

Safety Literature 11th October 2021

A five-year prospective evaluation of anticholinergic cognitive burden and falls in the Malaysian elders longitudinal research (MELoR) study

Xu XJ, Myint PK, Kioh SH, Mat S, Rajasuriar R, Kamaruzzaman SB, Tan MP. Arch. Gerontol. Geriatr. 2021; 98: e104535.

(Copyright © 2021, Elsevier Publishing)

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Abstract

BACKGROUND: While anticholinergic use is associated with stroke, dementia and mortality, few have evaluated its potential link with falls. To determine the relationship between anticholinergic cognitive burden (ACB) and falls over five years using the Malaysian Elders Longitudinal Research (MELoR).

METHODS: Community-dwelling adults aged 55 years and over were recruited through electoral roll sampling. Data obtained at baseline and follow-up (FU) at two and five years were included. Falls in the preceding 12 months were recorded.

RESULTS: Of the 1499 individuals (mean (SD) age= 68.9(7.5) yrs and 53.3% female) with information on baseline ACB exposure, 575(38.4%) had ACB scores of 1-2 and 117(7.8%) had ACB scores ≥ 3 . Differences in age, ethnicity, smoking status, diabetes, hypertension, cardiovascular disease, arthritis and education existed between ACB groups. Fall occurrence differed between ACB groups at recruitment ($p = 0.004$) and 2-year FU ($p = 0.001$) but not at 5-year FU ($p = 0.053$). Logistic regression revealed an independent association between ACB 1-2 and falls at baseline (odds ratio, OR (95% confidence interval, CI) =1.412(1.035-1.926)) and ACB ≥ 3 and falls at 2-yr FU (OR (95%CI) =2.098(1.032-4.263)) following adjustment for confounders.

CONCLUSION: Low level exposure to drugs with anticholinergic properties was associated cross-sectionally with falls, while exposure to higher levels were prospectively associated with falls at 2-year but not at 5-year FU. Future studies should determine whether avoidance of drugs with anticholinergic effects will lead to reduction in falls.

Language: en

Keywords

Falls; Anticholinergic cognitive burden; Elders; Longitudinal;Malaysia

Higher levels of lead and aluminium are associated with increased risk of falls among community-dwelling older adults: an 18-month follow-up study

Ooi TC, Singh DKA, Shahar S, Rajab NF, Sharif R. *Geriatr. Gerontol. Int.* 2021; ePub(ePub): ePub.

(Copyright © 2021, Japan Geriatrics Society, Publisher John Wiley and Sons)

DOI 10.1111/ggi.14284 PMID 34590402

Abstract

AIM: The present study aims to determine the association of trace elements and oxidative and DNA damage biomarkers with fall incidence among community-dwelling older adults.

METHODS: This study is part of the Long-term Research Grant Scheme - Towards Useful Ageing cohort study in Malaysia. Of a total of 174 participants with complete trace elements and oxidative and DNA damage data during baseline, only 147 (84.5%) were successfully followed up after 18 months. Participants who experienced any fall events in the previous 18 months during the follow-up were categorized as fallers.

RESULTS: Thirty participants (20.4%) reported at least one fall in the previous 18 months. The mean concentrations of aluminium, lead and zinc were significantly higher ($P < 0.05$) in fallers than non-fallers. However, in comparison with the non-faller group, the percentage of DNA in tail ($11.43 \pm 4.10\%$ vs. $13.22 \pm 5.24\%$) and tail moment (1.19 ± 0.54 AU vs. 1.59 ± 0.78 AU) was significantly ($P < 0.05$) lower in the faller group. No significant difference in serum superoxide dismutase activities and malondialdehyde level was observed between non-fallers and fallers. Following multifactorial adjustments, higher aluminium (odds ratio [OR]: 1.007; 95% confidence interval [CI]: 1.002-1.011) and lead (OR: 1.162; 95% CI: 1.010-1.336) levels and lower tail moment scores (OR: 0.313; 95% CI: 0.138-0.709) appeared significant in the final hierarchical binary logistic regression model.

CONCLUSIONS: Higher levels of lead and aluminium were associated with increased risk of falls among community-dwelling older adults. *Geriatr Gerontol Int* 2021; ••: ••-••.

Language: en

Keywords

older adults; falls; aluminium; DNA damage; lead

Noisy galvanic vestibular stimulation combined with a multisensory balance program in older adults with moderate to high fall risk: protocol for a feasibility study for a randomized controlled trial

McLaren R, Smith PF, Lord S, Kaur PK, Zheng Y, Taylor D. JMIR Res. Protoc. 2021; 10(10): e32085.

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Abstract

BACKGROUND: Reduced mobility and falls are common among older adults. Balance retraining programs are effective in reducing falls and in improving balance and mobility. Noisy galvanic vestibular stimulation is a low-level electrical stimulation used to reduce the threshold for the firing of vestibular neurons via a mechanism of stochastic resonance.

OBJECTIVE: This study aims to determine the feasibility of using noisy galvanic vestibular stimulation to augment a balance training program for older adults at risk of falls. We hypothesize that noisy galvanic vestibular stimulation will enhance the effects of balance retraining in older adults at risk of falls.

METHODS: In this 3-armed randomized controlled trial, community dwelling older adults at risk of falling will be randomly assigned to a noisy galvanic vestibular stimulation plus balance program (noisy galvanic vestibular stimulation group), sham plus balance program (sham group), or a no treatment group (control). Participants will attend the exercise group twice a week for 8 weeks with assessment of balance and gait pretreatment, posttreatment, and at 3 months postintervention. Primary outcome measures include postural sway, measured by center of pressure velocity, area and root mean square, and gait parameters such as speed, step width, step variability, and double support time. Spatial memory will also be measured using the triangle completion task and the 4 Mountains Test.

RESULTS: Recruitment began in November 2020. Data collection and analysis are expected to be completed by December 2022.

CONCLUSIONS: This study will evaluate the feasibility of using noisy galvanic vestibular stimulation alongside balance retraining in older adults at risk of falls and will inform the design of a fully powered randomized controlled trial. **TRIAL REGISTRATION:** New Zealand Clinical Trials Registry (ACTRN12620001172998);

<https://www.anzctr.org.au/Trial/Registration/TrialReview.aspx?id=379944>.

INTERNATIONAL REGISTERED REPORT IDENTIFIER (IRRID): DERR1-10.2196/32085.

Language: en

Keywords

balance; rehabilitation; brain stimulation; nGVS; noisy galvanic vestibular stimulation; older adult

Prevalence of falls among the rural elderly - three PLADs of Western China, 2017-2018

Xu T, Han H. China CDC Wkly. 2020; 2(46): 877-880.

(Copyright © 2020, Chinese Center for Disease Control and Prevention [China CDC])

DOI 10.46234/ccdcw2020.239 PMID 34594789

Abstract

WHAT IS ALREADY KNOWN ABOUT THIS TOPIC? As population aging becomes serious in China, the elderly health problems stand out prominently. Prevention of falls of the elderly has become an important subject in China's public health. WHAT IS ADDED BY THIS REPORT? The prevalence of falls among rural elderly in western China was 9.6%. The highest prevalence was registered among the groups of female, aged 70 and over, or Salar ethnicities, or with visual deficiency and chronic diseases, of which 33.0% fell subjectively due to their poor body balance, and 65.8% fell objectively due to slippery floor or ground obstacles. WHAT ARE THE IMPLICATIONS FOR PUBLIC HEALTH PRACTICE? Considering the health status of the elderly in the western China and the prevalent fall-related risk factors, health education in respect of falls prevention should be performed. Moreover, the home environment of the elderly should be checked for potential safety hazards and improved if necessary, and medical and health resources should be rationally allocated to target population in order to avoid any reoccurrence of falls injury and thus relieving the burdens upon individuals, families and the society.

Language: en

The age-related decline in spatiotemporal gait characteristics is moderated by concerns of falling, history of falls & diseases, and sociodemographic-anthropometric characteristics in 60-94 years old adults

Niederer D, Engeroff T, Fleckenstein J, Vogel O, Vogt L. Eur. Rev. Aging Phys. Activ. 2021; 18(1): e19.

(Copyright © 2021, Holtzbrinck Springer Nature Publishing Group)

DOI 10.1186/s11556-021-00275-9 PMID 34610791

Abstract

BACKGROUND: Associations between age, concerns or history of falling, and various gait parameters are evident. Limited research, however, exists on how such variables moderate the age-related decline in gait characteristics. The purpose of the present study was to investigate the moderating effects of concerns of falling (formerly referred to as fear of falling), history of falls & diseases, and sociodemographic characteristics on changes in gait characteristics with increasing age in the elderly.

METHODS: In this individual participant level data re-analysis, data from 198 participants (n = 125 females) from 60 to 94 years of age were analysed (mean 73.9, standard deviation 7.7 years). Dependent variables were major spatiotemporal gait characteristics, assessed using a capacitive force measurement platform (zebris FDM-T). Age (independent variable) and the moderating variables concerns of falling (FES-I), gender/sex, history of falls and fall-related medical records, number of drugs daily taken, and body mass index were used in the statistical analysis. Hierarchical linear mixed moderation models (multilevel analysis) with stepwise (forward) modelling were performed.

RESULTS: Decreases of gait speed (estimate = $-.03$, equals a decrease of 0.03 m/s per year of ageing), absolute (-1.4) and gait speed-normalized ($-.52$) stride length, step width ($-.08$), as well as increases in speed normalized cadence ($.65$) and gait speed variability ($.15$) are all age-related (each $p < .05$). Overall and specific situation-related concerns of falling (estimates: $-.0012$ to $-.07$) were significant moderators. History of potentially gait- and/or falls-affecting diseases accelerated the age-related decline in gait speed ($-.002$) and its variability ($.03$). History of falls was, although non-significant, a relevant moderator (in view of increasing the model fit) for cadence ($.058$) and gait speed ($-.0027$). Sociodemographics and anthropometrics showed further moderating effects (sex moderated the ageing effect on stride length, $.08$; height moderated the effect on the normalised stride length, $.26$; BMI moderated the effects on step width, $.003$).

CONCLUSION: Age-related decline in spatiotemporal gait characteristics is moderated by concerns of falling, (non-significantly) by history of falls, significantly by history of diseases, and sociodemographic characteristics in 60-94 years old adults. Knowing the interactive contributions to gait impairments could be helpful for tailoring interventions for the prevention of falls. **TRIAL REGISTRATION:** Re-analysis of [21-24].

Language: en

Keywords

Older adults; Fall risk; Fear of falling; Walking interaction

The relationship between the severity of insomnia and falls in the elderly

İleri, Borazan FY, Cavusoglu C, Göker B. Psychogeriatr. 2021; ePub(ePub): ePub.

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DOI 10.1111/psyg.12767 **PMID** 34608721

Abstract

BACKGROUND: Insomnia is associated with depression, cognitive impairment, hypertension, myocardial infarction, stroke, metabolic syndrome and prostate cancer in the elderly. The aim of this study is to investigate the relationship between severity of insomnia and falls.

METHODS: This cross-sectional study was conducted in a single geriatric outpatient clinic at a university teaching hospital. Patients with active infection, who could not complete insomnia severity index (ISI) test because of cognitive impairment and who could not perform handgrip strength and timed up and go (TUG) tests were excluded from the study.

RESULTS: A total of 215 patients were included in this study. Logistic regression analysis showed that there is significant relationship between poorer TUG performance, mild insomnia, moderate insomnia, severe insomnia and falls in the elderly (odds ratio (OR) = 1.04, CI: 1.00-1.09, P = 0.041, OR = 2.43, CI: 1.22-4.85, P = 0.011, OR = 3.84, CI:1.35-10.94, P = 0.012, OR = 5.81, CI:1.00-33.72, P = 0.050).

CONCLUSIONS: In this study we showed that there is a relationship between the severity of insomnia and falls.

Language: en

Keywords

elderly; falls; severity; insomnia

Using patient simulation to promote best practices in fall prevention and postfall assessment in nursing homes

Acosta DJ, Rinfret A, Plant J, Hsu AT. J. Nurs. Care Qual. 2021; ePub(ePub): ePub.

(Copyright © 2021, Lippincott Williams and Wilkins)

DOI 10.1097/NCQ.0000000000000599 **PMID** 34593738

Abstract

BACKGROUND: Fall-related injuries rise with age and are of particular concern for frail populations living in nursing homes. **LOCAL PROBLEM:** The Perley and Rideau Veterans' Health Centre is a large nursing home in Ontario, Canada. In 2019, we conducted internal audits of our Falls Prevention Program and identified notable variations in staff's response to a resident fall. **INTERVENTIONS:** We developed an in situ patient simulation program of a resident fall.

METHODS: This was a mixed-methods evaluation of participants' perspectives of a simulation-based interprofessional education program for fall prevention.

RESULTS: Participants indicated high-level support for simulation-based learning, with more than 80% of the participants expressing that they will apply these skills in the future when caring for a resident who falls.

CONCLUSIONS: Our findings indicate that simulation-based training is well received by frontline workers in a nursing home setting and can be conducted as part of a typical shift with minimal disruption to resident care.

Language: en

Wilson Sims Fall Risk Assessment Tool versus Morse Fall Scale in psychogeriatric inpatients: a multicentre study

Wong MMC, Pang PF, Chan CF, Lau MS, Tse WY, Lam LCW, Lee SKL, Tsoh J, Yan CTY. East Asian Arch. Psychiatry 2021; 31(3): 67-70.

(Copyright © 2021, Hong Kong Academy of Medicine Press)

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Abstract

OBJECTIVE: To compare predictive validity of the Wilson Sims Fall Risk Assessment Tool (WSFRAT) with that of the Morse Fall Scale (MFS) in psychogeriatric inpatients.

METHODS: Psychogeriatric patients from Shatin Hospital, Tai Po Hospital, Castle Peak Hospital, and United Christian Hospital who had fall incident between April 2019 and April 2020 were identified. Their fall risks were assessed by the WSFRAT and the MFS, and their falls incidents during hospitalisation were recorded. Patients were classified as having high fall risk when their MFS score was ≥ 45 and when their WSFRAT score was ≥ 7 . Sensitivity, specificity, and positive and negative predictive values of the two scales were calculated.

RESULTS: We identified 183 (90 male and 93 female) psychogeriatric patients aged ≥ 65 years who had fall incident and were assessed by both the WSFRAT and the MFS during the study period. Among the 183 patients, four sustained a fall during hospital stay, giving a prevalence of 2.19%. All four patients were classified as having high risk of fall by WSFRAT, but only two of them were classified so by MFS. The sensitivity of WSFRAT was 100%, which was higher than the 50% by MFS, but specificity of MFS was higher than that of WSFRAT (45.81% vs 54.75%).

CONCLUSION: WSFRAT is a better fall risk assessment scale for psychiatric inpatients than MFS, because of higher sensitivity (100% vs 50%). It has items specific to psychiatric patients and should replace MFS in psychiatric settings.

Language: en

Keywords

Aged; Risk assessment; Accidental falls; Geriatric psychiatry

Anticipatory and reactive responses to underfoot perturbations during gait in healthy adults and individuals with a recent mild traumatic brain injury

Kreter N, Rogers CL, Fino PC. Clin. Biomech. 2021; 90: e105496.

(Copyright © 2021, Elsevier Publishing)

DOI 10.1016/j.clinbiomech.2021.105496 PMID 34607181

Abstract

BACKGROUND: Following mild traumatic brain injury, individuals often exhibit quantifiable gait deficits over flat surfaces, but little is known about how they control gait over complex surfaces. Such complex surfaces require precise neuromotor control to anticipate and react to small disturbances in walking surfaces, and mild traumatic brain injury-related balance deficits may adversely affect these gait adjustments.

METHODS: This study investigates anticipatory and reactive gait adjustments for expected and unexpected underfoot perturbations in healthy adults (n = 5) and individuals with mild traumatic brain injury (n = 5). Participants completed walking trials with random unexpected or expected underfoot perturbations from a mechanized shoe and inertial measurement units collected kinematic data from the feet and sternum. Linear mixed-effects models assessed the effects of segment, group, and their interaction on standardized difference of accelerations between perturbation and non-perturbation trials.

FINDINGS: Both groups demonstrated similar gait strategies when perturbations were unexpected. During late swing phase before expected perturbations, persons with mild traumatic brain injury exhibited greater lateral acceleration of their perturbed foot and less lateral movement of their trunk compared with unperturbed gait. Control participants exhibited less lateral foot acceleration and no difference in mediolateral trunk acceleration compared with unperturbed gait during the same period. A significant group*segment interaction ($p < 0.001$) during this part of the gait cycle suggests the groups adopted different anticipatory strategies for the perturbation.

INTERPRETATION: Individuals with mild traumatic brain injury may be adopting cautious strategies for expected perturbations due to persistent neuromechanical deficits stemming from their injury.

Language: en

Keywords

Concussion; Balance; Inertial measurement units; Locomotor control; Proprioception

Call to action: Addressing pediatric fall safety in ambulatory environments

Benning S, Wolfe R, Banes M, Moten L, Lynch T, Walden M, Gordon MD. J. Pediatr. Nurs. 2021; 61: 372-377.

(Copyright © 2021, Elsevier Publishing)

DOI 10.1016/j.pedn.2021.09.012 PMID 34600242

Abstract

BACKGROUND: Pediatric falls in the ambulatory environment are a patient safety concern. Historically, fall safety efforts have focused on inpatient settings and are not transferrable to ambulatory environments. Minimal research and absence of ambulatory-specific guidelines from regulatory and global benchmarking bodies contribute to the void of knowledge. Consequently, there has been minimal progress in developing fall reduction strategies for the ambulatory environment.

PURPOSE: To review research evidence and findings from environmental assessments that included interprofessional stakeholder feedback to make recommendations for improving fall safety in the pediatric ambulatory environment.

METHODS: Implementation science was employed in two large pediatric quaternary hospitals to identify existing gaps and provided the foundation for translation of findings in the development of fall safety practice recommendations in the ambulatory environment.

RESULTS: Recommendations from the findings included identified barriers and tangible interventions within three broad categories: equipment and furniture, environment, and people.

PURPOSEful inclusion of all areas in the ambulatory environment, integration of high reliability concepts, and partnering with parents were identified as pertinent factors associated with these recommendations.

CONCLUSION: This call to action recognizes the importance of utilizing an evidence-based approach for improvement and provides a framework for conducting an environmental assessment, which is an essential starting point to improve fall safety in the pediatric ambulatory environment. Guidance and support from research, regulatory and collaborative bodies, and healthcare organizations remains a critical need in improving fall safety.

Language: en

Keywords

Ambulatory environment; Fall reduction; Knowledge to action framework; Patient safety; Pediatric falls

Characteristics of falls among older people - China, 2018

Lu Z, Ye P, Wang Y, Duan L, Er Y. China CDC Wkly. 2021; 3(4): 65-68.

(Copyright © 2021, Chinese Center for Disease Control and Prevention [China CDC])

DOI 10.46234/ccdcw2021.013 PMID 34595004

Abstract

What is already known about this topic? The incidence of falls among older people is 20.7% in China. Falls are the top cause for death from injuries in people aged 65 years and above, and mortality rates increase with age in China. There are few reports on the epidemiological characteristics of falls in older people nationwide in recent years. What is added by this report? This study found that among older people with falls reported in the National Injury Surveillance System (NISS) in 2018, there were more females than males. The peak time for falls was in the morning. Home was the most common site where falls occurred, and leisure activities and housework were the main activities when falls occurred. After falling, the lower limbs and head were most often injured with bruises and fractures. The degree of injury was mainly mild and moderate. What are the implications for public health practice? Data based on the NISS can be used as an additional data source for research on falls in China. This study identified priorities for the control and prevention of falls.

Language: en

Free from falls education and exercise program for reducing falls in people with multiple sclerosis: a randomized controlled trial

Cameron MH, Hildebrand A, Hugos CL, Judd GI, McMillan G, Jacobs PG. *Mult. Scler.* 2021; ePub(ePub): ePub.

(Copyright © 2021, SAGE Publishing)

DOI 10.1177/13524585211046898 **PMID** 34595963

Abstract

BACKGROUND: People with multiple sclerosis (PwMS) fall frequently. Community-delivered exercise and education reduce falls in older adults, but their efficacy in multiple sclerosis (MS) is unknown.

OBJECTIVES: To evaluate the impact of the Free From Falls (FFF) group education and exercise program on falls in PwMS.

METHODS: This was a prospective, assessor-blinded, two-arm parallel randomized controlled trial. Ninety-six participants were randomized to FFF (eight weekly 2 hour sessions) or the control condition (a fall prevention brochure and informing their neurologist of their fall history). Participants counted falls prospectively from enrollment through 6 months following intervention. Effects on fall frequency were evaluated by the Bayesian analysis.

RESULTS: The modeled mean fall frequency pre-intervention was 1.2 falls/month in the FFF group (95% credible intervals (CIs) = 0.8-2.0) and 1.4 falls/month in the control group (95% CI = 0.9-2.1). Fall frequency decreased by 0.6 falls/month in both groups over time (nadir 4-6 months post-intervention: FFF 0.6 falls/month (95% CI = 0.4-0.9); control 0.8 falls/month (95% CI = 0.5-1.1)).

CONCLUSION: In-person group exercise and education are not superior to written education and neurologist-initiated interventions for preventing falls in PwMS.

Language: en

Keywords

education; Multiple sclerosis; exercise; accidental falls; fall prevention

Impact of the HOP-UP-PT program on older adults at risk to fall: a randomized controlled trial

Arena SK, Wilson CM, Boright L, Peterson E. BMC Geriatr. 2021; 21(1): 520.

(Copyright © 2021, Holtzbrinck Springer Nature Publishing Group - BMC)

DOI 10.1186/s12877-021-02450-0 PMID 34598692

Abstract

BACKGROUND: Reduced falls and fall risks have been observed among older adults referred to the HOP-UP-PT (Home-based Older Persons Upstreaming Prevention-Physical Therapy) program. The purpose of this study was to describe outcomes of HOP-UP-PT program participants and then to compare these outcomes to non-participants.

METHODS: Six Michigan senior centers referred adults ≥ 65 years who were at-risk for functional decline or falls. 144 participants ($n = 72$ per group) were randomized to either the experimental group (EG) or the control group (CG). Physical therapists (PTs) delivered physical, environmental, and health interventions to the EG over nine encounters (six in-person, three telerehabilitation) spanning seven months. The CG participants were told to continue their usual physical activity routines during the same time frame. Baseline and re-assessments were conducted at 0-, 3-, and 7-months in both groups. Descriptions and comparisons from each assessment encounter were analyzed.

RESULTS: Participants ages were: EG = 76.6 (7.0) years and CG = 77.2 (8.2). Baseline measures were not significantly different apart from the Short Physical Performance Battery (SPPB) which favored the EG ($P = 0.02$). While no significant differences were identified in the survey outcomes or home environment assessments, significant differences in favor of the EG were identified in common fall risk indicators including the Timed Up and Go ($P = 0.04$), Four Test Balance Scale ($P = 0.01$), and the modified SPPB ($P = 0.02$) at the 3-month assessment visit. However, these differences were not sustained at the 7-month assessment as, notably, both groups demonstrated positive improvements in the Four Test Balance Score and SPPB. For individuals at a moderate/high fall risk at baseline, 47.8% of CG reported falling at seven months; whereas, only 6.3% of EG participants meeting the same criteria reported a fall after HOP-UP-PT participation.

CONCLUSIONS: A prevention-focused multimodal program provided by PTs in older adults' homes proved beneficial and those with the highest fall risk demonstrated a significant decrease in falls. A collaboration between PTs and community senior centers resulted in upstreaming care delivery that may reduce both the financial and personal burdens associated with falls in an older adult population. **TRIAL REGISTRATION:** This study was retrospective registered at Clinical Trials.gov , TRN: NCT04814459 on 24/03/2021. Language: en

Keywords

Prevention; Falling; Home-based; Independent living; Older adult; Physical therapy; Upstreaming

Interactive effect of sarcopenia and falls on vertebral osteoporotic fracture in patients with rheumatoid arthritis

Tong JJ, Xu SQ, Wang JX, Zong HX, Chu YR, Chen KM, Teng YZ. Arch. Osteoporos. 2021; 16(1): e145.

(Copyright © 2021, Holtzbrinck Springer Nature Publishing Group)

DOI 10.1007/s11657-021-01017-1 **PMID** 34601644

Abstract

Patients with rheumatoid arthritis (RA) had higher incidences of sarcopenia, falls, osteoporosis, and vertebral osteoporotic fractures (VOPF). Sarcopenia was associated with longer disease duration, higher disease activity, and more severe RA. The interactive effect of sarcopenia and falls was associated with a higher risk of VOPF in patients with RA.

PURPOSE: Whether sarcopenia and falls are a risk factor for vertebral fracture in RA patients has not been demonstrated. This study aimed to explore the incidence of vertebral osteoporotic fracture (VOPF) and its relationship with sarcopenia and falls in RA patients.

METHODS: A total of 474 RA patients and 156 controls were enrolled in this study. Anteroposterior and lateral X-ray examinations of the vertebral column (T4-L4) were used for the semiquantitative assessment of VOPF. Bone mineral density was measured by dual-energy X-ray absorptiometry. Skeletal muscle mass was measured by direct segmental multifrequency bioelectrical impedance analysis (DSM-BIA method).

RESULTS: RA patients had an increased risk of sarcopenia (62.4% vs 9.0%, $\chi^2 = 47.478$, $P < 0.001$), falls (30.2% vs 3.2%), osteoporosis (OP) (33.5% vs 12.8%, $\chi^2 = 134.276$, $P < 0.001$), and VOPF (20.3% vs 3.8%, $\chi^2 = 47.478$, $P < 0.001$) than controls. Patients with sarcopenia were more likely to have VOPF than RA without sarcopenia (24.0% vs 14.0%, $\chi^2 = 6.802$, $P = 0.009$). RA with sarcopenia and prior falls had the highest incidences of VOPF (36.7%). Older age (OR = 1.056, $P < 0.001$, 95% CI 1.030-1.083), falls (OR = 2.043, $P = 0.003$, 95% CI 1.238-3.371), OP (OR = 1.819, $P = 0.034$, 95% CI 1.046-3.163), and usage of glucocorticoids (GCs) (OR = 1.862, $P = 0.022$, 95% CI 1.093-3.172) were risk factors for VOPF in RA patients, while a higher skeletal muscle index (SMI) was a protective factor (OR = 0.754, $P = 0.038$, 95% CI 0.578-0.984) for VOPF in RA patients.

CONCLUSIONS: The interactive effect of sarcopenia and falls is associated with a higher risk of VOPF in patients with RA.

Language: en

Keywords

Sarcopenia; Rheumatoid arthritis; Vertebral osteoporotic fracture

Nurses' view of implementation evidence-based fall prevention interventions: a qualitative study

Ayhan Öncü Y, Seren Intepeler S. J. Nurs. Manag. 2021; ePub(ePub): ePub.

(Copyright © 2021, John Wiley and Sons)

DOI 10.1111/jonm.13480 **PMID** 34591345

Abstract

AIM: The purpose of this descriptive qualitative study was to evaluate nurses' views of implementation evidence-based fall prevention interventions.

METHODS: The study was conducted with participation of nurses who worked in a training and research hospital after evidence-based fall prevention interventions had been implemented. Interviews were done with 17 nurses who participated in all training courses.

RESULTS: The evaluation of the interventions was examined and three themes were extracted through analysis: "effectiveness of training program", "barriers" and "suggestions".

CONCLUSION: Nurses emphasized that evidence-based fall prevention interventions are usable in hospital, but team collaboration and administrative support are required for better outcomes. **IMPLICATIONS FOR NURSING MANAGEMENT:** The study result show that fall prevention interventions should be introduced to all health care professionals, through the use of various training methods. Training should be given to patients and their caregivers, and barriers that nurses stated like understaffing, lack of materials and tools which ensure patient safety, and internet (research/scientific information) access restriction should be reduced.

Language: en

Keywords

qualitative research; evidence-based practice; fall prevention; nursing

Practical and validated tool to assess falls risk in the primary care setting: a systematic review

Meekes WM, Korevaar JC, Leemrijse CJ, van de Goor IA. *BMJ Open* 2021; 11(9): e045431.

(Copyright © 2021, BMJ Publishing Group)

DOI 10.1136/bmjopen-2020-045431 **PMID** 34588228

Abstract

OBJECTIVE: Although several falls risk assessment tools are available, it is unclear which have been validated and which would be most suitable for primary care practices. This systematic review aims to identify the most suitable falls risk assessment tool for the primary care setting (ie, requires limited time, no expensive equipment and no additional space) and that has good predictive performance in the assessment of falls risk among older people living independently.

DESIGN: A systematic review based on prospective studies.

METHODS: An extensive search was conducted in the following databases: PubMed, Embase, CINAHL, Cochrane and PsycINFO. Tools were excluded if they required expensive and/or advanced software that is not usually available in primary care units and if they had not been validated in at least three different studies. Of 2492 articles published between January 2000 and July 2020, 27 were included.

RESULTS: Six falls risk assessment tools were identified: Timed Up and Go (TUG) test, Gait Speed test, Berg Balance Scale, Performance Oriented Mobility Assessment, Functional Reach test and falls history. Most articles reported area under the curve (AUC) values ranging from 0.5 to 0.7 for these tools. Sensitivity and specificity varied substantially across studies (eg, TUG, sensitivity:10%-83.3%, specificity:28.4%-96.6%).

CONCLUSIONS: Given that none of the falls risk assessment tools had sufficient predictive performance (AUC <0.7), other ways of assessing high falls risk among independently living older people in primary care should be investigated. For now, the most suitable way to assess falls risk in the primary care setting appears to involve asking patients about their falls history. Compared with the other five tools, the falls history requires the least amount of time, no expensive equipment, no training and no spatial adjustments. The clinical judgement of healthcare professionals continues to be most important, as it enables the identification of high falls risk even for patients with no falls history. **TRIAL REGISTRATION NUMBER:** The Netherlands Trial Register, NL7917; Pre-results.

Language: en

Keywords

preventive medicine; public health; primary care; general medicine (see internal medicine)

Preventive treatment options for fear of falling within the Swiss healthcare system : a position paper

Lenouvel E, Novak L, Biedermann A, Kressig RW, Klöppel S. Z. Gerontol. 2021; ePub(ePub): ePub.

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Abstract

Fear of falling (FoF) results in social, functional, physical, and psychological symptoms, including secondary disorders, such as depression and general anxiety disorder (GAD). A vicious cycle develops, where symptoms maintain and reinforce FoF and its consequences, including increasing the risk of falling. In this position paper, we suggest screening for FoF using the falls efficacy scale international (FES-I) questionnaire. The presence of a high score (> 23) warrants an investigation into frailty and exclusion of depression and GAD, during the clinical interview. Stratifying frailty, based on the Fried frailty criteria will guide treatment options based on the most significant health concerns. Frail older adults should first receive physiotherapy and exercise interventions, as physical disabilities are their most significant characteristic, while pre-frail and non-frail older adults should receive multicomponent interventions, consisting of cognitive behavioral therapy (CBT) with physical exercise. The non-frail with predominantly GAD and depression should receive specialized CBT interventions. Currently, only exercise interventions are available for FoF treatment in Switzerland. Although some exercise interventions use CBT elements, such as goal setting and reflections on behavior and feelings, they are not systematically used, are not part of a quality-assured procedure, and do not address the psychological-cognitive aspects of FoF. As the pre-frail and non-frail are the largest groups to use these services, adapting current exercise programs by incorporating a CBT component would be the most practical means to provide optimized care.

Language: en

Keywords

A matter of balance; Balance confidence; Cognitive behavioral therapy; Falls efficacy