin N, Yurquina L, Wall M, Bruyere O, Boonen A, Dennison E, Harvey NC, Kanis JA, Kaux JF, Lewiecki EM, Lopez-Borbon O, Paskins Z, Reginster JY, Silverman S, Hiligsmann M. *Osteoporos. Int.* 2023; ePub(ePub): ePub.

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Abstract

The RICO study indicated that most patients would like to receive information regarding their fracture risk but that only a small majority have actually received it. Patients globally preferred a visual presentation of fracture risk and were interested in an online tool showing the risk.

PURPOSE: The aim of the Risk Communication in Osteoporosis (RICO) study was to assess patients' preferences regarding fracture risk communication.

METHODS: To assess patients' preferences for fracture risk communication, structured interviews with women with osteoporosis or who were at risk for fracture were conducted in 11 sites around the world, namely in Argentina, Belgium, Canada at Hamilton and with participants from the Osteoporosis Canada Canadian Osteoporosis Patient Network (COPN), Japan, Mexico, Spain, the Netherlands, the UK, and the USA in California and Washington state. The interviews used to collect data were designed on the basis of a systematic review and a qualitative pilot study involving 26 participants at risk of fracture.

RESULTS: A total of 332 women (mean age 67.5 ± 8.0 years, 48% with a history of fracture) were included in the study. Although the participants considered it important to receive information about their fracture risk (mean importance of 6.2 ± 1.4 on a 7-point Likert scale), only 56% (i.e. 185/332) had already received such information. Globally, participants preferred a visual presentation with a traffic-light type of coloured graph of their FRAX® fracture risk probability, compared to a verbal or written presentation. Almost all participants considered it important to discuss their fracture risk and the consequences of fractures with their healthcare professionals in addition to receiving information in a printed format or access to an online website showing their fracture risk.

CONCLUSIONS: There is a significant communication gap between healthcare professionals and patients when discussing osteoporosis fracture risk. The RICO study provides insight into preferred approaches to rectify this communication gap.

Language: en

Keywords: Fracture; FRAX®; Osteoporosis; Patient-healthcare professional communication; Risk communication; Shared decision-making; Visual aids

Frailty and its associates in community-dwelling older adults

Bozkurt ME, Catikkas NM, Erdoğan T, Oren MM, Kilic C, Karan MA, Bahat G. Rev. Assoc. Med. Bras. (1992) 2023; 69(12): e20230681.

(Copyright © 2023, Brazilian Medical Association)

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Abstract

OBJECTIVE: While the literature contains several studies on the frailty assessed during hospitalization and/or outpatient settings and nursing homes, few studies have assessed frailty in community-dwelling older adults. We investigated the prevalence of frailty and associated factors among older adults in a sample of community-dwelling older adults.

METHODS: We included community-dwelling older adults >60 years living in the Fatih District of the Istanbul Province. We conducted the study between November 2014 and May 2015. We collected the data such as age, sex, number of diseases and drugs, functional status, frailty, the presence of geriatric syndromes, common diseases, and quality-of-life assessment. Frailty was evaluated by the FRAIL scale.

RESULTS: A total of 204 adults (mean age: 75.4±7.3 years) were included, of whom 30.4% were robust, 42.6% were pre-frail, and 27% were frail. In multivariate analyses, associated factors of frailty were the number of drugs [odds ratio (OR)=1.240, p=0.036], the presence of cognitive impairment (OR=0.300, p=0.016), and falls (OR=1.984, p=0.048).

CONCLUSION: The present study established the prevalence of frailty in a large district in the largest metropolis in the country through a valid screening method. Our results suggest that clinicians should consider frailty evaluation in patients with multiple drug usage, cognitive impairment, and falls.

Language: en

Falls and sleep disorders in Spanish Alzheimer's disease in nursing homes: an observational study

Cámara-Calmaestra R, Martínez-Amat A, Aibar-Almazán A, Hita-Contreras F, De Miguel-Hernando N, Rodríguez-Almagro D, Fábrega-Cuadros R, Achalandabaso-Ochoa A. *Healthcare (Basel)* 2023; 11(21): e2852.

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Abstract

OBJECTIVE: The main objective of this study was to establish a relationship between the number of falls and sleep problems experienced by patients with Alzheimer's disease.

MATERIALS AND METHODS: This was a cross-sectional study. A total of 114 Spanish aged people with Alzheimer's disease institutionalized in nursing homes and 80 independent Spanish aged people without neurodegenerative diseases living at home were enrolled in this study and completed in-person interviews and digital questionnaires.

RESULTS: The mean age was 78.98 ± 8.59 years. Sleep disorders were related to continuous stress ($p = 0.001$; OR = 4.729) and a high frequency of falls ($p = 0.001$; OR = 2.145), while predictor variables associated with falls in patients with Alzheimer's disease were continuous medical visits ($\beta = 0.319$, $p < 0.001$), family history of dementia ($\beta = 0.212$; $p = 0.014$), and sleep disorders ($\beta = 0.235$; $p = 0.007$). Second, the analysis showed that moderate physical activity ($p = 0.001$; OR = 0.147), continuous medical visits ($p < 0.001$; OR = 0.621), and high level of study ($p = 0.011$; OR = 0.334) were protective factors against Alzheimer's, while older age ($p = 0.035$; OR = 1.087), type II Diabetes Mellitus ($p = 0.042$; OR = 3.973), number of falls ($p = 0.021$; OR = 1.409), and daily drug intake ($p = 0.001$; OR = 1.437) were risk factors for Alzheimer's.

CONCLUSIONS: Sleep disturbances are related to stress and falls in a sample of 114 Spanish AD aged people institutionalized in nursing homes, and the falls they experience are related to ongoing medical visits, a history of dementia, and sleep disturbances. Therefore, a bidirectional relationship was established between falls and sleep disorders in these patients. Moreover, this study showed that a greater frequency of falls and high daily drug intake could constitute novel risk factors for Alzheimer's disease, in addition to already known factors, such as age and type II Diabetes Mellitus, while being physically active and a high level of studies are protective factors against Alzheimer's disease.

Language: en

Keywords: Alzheimer; cross-sectional; risk of falls; type II diabetes mellitus

Fear of falling in women: a psychological training intervention improves climbing performance

Garrido-Palomino I, España-Romero V. J. Sports Sci. 2023; ePub(ePub): ePub.

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Abstract

The main purpose of this study was to determine the effect of a psychological training intervention based on emotional regulation on anxiety and climbing ability in women climbers with fear of falling. A secondary aim was to compare the outcomes of climbing ability, anxiety, self-confidence and interoceptive awareness (IA) between the psychological group (PG), a training (TG) and a control group. Self-reported climbing ability, anxiety and IA were assessed using Competitive State Anxiety Inventory-2 and the Multidimensional Assessment of Interoceptive Awareness questionnaire.

RESULTS indicated a significant improvement in climbing ability for both PG and TG. The PG showed a significant reduction in cognitive and somatic anxiety, while the TG only exhibited a reduction in cognitive anxiety. Moreover, the PG demonstrated a greater significant increase in self-confidence compared to the TG. IA improved in five subscales for the PG, whereas the TG changed in only two subscales. In conclusion, a psychological training intervention focusing on emotional regulation might contribute to improvements in IA, reduced anxiety levels, and enhancements in climbing ability and self-confidence among women climbers facing fear of falling.

Language: en

Keywords: climbing; emotional regulation; Fear of falling; interoceptive awareness; psychological training

Healthcare costs following falls and cataract surgery in older adults using Australian linked health data from 2012-2019

Huang-Lung J, Chun Ho K, Lung T, Palagyi A, McCluskey P, White AJ, Boufous S, Keay L. Public Health Res. Pract. 2023; ePub(ePub): ePub.

(Copyright © 2023, Sax Institute)

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Abstract

OBJECTIVES: To investigate publicly funded healthcare costs according to faller status and the periods pre- and post-cataract surgeries, and identify factors associated with higher monthly costs in older people with bilateral cataract.

METHODS: This prospective cohort study included community-dwelling older people aged 65 and over (between 2012 and 2019); at baseline participants had bilateral cataract and were waiting for cataract surgery in New South Wales (NSW) public hospitals. Participants were followed for 24 months. The study used self-reported and linked data (Medicare Benefits Schedule, Pharmaceutical Benefits Scheme, NSW Admitted Patient and Emergency Department Data Collections) to identify falls, cataract surgeries and healthcare costs incurred by the Australian and NSW Governments, all costs were inflated to 2018-19 Australian dollars (AUD). Median monthly healthcare costs were calculated for faller status (non-faller, non-medically treated faller, medically treated faller) and surgery periods (pre-surgery, post-first surgery, post-second surgery). Costs in the 30 days following a medically treated fall were estimated. A generalised linear model was used to investigate predictors of healthcare costs.

RESULTS: During the median follow-up period of 24 months, 274 participants suffered 448 falls, with 95 falls requiring medical treatment. For medically treated falls, the mean cost in the 30 days after treatment was A\$3779 (95% confidence interval \$2485, \$5074). Higher monthly healthcare costs were associated with a higher number of medications, being of the male sex, having one or more medically treated falls and having bilateral cataract surgery. After excluding the cost of cataract surgery, there were no significant differences in healthcare costs between the pre-cataract surgery, post-first eye cataract surgery and post-second eye cataract surgery periods.

CONCLUSIONS: To our knowledge, this is the first study investigating publicly funded costs related to falls and cataract surgery in older people with bilateral cataract. This information enhances our understanding of healthcare costs in this group. The patterns in costs associated with falls can guide future government healthcare expenditure on falls treatment and prevention, including timely cataract surgery.

Language: en

Impact forces in backward falls: subject-specific video-based rigid body simulation of backward falls

Khorami F, Obaid N, Bhatnagar T, Ayoub A, Robinovitch SN, Sparrey CJ. Proc. Inst. Mech. Eng. Pt. H J. Eng. Med. 2023; ePub(ePub): ePub.

(Copyright © 2023, Institution of Mechanical Engineers, Publisher SAGE Publishing)

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Abstract

A critical missing component in the study of real-world falls is the ability to accurately determine impact forces resulting from the fall. Subject-specific rigid body dynamic (RBD) models calibrated to video captured falls can quantify impact forces and provide additional insights into injury risk factors. RBD models were developed based on five backward falls captured on surveillance video in long-term care facilities in British Columbia, Canada. Model joint stiffness and initial velocities were calibrated to match the kinematics of the fall and contact forces were calculated. The effect of joint stiffnesses (neck, lumbar spine, hip, and knee joint) on head contact forces were determined by modifying the calibrated stiffness values $\pm 25\%$. Fall duration, fall trajectories, and maximum velocities showed a close match between fall events and simulations. The maximum value of pelvic velocity difference between Kinovea (an open-source software 2D digitization software) and Madymo multibody modeling was found to be $6\% \pm 21.58\%$. Our results demonstrate that neck and hip stiffness values have a non-significant yet large effect on head contact force ($t(3) = 1$, $p = 0.387$ and $t(3) = 2$, $p = 0.138$), while lower effects were observed for knee stiffness, and the effect of lumbar spine stiffness was negligible. The subject-specific fall simulations constructed from real world video captured falls allow for direct quantification of force outcomes of falls and may have applications in improving the assessment of fall-induced injury risks and injury prevention methods.

Language: en

Keywords: Fall; joint stiffness; Madymo; older adults' fall; rigid body dynamics

Older people's descriptions of their engagement in fall prevention

Kiyoshi-Teo H, McMahon SK, Northup-Snyder K, Cohen DJ. West. J. Nurs. Res. 2023; ePub(ePub): ePub.

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Abstract

Evidence-based strategies to decrease fall rates are well established. However, little is understood about how older people engage in fall prevention strategies. Motivational Interviewing (MI) sessions aimed to facilitate individuals' engagement in fall prevention can be analyzed to learn what it means for older people to engage in fall prevention. Thus, the purpose of this study was to explore how older people describe their engagement in fall prevention. Participants in our parent project, MI for Fall Prevention (MI-FP), who received MI sessions were purposively selected for maximum variation in age, sex, fall risks, and MI specialist assigned. The first (of 8) MI sessions from 16 participants were recorded, transcribed, and analyzed using qualitative content analysis. Three researchers first deductively analyzed fall prevention strategies that participants described using an evidence-based fall prevention guideline as a reference. Then, we inductively analyzed the characteristics of these strategies and how participants engaged in them. Finally, we used the Capability, Opportunity, Motivation, Behavior (COM-B) model to organize our results about factors influencing engagement. We found (1) older adults engage in unique combinations of fall prevention strategies and (2) decisions about engagement in fall prevention strategies were influenced by multiple factors that were personal (e.g., who I am, capability, motivation, and opportunities). This study highlighted how fall prevention can be a life-long lifestyle decision for older people. Understanding older people's perspectives about engaging in fall prevention is essential to develop interventions to promote evidence-based fall prevention strategies in real-world settings.

Language: en

Keywords: injury prevention; safety; older adults; falls; motivational interviewing

Cognitive behavioural therapy (CBT) with and without exercise to reduce fear of falling in older people living in the community

Lenouvel E, Ullrich P, Siemens W, Dallmeier D, Denkinger M, Kienle G, Zijlstra GAR, Hauer K, Klöppel S. *Cochrane Database Syst. Rev.* 2023; 11(11): CD014666.

(Copyright © 2023, The Cochrane Collaboration, Publisher John Wiley and Sons)

DOI: 10.1002/14651858.CD014666.pub2 **PMID:** 37965937 **PMCID:** PMC10646947

Abstract

BACKGROUND: Fear of falling (FoF) is a lasting concern about falling that leads to an individual avoiding activities that he/she remains capable of performing. It is a common condition amongst older adults and may occur independently of previous falls. Cognitive behavioural therapy (CBT), a talking therapy that helps change dysfunctional thoughts and behaviour, with and without exercise, may reduce FoF, for example, by reducing catastrophic thoughts related to falls, and modifying dysfunctional behaviour.

OBJECTIVES: To assess the benefits and harms of CBT for reducing FoF in older people living in the community, and to assess the effects of interventions where CBT is used in combination with exercise. **SEARCH METHODS:** We searched the Cochrane Central Register of Controlled Trials (CENTRAL, Issue 1, 2023), MEDLINE Ovid (from 1946 to 11 January 2023), Embase Ovid (from 1980 to 11 January 2023), CINAHL Plus (Cumulative Index to Nursing and Allied Health Literature) (from 1982 to 11 January 2023), PsycINFO (from 1967 to 11 January 2023), and AMED (Allied and Complementary Medicine from 1985 to 11 January 2023). We handsearched reference lists and consulted experts for identifying additional studies. **SELECTION CRITERIA:** This review included randomised controlled trials (RCTs), quasi-RCTs, and cluster-RCTs assessing CBT with and without exercise interventions compared to control groups with sham-treatment, or treatment as usual. We defined CBT as a collaborative, time-limited, goal-oriented, and structured form of speaking therapy. Included studies recruited community-dwelling older adults, with a mean population age of at least 60 years minus one standard deviation, and not defined by a specific medical condition. **DATA COLLECTION AND ANALYSIS:** Two review authors used standard methodological procedures expected by Cochrane. For continuous data, as assessed by single- or multiple-item questionnaires, we report the mean difference (MD) with 95% confidence interval (CI) when studies used the same outcome measures, and standardised mean difference (SMD) when studies used different measures for the same clinical outcome. For dichotomous outcomes, we reported the treatment effects as risk ratios (RR) with 95% CIs. We measured the primary outcome, FoF, immediately, up to, and more than six months after the intervention. We analysed secondary outcomes of activity avoidance, occurrence of falls, depression, and quality of life when measured immediately after the intervention. We assessed risk of bias for each included study, using the GRADE approach to assess the certainty of evidence. **MAIN RESULTS:** We selected 12 studies for this review, with 11 studies included for quantitative synthesis. One study could not be

included due to missing information. Of the 11 individual studies, two studies provided two comparisons, which resulted in 13 comparisons. Eight studies were RCTs, and four studies were cluster-RCTs. Two studies had multiple arms (CBT only and CBT with exercise) that fulfilled the inclusion criteria. The primary aim of 10 studies was to reduce FoF. The 11 included studies for quantitative synthesis involved 2357 participants, with mean ages between 73 and 83 years. Study total sample sizes varied from 42 to 540 participants. Of the 13 comparisons, three investigated CBT-only interventions while 10 investigated CBT with exercise. Intervention duration varied between six and 156 hours, at a frequency between three times a week and monthly over an eight- to 48-week period. Most interventions were delivered in groups of between five and 10 participants, and, in one study, up to 25 participants. Included studies had considerable heterogeneity, used different questionnaires, and had high risks of bias. CBT interventions with and without exercise probably improve FoF immediately after the intervention (SMD -0.23, 95% CI -0.36 to -0.11; 11 studies, 2357 participants; moderate-certainty evidence). The sensitivity analyses did not change the intervention effect significantly. Effects of CBT with or without exercise on FoF may be sustained up to six months after the intervention (SMD -0.24, 95% CI -0.41 to -0.07; 8 studies, 1784 participants; very low-certainty evidence). CBT with or without exercise interventions for FoF probably sustains improvements beyond six months (SMD -0.28, 95% CI -0.40 to -0.15; 5 studies, 1185 participants; moderate-certainty of evidence). CBT interventions for reducing FoF may reduce activity avoidance (MD -2.57, 95% CI -4.67 to -0.47; 1 study, 312 participants; low-certainty evidence), and level of depression (SMD -0.41, 95% CI -0.60 to -0.21; 2 studies, 404 participants; low-certainty evidence). We are uncertain whether CBT interventions reduce the occurrence of falls (RR 0.96, 95% CI 0.66 to 1.39; 5 studies, 1119 participants; very low-certainty evidence). All studies had a serious risk of bias, due to performance bias, and at least an unclear risk of detection bias, as participants and assessors could not be blinded due to the nature of the intervention. Downgrading of certainty of evidence also occurred due to heterogeneity between studies, and imprecision, owing to limited sample size of some studies. There was no reporting bias suspected for any article. No studies reported adverse effects due to their interventions. **AUTHORS' CONCLUSIONS:** CBT with and without exercise interventions probably reduces FoF in older people living in the community immediately after the intervention (moderate-certainty evidence). The improvements may be sustained during the period up to six months after intervention (low-certainty evidence), and probably are sustained beyond six months (moderate-certainty evidence). Further studies are needed to improve the certainty of evidence for sustainability of FoF effects up to six months. Of the secondary outcomes, we are uncertain whether CBT interventions for FoF reduce the occurrence of falls (very low-certainty evidence). However, CBT interventions for reducing FoF may reduce the level of activity avoidance, and may reduce depression (low-certainty evidence). No studies reported adverse effects. Future studies could investigate different populations (e.g. nursing home residents or people with comorbidities), intervention characteristics (e.g. duration), or comparisons (e.g. CBT versus exercise), investigate adverse effects of the interventions, and add outcomes (e.g. gait analysis). Future systematic reviews could search specifically for secondary outcomes.

Language: en

Keywords: Aged; Humans; Female; Aged, 80 and over; Fear; *Exercise; *Cognitive Behavioral Therapy

CT image-based biomarkers acquired by AI-based algorithms for the opportunistic prediction of falls

Liu D, Binkley NC, Perez A, Garrett JW, Zea R, Summers RM, Pickhardt PJ. *BJR open* 2023; 5(1): e20230014.

(Copyright © 2023, British Institute of Radiology)

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Abstract

OBJECTIVE: Evaluate whether biomarkers measured by automated artificial intelligence (AI)-based algorithms are suggestive of future fall risk.

METHODS: In this retrospective age- and sex-matched case-control study, 9029 total patients underwent initial abdominal CT for a variety of indications over a 20-year interval at one institution. 3535 case patients (mean age at initial CT, 66.5 ± 9.6 years; 63.4% female) who went on to fall (mean interval to fall, 6.5 years) and 5494 controls (mean age at initial CT, 66.7 ± 9.8 years; 63.4% females; mean follow-up interval, 6.6 years) were included. Falls were identified by electronic health record review. Validated and fully automated quantitative CT algorithms for skeletal muscle, adipose tissue, and trabecular bone attenuation at the level of L1 were applied to all scans. Uni- and multivariate assessment included hazard ratios (HRs) and area under the receiver operating characteristic (AUROC) curve.

RESULTS: Fall HRs (with 95% CI) for low muscle Hounsfield unit, high total adipose area, and low bone Hounsfield unit were 1.82 (1.65-2.00), 1.31 (1.19-1.44) and 1.91 (1.74-2.11), respectively, and the 10-year AUROC values for predicting falls were 0.619, 0.556, and 0.639, respectively. Combining all these CT biomarkers further improved the predictive value, including 10-year AUROC of 0.657.

CONCLUSION: Automated abdominal CT-based opportunistic measures of muscle, fat, and bone offer a novel approach to risk stratification for future falls, potentially by identifying patients with osteosarcopenic obesity. **ADVANCES IN KNOWLEDGE:** There are few well-established clinical tools to predict falls. We use novel AI-based body composition algorithms to leverage incidental CT data to help determine a patient's future fall risk.

Language: en

The value of sports and functional exercise on preventing falls in elderly patients with cognitive impairment: a systematic review and meta-analysis

Long S, Nuntaboot K, Nakrukamphonphatn S, Kumtanat T, Zhu W, Hu Y, Xie H. *Altern. Ther. Health Med.* 2023; ePub(ePub): ePub.

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DOI: unavailable

PMID: 37971473

Abstract

OBJECTIVE: To explore the value of sports and functional exercises in preventing falls in elderly patients with cognitive impairment.

METHODS: PubMed, EMBASE, Cochrane Library, China National Knowledge Infrastructure, VIP, Wanfang Database, and China Biomedical Literature Database (CBM), from inception to January 2023, were used to search the randomized controlled trials (RCTs) of sports and functional exercises in elderly patients with cognitive impairment. Two independent researchers extracted the data and evaluated the quality of the included literature. RevMan5.4 software was adopted for data analysis.

RESULTS: The results indicated that exercise combined with functional exercise could noticeably enhance the fall effect score and shorten the Timed Up and Go Test (TUGT) time of elderly patients with cognitive impairment compared to simple drug treatment ($P < .05$). Our results showed that the exercise combined with functional exercise can noticeably prolong the standing time of elderly patients with cognitive impairment upon monocular eye closure. Our results also showed that exercise combined with functional exercise can noticeably improve the fear of falls in elderly patients with cognitive impairment.

CONCLUSION: Sports and functional exercise intervention can promote the balance ability and fall self-efficacy of elderly patients with cognitive impairment and have a positive effect on enhancing patients' fear of falls. The findings need to be further verified and methodological quality needs to be improved. In addition, longer intervention times are required to verify the findings.

Language: en

Fall accidents in older people: a time trend analysis of the period 2000-2020 and the estimated economic burden on the Brazilian health system in 2025

Novaes ADC, Bianco OAFM, Silva DB, Silva LC, Dotta EA, Ansai JH, Tavares LRC, Gramani-Say K. *Cien. Saude Colet.* 2023; 28(11): 3101-3110.

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DOI: 10.1590/1413-812320232811.15722022 **PMID:** 37970995

Abstract

Longitudinal monitoring of indicators of accidental falls can facilitate the planning of effective care and prevention actions. This article aims to analyze temporal trends in variables related to falls among older persons in Brazil and in the state of São Paulo during the period 2000-2020 and estimate the projected economic burden on the health system in 2025. We conducted a quantitative retrospective observational study using data from the Health Information System. The Joinpoint Regression Program version 4.7.0 and SPSS version 20.0 were used to perform linear regression and calculate the Average Annual Percent Change (AAPC), adopting a 95% confidence interval. There was an increase in mean and total admissions costs due to falls at national level in both intervals of the study period. There was an increase in total admissions costs and the total number of admissions due to falls in the state of São Paulo (AAPC of 8.5% and 4.3%, respectively). Projections for the year 2025 suggest that the total number of admissions due to falls in Brazil will be around 150,000, resulting in costs of approximately R\$ 260 million. There was an increase in the variables analyzed by this study, revealing the importance of fall prevention programs associated with national public policies.

Language: en

Analysis and prevention of falls among community-dwelling older adults in southern Thailand

Pantong U, Trapero I, Jareaprapal U. J. Adv. Nurs. 2023; ePub(ePub): ePub.

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Abstract

AIM: To analyse fall prevalence, risk factors and perceptions among Thai older adults to design a prevention model.

DESIGN: Quantitative and qualitative data were collected using a convergent parallel mixed-methods design.

METHODS: A cross-sectional analysis was conducted using secondary data from health screenings of older adults in 20 subdistrict hospitals in southern Thailand from January 2018 to September 2019 (n = 12,130). In-depth interviews (IDIs) and focus group discussions (FGDs) were conducted with purposively sampled participants who were representatives of older adults and stakeholders (n = 50).

RESULTS: The quantitative analysis showed that the prevalence of falls was 12.1%. The independent risk factors were female gender, employment status, cognitive impairment, semi-dependent functional ability, balance problems, vision impairment, hearing difficulties, use of medications, reliance on assistive devices and access to outdoor toilets. The qualitative analysis revealed misconceptions on falls and fall prevention measures among older adults and community stakeholders. In Thailand, healthcare providers and community nurses play a crucial role in providing primary advice and conducting interventions, yet they encounter obstacles due to lack of personnel, time constraints, limited resources, inadequate support and unclear policies. Stakeholders stress the urgency of improving practice guidelines, developing evidence-based strategies and aligning with government policies.

CONCLUSIONS: Fall risk factors and prevention challenges among older adults were identified. Effective fall prevention programmes are needed. **IMPACT:** The identified fall events may guide public health agencies and local administrations in planning fall prevention programmes. For implementation in Thai communities, teamwork among leaders and stakeholders is key. **PATIENT OR PUBLIC CONTRIBUTION:** IDIs and FGDs were conducted with older adults, village health volunteers, nurses, healthcare providers, local organization administrators and village headmen.

Language: en

Keywords: fall prevention measure; nursing; perception of falls; Thai older adults

Deprescribing electronic case reviews for older veterans at risk for falls: effects on drug burden and falls

Pavon JM, Davidson S, Sloane R, Pepin M, Bryan W, Bailey J, Igwe I, Colón-Emeric C. J. Am. Geriatr. Soc. 2023; ePub(ePub): ePub.

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Abstract

BACKGROUND: Falls are the most common medication-related safety event in older adults. Deprescribing fall risk-increasing drugs (FRIDs) may mitigate fall risk. This study assesses the effects of an innovative deprescribing program in reducing FRID burden and falls-related acute visits over 1 year.

METHODS: The Falls Assessment of Medications in the Elderly (FAME) Program is a pilot deprescribing program designed to improve medication safety in Veterans aged ≥ 65 , screening positive for high fall risk at the Durham Veterans Affairs Health Care System. Central case finding and electronic case reviews with deprescribing recommendations were completed by an interdisciplinary team, forwarded to prescribers for approval, then implemented during follow-up telephone visits by FAME team. Primary outcome was change in FRID burden calculated by modified Drug Burden Index (DBI) at 1 year and an exploratory outcome was 1-year fall-related acute visits.

RESULTS: Overall, 472 patients (236 intervention cases, 236 matched controls) were included in the study. Of the 236 patients receiving a FAME deprescribing plan, 147 had recommendations approved by prescriber and patient. In the intention-to-treat analysis, the 1-year change in modified DBI was -0.15 (95% CI -0.23, -0.08) in the intervention cohort and -0.11 (-0.21, -0.00) in the matched control cohort ($p = 0.47$). The odds of increasing DBI by a clinically important threshold of 0.5 was significantly lower in the FAME cohort (OR 0.37, 0.21, 0.66). Fall-related acute events occurred in 6.3% of patients in the intervention group versus 11.0% in control patients over a one-year period ($p = 0.10$).

CONCLUSIONS: The program was associated with a significantly lower odds of further increasing FRID burden at 1 year compared to matched controls. An electronic case review and telephone counseling program has the potential to reduce drug-related falls in high-risk older adults.

Language: en

Keywords: older adults; falls; deprescribing; drug burden index; polypharmacy

Motor reaction time, sarcopenia and functional skills in elderly women: a cross-sectional study

Pereira da Silva Alves II, Santos Bueno GA, Brito Elmescany R, Aparecida Borges L, Kran Pinto D, Correia Martins A, de Menezes RL. *J. Nutr. Health Aging* 2023; 27(10): 878-884.

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PMID: 37960911

Abstract

IMPORTANCE: Aging generates changes over the years. Because of this, the musculoskeletal system is directly degraded and suffer deficits in its performance in elderly patients with Sarcopenia, as this condition is characterized by a decrease in muscle mass and function.

OBJECTIVE: Correlate the motor reaction time and functional skills of non-sarcopenic, pre-sarcopenic and sarcopenic elderly women, and analyze influence on the risk of falls.

DESIGN: Cross-sectional observational analytical study, following the methodological strategies of STROBE (Strengthening the Reporting of Observational Studies in Epidemiology), carried out under the approval of the Research Ethics Committee of the Unievangélica University, no. 3.694.235/2019. **SETTING:** Participants were evaluated regarding: cognitive status, level of physical activity, fear of falling, body composition, motor reaction time, static and dynamic balance, gait kinetics, strength and endurance of the lower limbs and finally handgrip strength. **PARTICIPANTS:** A total of 59 volunteer elderly women were assessed following the diagnostic criteria for sarcopenia proposed by the European Working Group on Sarcopenia in Older People (EWGSOP).

RESULTS: The results show that there was a greater difference in motor reaction time between the non-sarcopenic and sarcopenic elderly women due to the executing organ being damaged by the presence of sarcopenia, causing motor response to slowdown. Functional deficit, fear of falling and greater risk of falls were observed in the sarcopenic group, under the harmful influence of increased motor reaction time.

CONCLUSION: Sarcopenic elderly women present increased motor reaction time, that is, slowed motor responses due to decreased muscle mass, strength and impaired musculature, which generate functional deficits that contribute to an increased risk of falls.

Language: en

Keywords: Aged; Humans; Female; Cross-Sectional Studies; Accidental Falls; Fear; Aging; sarcopenia; postural balance; risk of falls; *Sarcopenia/diagnosis; functional skills/functionality; Hand Strength/physiology; motor reaction time; Reaction Time

Accuracy of the Fullerton Advanced Balance (FAB) scale and a modified FAB model for predicting falls in older adults: a prospective study

Pooranawatthanakul K, Siriphorn A. J. Bodyw. Mov. Ther. 2023; 36: 393-398.

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PMID: 37949590

Abstract

BACKGROUND: This study aimed to determine the accuracy of the FAB scale and the accuracy of combining certain FAB scale items into a model for predicting falls in older adults.

METHODS: Eighty older adults were evaluated at baseline using all FAB scale items. A 6-month follow-up period was used to determine fall incidence. The Receiver Operation Characteristic (ROC) curve was used to assess the predictive capability of the total FAB scale for falls in older adults. A model comprising some FAB items was constructed using logistic regression analysis and a forward stepwise method. ROC curve analysis was used to assess the accuracy of the new model.

RESULTS: The accuracy of the total FAB scale for predicting falls was excellent (AUC = 0.95). The cut-off score for the FAB scale was 25 points, with a sensitivity of 96.5% and a specificity of 80%. Among the ten FAB items, a regression model was identified by combining four items: step up onto and over a 6-inch bench; tandem walk; standing on foam with eyes closed; and reactive postural control. The new model achieved an excellent level of accuracy (AUC = 0.98) with a cut-off score of 11 out of 16 points, a sensitivity of 100%, and a specificity of 87%.

CONCLUSIONS: Both the total FAB score and the new FAB model were highly accurate for predicting falls in older adults.

Language: en

Keywords: Measurement; Balance; Geriatrics; Fall risk

Prevalence of modifiable risk factors of falls in post-operative elderly

Ramesh CS, Ishan P, Sandeep S, Pise S. Asian Pac. J. Health Sci. 2022; 9(2): 169-173.

(Copyright © 2022, Academy of Indian Health Professionals)

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PMID: unavailable

Abstract

INTRODUCTION: Falls are very common in elderly individuals. Falls are the accounting for morbidity and mortality. Falls are one of the major reasons in the elderly for hospitalization. Falls may lead to disability and sometimes patient may become handicap. Large number of elderly populations in rural as well as urban suffering from this problem. Many studies done on causes of falls. However, very less research is done on the prevalence of modifiable risk factors of falls in post-operative elderly individuals. Hence, there is a need to find out the modifiable risk factors which people can alter to reduce risk of fall.

AIMS AND OBJECTIVES: This study aims to study and find out the prevalence of modifiable risk factors of falls in post-operative elderly individuals.

MATERIALS AND METHODS: This was an observational study with a total of 100 participants. The participants were elderly individuals who had a fall and underwent surgery for fracture correction. Both male and female age groups above 60 years old were selected for the study. Participants were selected from Krishna Hospital, Karad. Outcome measures were included visual examination, balance test, manual muscle testing, goniometry, and neurological examination.

RESULTS: The results have shown that the highest risk factor for falls is due to slippery floor (21%) followed by falls during toilet activities (14%). It can be seen that poor balance (13%), reduced strength of muscles (11%), and reduced range of motion (9%) also play a key role in being a risk factor for falls. The figure depicts other factors such as poor lighting (7%), climbing up and down the stairs (6%), improper foot wear (5%), and obesity (4%) is also responsible for falls in the elderly. Lack of use of assistive devices (4%), gait deficit (3%), wrong exercise habits (2%), and clothing (1%) also are some risk factors for falls to some extent.

CONCLUSION: This study concludes that falls due to slippery floors are one of the most common occurrences followed by falls during toilet activities and due to poor balance. Other modifiable risk factors for falls include reduced strength of muscles, reduced range of motion, improper foot wear, clothing, gait deficit, climbing up or down the stairs, obesity, poor lighting, wrong exercise habits, and lack of use of assistive devices. It is of utmost importance to identify the modifiable risk factors in the elderly to prevent injuries and improve quality of life of the elderly.

Language: en

Keywords: Balance impairments; Modifiable risk factors of fall; Muscle weakness; Obesity; Postoperative complications; Reduced functional mobility

Safety-promoting interventions for the older person with hip fracture on returning home: a systematic review

Rocha P, Baixinho CL, Marques A, Henriques MA. *Int. J. Orthop. Trauma Nurs.* 2023; 52: e101063.

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PMID: 37956633

Abstract

BACKGROUND: Older adults with a prior history of falls that results in hip fractures have difficulties in regaining pre-fracture functional capacity. Scientific evidence has shown benefits of the implementation of multidimensional rehabilitation programs, but this evidence is not systematized with regard to continuity of care after hospital discharge.

OBJECTIVE: To identify interventions that promote safety and functional recovery of older adults with hip fractures after hospital discharge.

METHOD: A systematic review was carried out according to Cochrane methodology. The research strategy was predefined for the MEDLINE and CINAHL databases. The identified articles were screened according to the eligibility criteria by two independent reviewers. The articles included in the bibliographic sample were evaluated for risk of bias.

RESULTS: Of the 10,036 articles found, 10 were included in this systematic review. The safety-promoting interventions identified were: exercise training, occupational therapy/activities of daily living training, transfer and gait training, strengthening exercises, education on assistive device use, fall prevention education, nutritional assessment, environmental modifications/adjustments at home, use of an app, medication, self-care education, and support and counseling.

CONCLUSIONS: In eight studies analyzed, exercise training emerged as the most effective intervention for promoting the safety of older adults after hip fractures on returning home. Three studies associated two or more interventions, which focused on exercise training, occupational therapy/training of activities of daily living, and conventional postoperative rehabilitation with transfer and gait training, strengthening exercises, education on assistive device use and discharge planning, aiming to achieve muscle strengthening and safe gait, associated with the performance of activities of daily living.

Language: en

Keywords: Safety; Hip fracture; Hospital discharge; Older person; Returning home

When physical activity increases risk of injurious falls: right activity, right person, right time

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Abstract

The study by Kwok et al. [1] reminds us that frailty and limitations in physical function change movement behaviours and moderate the association between physical activity and injurious falls. This study looked both cross-sectionally and prospectively at the self-report data from women in two waves of the Australian Longitudinal Study on Women's Health and found a clear dose response relationship--the more moderate and vigorous activity a person does, the less chance of having injurious falls, but only in those without functional limitations or frailty. For those who have physical function limitations or are frail, there is an increased risk of injurious falls with increased activity. There are intrinsic and extrinsic risk factors for falls, but there is also exposure to risk [2]. Those with functional limitations are essentially exposing themselves to more risk by being on their feet more, but they do not have the required parameters of fitness (such as strength, power, balance, reaction time and flexibility) to stay upright if they trip [3].

The authors go on to recommend the promotion of physical activity in those who are not frail or limited in function, but they advise caution when promoting activity to those with functional limitations, and they recommend exercise programmes specifically designed to improve their stability, strength and physical function [1]. This is in line with the World Falls Guidelines, that suggest that those who are at the lowest risk of a fall are encouraged to meet the physical activity guidelines and those at intermediate or high risk, or those with frailty, are offered evidence-based exercise programmes [4, 5].

The cohort of older people examined in this study were 65-70 years old and were followed for 3 years to look at prospective associations. There are time points in the life course where we can have distinct changes in our physical activity and sedentary behaviour patterns, such as on retirement, becoming a carer and following hospitalisation [6]. Indeed, falls start in middle age, 9% of 40-44-year-olds and nearly 30% of 60-64-year-old women had fallen across four population-based cohorts in Australia, Ireland, Netherlands and the UK [7]. Encouraging people at retirement to increase their physical activity to meet the activity guidelines for health (150 min/week moderate intensity activity) reduces their risk of falls aged 90 by around 35-40% compared to those doing less [8]. The early 60s seems to be a critical life stage for preventative interventions. But we need to be mindful of what we promote and to who. We need to consider peoples' abilities within our activity advice.

This study is just another reminder that not all activity is effective or safe for frailer older people...

Language: en

Keywords: Humans; Risk Factors; physical activity; frailty; falls; older people; *Exercise; injurious falls; physical function limitation

Identifying trajectories and predictors of chemotherapy-induced peripheral neuropathy symptoms, physical functioning, and falls across treatment and recovery in adults treated with neurotoxic chemotherapy: the PATTERN observational study protocol (NCT05790538)

Winters-Stone KM, Krasnow SM, Horak FB, Mancini M, Cameron MH, Dieckmann NF, Stoyles SA, Roeland EJ. *BMC Cancer* 2023; 23(1): e1087.

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DOI: 10.1186/s12885-023-11546-2

PMID: 37946117

Abstract

BACKGROUND: Chemotherapy-induced peripheral neuropathy (CIPN) is a debilitating and dose-limiting side effect of systemic cancer therapy. In many cancer survivors, CIPN persists after treatment ends and is associated with functional impairments, abnormal gait patterns, falls, and diminished quality of life. However, little is known regarding which patients are most likely to develop CIPN symptoms that impair mobility and increase fall risk, when this risk develops, or the optimal timing of early intervention efforts to mitigate the impact of CIPN on functioning and fall risk. This study will address these knowledge gaps by (1) characterizing trajectories of symptoms, functioning, and falls before, during, and after treatment in adults prescribed neurotoxic chemotherapy for cancer; and (2) determining the simplest set of predictors for identifying individuals at risk for CIPN-related functional decline and falls.

METHODS: We will enroll 200 participants into a prospective, observational study before initiating chemotherapy and up to 1 year after completing chemotherapy. Eligible participants are aged 40-85 years, diagnosed with stage I-III cancer, and scheduled to receive neurotoxic chemotherapy. We perform objective assessments of vibratory and touch sensation (biothesiometry, tuning fork, monofilament tests), standing and dynamic balance (quiet stance, Timed-Up-and-Go tests), and upper and lower extremity strength (handgrip dynamometry, 5-time repeated chair stand test) in the clinic at baseline, every 4-6 weeks during chemotherapy, and quarterly for 1 year post-chemotherapy. Participants wear devices that passively and continuously measure daily gait quality and physical activity for 1 week after each objective assessment and self-report symptoms (CIPN, insomnia, fatigue, dizziness, pain, cognition, anxiety, and depressive symptoms) and falls via weekly electronic surveys. We will use structural equation modeling, including growth mixture modeling, to examine patterns in trajectories of changes in symptoms, functioning, and falls associated with neurotoxic chemotherapy and then search for distinct risk profiles for CIPN.

DISCUSSION: Identifying simple, early predictors of functional decline and fall risk in adults with cancer receiving neurotoxic chemotherapy will help identify individuals who would benefit from early and targeted interventions to prevent CIPN-related falls and disability. **TRIAL REGISTRATION:** This study was retrospectively registered with ClinicalTrials.gov (NCT05790538) on 3/30/2023.

Language: en

Keywords: Mobility; Balance; Cancer; Gait; Neuropathy; Neurotoxicity; Pain; Paresthesia; Side effects

Professional narratives about older adults and health services responsive to fall-inducing frailty

Xavier LN, do Nascimento VB. *Int. J. Environ. Res. Public Health* 2023; 20(21): e6975.

(Copyright © 2023, MDPI: Multidisciplinary Digital Publishing Institute)

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Abstract

The second external cause of death from unintentional injuries is falls in people over 60 and is a worldwide Public Health problem. Associated factors are identified early in Primary Health Care. Thus, we analyze professional narratives about older adults/old age and the organization of services in the presence of fall-inducing frailty. A structured narrative was applied under the following stages: understanding the context, setting/plot/character analysis, and interpretive synthesis. Data were collected from August to November 2022, distributing 21 health professionals in three Narrative Focus Groups. In the analyses, the collective conceptions dialogued with Bourdieu's Epistemology of field, habitus, and capital. Technical and common sense representations of older adults were simultaneously observed among the results, along with the belief of old age as a problematic life stage. Care is centered on the installed disease/ailment. Encouraging autonomy and self-care emerges in integrative health practices, which older adults underestimate. Professionals access the lives of older adults according to their habitus, which, in turn, is structured (structuring) in the disputes for installed capital. Thus, the care provided disregards subjectivities and symbolic systems associated with falls.

Language: en

Keywords: aging; postural balance; Primary Health Care

The relationship between frailty, walking ability, and depression in elderly Chinese people

Yin H, Gao C, Quan Z, Zhang Y. *Medicine (Baltimore)* 2023; 102(45): e35876.

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Abstract

To explore the relationship between depression symptoms, frailty, and walking ability in Chinese elderly people, and to provide new evidence for research on the prevention and treatment of depression in Chinese elderly people. The data of this study is sourced from the 2018 CHARLS data (China Health and Retirement Longitudinal Study). Z-test, logistic regression, and linear stratified regression were used to analyze the walking ability, frailty, and depressive symptoms of 2927 participants. Good walking ability and non frailty were significantly negatively correlated with depression symptoms in the elderly ($P < .05$). This important negative association persists even after adjusting for demographic, health condition, and lifestyle factors. ($P < .05$). Elderly women are at a higher risk of developing depression than men, while elderly people with good walking ability and no frailty are at a lower risk of developing depression. At the same time, elderly people with disabilities, hypertension, arthritis, and low levels of physical activity are more likely to experience depressive symptoms. It is recommended that elderly people pay attention to maintaining walking ability and avoiding frailty to reduce the risk of depression.

Language: en

Keywords: Aged; Humans; Female; Male; Walking; China/epidemiology; East Asian People; *Frailty/epidemiology; Depression/epidemiology/diagnosis; Longitudinal Studies