Safety Literature 10th July 2022

Balance Exercise Circuit for fall prevention in older adults: a randomized controlled crossover trial

Costa JNA, Ribeiro ALA, Ribeiro DBG, Neri SGR, Barbosa DF, Avelar BP, Safons MP. J. Frailty Sarcopenia Falls 2022; 7(2): 60-71.

Abstract

OBJECTIVES: This study aimed to assess the immediate and short-term effects of the Balance Exercise Circuit (BEC) on muscle strength, postural balance, and quality of life, with the aim of preventing falls in older adults.

METHODS: Twenty-two volunteers participated in this randomized controlled crossover study. Group A performed BEC training in the initial 3 months and received no intervention in the following 3 months. Group B received no intervention during the first 3 months and then participated in BEC training for the next 3 months. In addition, participants were followed for an additional 3 months. Muscle strength, postural balance, functional mobility, and quality of life were assessed, respectively, using an isokinetic dynamometer, force platform, TUG test, and the WHOQOL.

RESULTS: After 3 months of training, Group A presented improved balance and rate of force development (RFD), while Group B presented improvements in RFD, TUG performance, and WHOQOL physical and psychological domains. Regarding the short-term effects, the participants maintained the training effects in WHOQOL balance, RFD, and the social domain. In addition, the number of falls decreased during follow-up.

CONCLUSION: The BEC intervention improved muscle strength, postural balance, and quality of life in older adults, in addition to reducing the risk of falls. TRIAL REGISTRATION: Brazilian Registry of Clinical Trials (ReBEC) - RBR-5nvrwm.

Language: en

Evaluation of the durable effects of corrective exercises on the postural alignment and stability in hyperkyphotic elderly with a history of falls

Abstract

BACKGROUND: This study aimed to investigate the durability of the effects of corrective exercises on the postural alignment and stability of hyperkyphotic elderly with a history of falls. Balance disturbance and recurrent falls are directly related to changes in the alignment of physical posture and function of the elderly, and effective methods with durable effects on improving the postural stability of the elderly have always been under the attention of researchers.

METHODS: This study was a randomized clinical trial, and the statistical population included the elderly referred to neurology clinics. According to the research inclusion criteria (hyperkyphotic elderly with a history of falls during the last six months), 30 elderly aged 60 to 75 years old were purposefully selected and randomly divided into two groups of corrective exercises and control. The experimental group performed an exercise program based on the Alexander posture correction technique. Both groups were evaluated with forward head angle, kyphosis, the timed up and go test, postural stability, and fear of falling tests in three phases. Data analysis was conducted using SPSS 21 software and the MANCOVA test and repeated-measures analysis of variance.

RESULTS: Data analysis showed significant improvements in the variables of forward head ($p = 0.007$), kyphosis($p = .001$), balance($p = 0.002$), postural stability($p = 0.001$), and fear of falling($p = 0.001$) in the experimental group. Post-test comparisons between the experimental and control groups showed significant differences in all variables except for kyphosis($p > .05$), and follow-up analysis also revealed significant differences in all variables, except for the variables of forward head and kyphosis($p > .05$).

CONCLUSIONS: Although the effects of corrective exercises in the elderly decreased regarding spinal alignment after three months, more lasting effects were seen in functional balance, postural stability, and fear of falling, suggesting this strategy as a stimulus for more mobility and a lower risk of falling in the elderly. Therefore, when using corrective exercises, it is possible to apply these exercises for a longer period of time to achieve more durable outcomes, especially regarding spinal alignment. TRIAL REGISTRATION: This research was registered in the Iranian Registry of Clinical Trials (IRCT2016081529373N1 , Date of registration: 19/04/2017).
Language: en

Fall prevention in older people: past, present and future

Abstract

Over the past 50 years we have transitioned from accepting falls as an inevitable consequence of ageing to something that can and should be prevented. Numerous studies have elucidated the contributors to falls and how to assess a person's risk of falling. There are many effective approaches to preventing falls in older people including those with cognitive and physical impairments. Exercise is the most tried and tested approach with good evidence that moderate to high intensity balance training is an effective fall prevention strategy. Other successful single modality interventions include enhanced podiatry, home safety interventions, expedited cataract extraction, cardiac pacing for people with carotid sinus hypersensitivity and vitamin D supplementation in people living in care homes. Multiple interventions (everyone receives the same intervention package) and multifactorial interventions (interventions tailored to identified risk factors) are effective particularly in high-risk populations. In more recent years we have seen the emergence of new technologies such as devices and software programs that can offer low-cost interventions which may be more sustainable than our traditional time- and resource-limited approach to prevention. There is still more to be done and a translational focus is needed to ensure that effective interventions are scaled up and delivered to more people while at the same time maximising adherence and maintaining the fidelity of the interventions.

Language: en

Keywords

Fear of falling avoidance behavior in Parkinson's disease: most frequently avoided activities

Rider JV, Longhurst JK, Navalta JW, Young DL, Landers MR. OTJR 2022; ePub(ePub): ePub.

Abstract

BACKGROUND: Fear of falling avoidance behavior (FFAB) is common in Parkinson's disease (PD).

OBJECTIVES: The objectives of the study are to determine what activities are most avoided due to FFAB among people with PD and whether any associations exist with demographic factors or fall history.

METHOD: Cross-sectional analysis of 174 individuals with PD using the Modified FFAB Questionnaire.

RESULTS: Walking in dimly lit, unfamiliar places, and different surfaces, lifting and carrying objects, walking in crowded places, recreational/leisure activities, and going up/downstairs were most avoided. Fallers reported more FFAB (ps <.029). FFAB for certain activities was associated with increased or decreased odds of falling.

CONCLUSION: Individuals with PD avoid walking in compromised situations and engaging in recreational/leisure activities due to FFAB. While excessive FFAB may increase the odds of falling, protective forms may be associated with decreased odds. Targeting FFAB among individuals with PD may increase safe participation in meaningful occupations in the home and community.

Language: en

Fear of falling, cognition, and physical function in community-dwelling older adult

Wang QX, Ye ZM, Wu WJ, Zhang Y, Wang CL, Zheng HG. Nurs. Res. 2022; ePub(ePub): ePub.

Abstract

BACKGROUND: Fear of falling (FOF) might be associated with physical and cognitive function, but there is a lack of understanding of the specific relationship between the three variables.

OBJECTIVES: To accurately investigate the association of FOF with cognitive and physical function in community-dwelling older adults.

METHODS: A total of 669 older adults (> 60 years) participated in this study. A self-report questionnaire collected information about demographic characteristics, lifestyle, and behavioral habits. FOF was evaluated through the Shortened Version of the Falls Efficacy Scale International. Global cognitive function and the subdomains of cognitive function (including memory, visual-spatial, language, attention, and executive function) were assessed using the Montreal Cognitive Assessment (MoCA) scale, the Auditory Verbal Learning Test (AVLT), the Clock-Drawing Test (CDT), the Verbal Fluency Test, and the Trail Making Test. Subjective memory complaints were assessed using the Subjective Memory Complaints Questionnaire (SMCQ). Physical function was evaluated by measuring muscle strength and balance ability, and muscle strength was indicated by hand grip strength. In contrast, balance was assessed using the Timed Up and Go (TUG) Test.

RESULTS: After adjustment for potential confounding factors, the linear or ordinal regression analysis showed that the values of hand grip strength, MoCA, AVLT, and CDT were significantly and negatively correlated with the score of FOF. On the other hand, SMCQ and TUG Test values showed significant positive correlations with FOF scores. Moreover, compared with other cognitive or physical measures, the CDT and TUG Test values showed a greater association with the FOF scores.

DISCUSSION: Low subjective or objective cognitive ability and low physical function, especially low visuospatial and balance ability, were positively associated with the risk of FOF in a community-dwelling older population.

Language: en

Impact of the abandonment of assistive technologies for mobility on the incidence of serious falls in older adults living at home: results of the ECOCAT study

Sawadogo AR, Nys JF, Tran E, Gayot C, Boyer S, Cardinaud N, Thebaut C, Tchalla A. J. Rehabil. Assist. Technol. Eng. 2022; 9: e20556683221110866.

Abstract

PURPOSE: To examine the impact of discontinuing the use of assistive technology for mobility (ATM) devices on the 6-months incidence of falls in older adults (OA) living at home.

MATERIALS AND METHODS: A medico-socioeconomic survey was performed to collect information on the quality of life and well-being of older adults, before and 6 months after being loaned an ATM device. Personal data (medical, social, and economic) were collected via a geriatric survey.

RESULTS: In all, 102 OA participated in the study. Over the 6-months observation period, 17 (n = 81) serious falls were recorded among participants who were using their ATM device optimally; in those who discontinued device use, 12 falls (n = 21) were recorded (57.1%; p = 0.001). Factors significantly associated with falls at home were living in an urban area (odds ratio [OR]: 11.46; 95% confidence interval [CI]: 1.48; 88.98; p = 0.020), an Instrumental Activities of Daily Living Scale score > 4 (OR: 34.04; 95% CI: 1.59; 727.86; p = 0.024), and discontinuation of ATM device use (OR: 17.41; 95% CI: 2.59; 117.02; p = 0.003).

CONCLUSION: Discontinuation of ATM device use was associated with an increased risk for serious falls.

Language: en

Keywords

older adults; mobility; Assistive Technologies; devices; occupational therapists; serious falls

Mobility training for increasing mobility and functioning in older people with frailty

Abstract

BACKGROUND: Frailty is common in older people and is characterised by decline across multiple body systems, causing decreased physiological reserve and increased vulnerability to adverse health outcomes. It is estimated that 21% of the community-dwelling population over 65 years are frail. Frailty is independently predictive of falls, worsening mobility, deteriorating functioning, impaired activities of daily living, and death. The World Health Organization's International Classification of Functioning, Disability and Health (ICF) defines mobility as: changing and maintaining a body position, walking, and moving. Common interventions used to increase mobility include functional exercises, such as sit-to-stand, walking, or stepping practice.

OBJECTIVES: To summarise the evidence for the benefits and safety of mobility training on overall functioning and mobility in frail older people living in the community. SEARCH METHODS: We searched CENTRAL, MEDLINE, Embase, AMED, PEDro, US National Institutes of Health Ongoing Trials Register, and the World Health Organization International Clinical Trials Registry Platform (June 2021). SELECTION CRITERIA: We included randomised controlled trials (RCTs) evaluating the effects of mobility training on mobility and function in frail people aged 65+ years living in the community. We defined community as those residing either at home or in places that do not provide rehabilitative services or residential health-related care, for example, retirement villages, sheltered housing, or hostels. DATA COLLECTION AND ANALYSIS: We undertook an 'umbrella' comparison of all types of mobility training versus control. MAIN RESULTS: This review included 12 RCTs, with 1317 participants, carried out in 9 countries. The median number of participants in the trials was 97. The mean age of the included participants was 82 years. The majority of trials had unclear or high risk of bias for one or more items. All trials compared mobility training with a control intervention (defined as one that is not thought to improve mobility, such as general health education, social visits, very gentle exercise, or "sham" exercise not expected to impact on mobility). High-certainty evidence showed that mobility training improves the level of mobility upon completion of the intervention period. The mean mobility score was 4.69 in the control group, and with mobility training, this score improved by 1.00 point (95% confidence interval (CI) 0.51 to 1.51) on the Short Physical Performance Battery (on a scale of 0 to 12; higher scores indicate better mobility levels) (12 studies, 1151 participants). This is a clinically significant change (minimum clinically important difference: 0.5 points; absolute improvement of 8% (4% higher to 13% higher); number needed to treat for an additional beneficial outcome (NNTB) 5 (95% CI 3.00 to 9.00)). This benefit was maintained at six months post-intervention. Moderate-certainty evidence (downgraded for inconsistency) showed that mobility training likely improves the level of functioning upon completion of the

intervention. The mean function score was 86.1 in the control group, and with mobility training, this score improved by 8.58 points (95% CI 3.00 to 14.30) on the Barthel Index (on a scale of 0 to 100; higher scores indicate better functioning levels) (9 studies, 916 participants) (absolute improvement of 9% (3% higher to 14% higher)). This result did not reach clinical significance (9.8 points). This benefit did not appear to be maintained six months after the intervention. We are uncertain of the effect of mobility training on adverse events as we assessed the certainty of the evidence as very low (downgraded one level for imprecision and two levels for bias). The number of events was 771 per 1000 in the control group and 562 per 1000 in the group with mobility training (risk ratio (RR) 0.74, 95% CI 0.63 to 0.88; 2 studies, 225 participants) (absolute difference of 19% fewer (9% fewer to 26% fewer)). Mobility training may result in little to no difference in the number of people who are admitted to nursing care facilities at the end of the intervention period as the 95% confidence interval includes the possibility of both a reduced and increased number of admissions to nursing care facilities (low-certainty evidence, downgraded for imprecision and bias). The number of events was 248 per 1000 in the control group and 208 per 1000 in the group with mobility training (RR 0.84, 95% CI 0.53 to 1.34; 1 study, 241 participants) (absolute difference of 4% fewer (8% more to 12% fewer)). Mobility training may result in little to no difference in the number of people who fall as the 95% confidence interval includes the possibility of both a reduced and increased number of fallers (low-certainty evidence, downgraded for imprecision and study design limitations). The number of events was 573 per 1000 in the control group and 584 per 1000 in the group with mobility training (RR 1.02, 95% CI 0.87 to 1.20; 2 studies, 425 participants) (absolute improvement of 1% (12% more to 7% fewer)). Mobility training probably results in little to no difference in the death rate at the end of the intervention period as the 95% confidence interval includes the possibility of both a reduced and increased death rate (moderate-certainty evidence, downgraded for bias). The number of events was 51 per 1000 in the control group and 59 per 1000 in the group with mobility training (RR 1.16, 95% CI 0.64 to 2.10; 6 studies, 747 participants) (absolute improvement of 1% (6% more to 2% fewer)). AUTHORS' CONCLUSIONS: The data in the review supports the use of mobility training for improving mobility in a frail community-dwelling older population. High-certainty evidence shows that compared to control, mobility training improves the level of mobility, and moderate-certainty evidence shows it may improve the level of functioning in frail community-dwelling older people. There is moderate-certainty evidence that the improvement in mobility continues six months post-intervention. Mobility training may make little to no difference to the number of people who fall or are admitted to nursing care facilities, or to the death rate. We are unsure of the effect on adverse events as the certainty of evidence was very low.

Language: en

Physical exercise program on fall prevention using technological interface: pretest study

Abstract

BACKGROUND: Prevention of falls among older adults has boosted the development of technological solutions, requiring testing in clinical contexts and robust studies that need prior validation of procedures and data collection tools.
OBJECTIVE: The objectives of our study were to test the data collection procedure, train the team, and test the usability of the FallSensing Games app by older adults in a community setting.
METHODS: This study was conducted as a pretest of a future pilot study. Older adults were recruited in a day care center, and several tests were applied. Physical exercise sessions were held using the interactive FallSensing Games app. Nurse training strategies was completed.
RESULTS: A total of 11 older adults participated. The mean age was 75.08 (SD 3.80) years, mostly female (10/11, 91%) and with low (3-6 years) schooling (10/11, 91%). Clinically, the results show a group of older adults with comorbidities. Cognitive evaluation of the participants through the Mini Mental State Examination showed results with an average score of 25.64 (SD 3.5). Functional capacity assessed using the Lawton Instrumental Activities of Daily Living Scale (overall score from 0-23, with lower scores reflecting worse capacity to perform activities) showed impairment in different instrumental activities of daily living (average score 14.27). The data collection tool proved to enable easy interpretation; however, its structure needed small adjustments to facilitate the data collection process. Despite the length of the questionnaire, its implementation took an average of 21 minutes. For the assessment of the prevalence of fear of falling, the need to add a question was identified. The performance of functional tests under the guidance and presence of rehabilitation nurses ensured the safety of the participants. The interactive games were well accepted by the participants, and the physical exercises allowed data collection on the functionality of the older adults, such as the number of repetitions in the tests, range of movement (angle), duration of the movements, and execution of each cycle. Concerning the training of the nurses, it was crucial that they had experience with the platform, specifically the position of the chair facing the platform, the position of the feet, the posture of participants, and the use of sensors.
CONCLUSIONS: In the future pilot study, the researchers point out the need to design a study with mixed methods (quantitative and qualitative), thus enriching the study results.
Language: en

Keywords

Risk factors for falls among older adults in India: a systematic review and meta-analysis

Abstract

BACKGROUND AND AIM: Falls are common among older adults in India. Several primary studies on its risk factors have been conducted in India. However, no systematic review has been conducted on this topic. Thus, the objective of this systematic review was to synthesize the existing evidence on the risk factors for falls among older adults in India.

METHODS: JBI and Preferred Reporting Items for Systematic Reviews and Meta-Analyse guidelines were followed, and two independent reviewers were involved in the process. This review included observational studies conducted among older adults (aged ≥ 60 years) residing in India, reporting any risk factor for falls as exposure and unintentional fall as the outcome. MEDLINE, EMBASE, PsycInfo, CINAHL, and ProQuest Dissertations and Theses were searched until September 24, 2020. Where possible, data were synthesized using random-effects meta-analysis.

RESULTS: The literature search yielded 3445 records. Twenty-two studies met the inclusion criteria of this systematic review, and 19 studies were included in the meta-analysis. Out of the 22 included studies in the systematic review, 12 (out of 18) cross-sectional studies, two case-control studies, and two cohort studies met more than 70% criteria in the respective Joanna Briggs Institute (JBI) checklists. Risk factors for falls among older adults in India included sociodemographic factors, environmental factors, lifestyle factors, physical and/or mental health conditions, and medical interventions.

CONCLUSIONS: This systematic review and meta-analysis provided a holistic picture of the problem in India by considering a range of risk factors such as sociodemographic, environmental, lifestyle, physical and/or mental health conditions and medical intervention. These findings could be used to develop falls prevention interventions for older adults in India. SYSTEMATIC REVIEW AND META-ANALYSIS REGISTRATION: The systematic review and meta-analysis protocol was registered with PROSPERO (registration number-CRD42020204818).

Language: en

Keywords

India; risk factors; older adults; systematic review; falls; meta-analysis

Risk factors for fear of falling in stroke patients: a systematic review and meta-analysis

Abstract

OBJECTIVE: Even though 32%-83% for fear of falling (FoF) in patients with stroke, very little is known about the predictors of the problems. Therefore, we systematically reviewed the literature on risk factors for FoF in patients with stroke.

DESIGN: A systematic review and meta-analysis DATA SOURCES: PubMed, Embase, Cochrane Library database, Web of Science, CINAHL, PsycINFO, Grey literature and other relevant databases for related publications were searched (from inception to 17 July 2021).

RESULTS: Eight studies involving 1597 participants were selected to analyse risk factors for patients with stroke with FoF. The quality of all included studies was assessed and categorised as medium or high quality. Review Manager V.5.3 merged the OR value and 95% CI of the potential risk factors. Meta-regression and Egger's test were performed by Stata V.15.1. The risk factors for FoF in patients with stroke were women (OR=2.13, 95% CI 1.47 to 3.09), impaired balance ability (OR=5.54; 95% CI 3.48 to 8.81), lower mobility (OR=1.12; 95% CI 1.05 to 1.19), history of falls (OR=2.33; 95% CI 1.54 to 3.53) and walking aid (OR=1.98; 95% CI 1.37 to 2.88), anxiety (OR=2.29; 95% CI 1.43 to 3.67), depression (OR=1.80; 95% CI 1.22 to 2.67), poor lower limb motor function (OR=1.14; 95% CI 1.00 to 1.29) and physically inactiveness (OR=2.04; 95% CI 1.01 to 4.12). Measurement of heterogeneity between studies was high for all outcomes (I(2) =0%-93%), indicating that the substantial interstudy heterogeneity in estimated proportions was not attributed to the sampling error. Sensitivity analysis (leave-one-out method) showed that the pooled estimate was stable.

CONCLUSION: This meta-analysis indicated that female population, impaired balance ability, lower mobility, history of falls and walking aid in patients with stroke might be at greater risk for FoF. Future studies are recommended to determine other risk factors specific to patients with stroke.

Language: en

Keywords

The association between tree canopy cover over streets and elderly pedestrian falls: a health disparity study in urban areas

Abstract

Older pedestrians are vulnerable to outdoor falling while walking on streets/sidewalks, but few studies have examined the role of the street environment and tree canopy cover over streets in relation to pedestrian falls among the elderly. We used spatial analysis to examine the association between tree canopy cover over streets and pedestrian falls reported to Emergency Medical Service (EMS) providers from March 2013 to February 2020 among adults aged 65 and older living in urban areas of Marin County, CA. Tree canopy cover over streets was measured using 1-m resolution of tree canopy within street polygons. After controlling for socioeconomic status and built environments, we found an inverse association between tree canopy cover over streets and elderly pedestrian fall rates at the census block level. Specifically, with a 10-percentage point increase in tree canopy cover over streets of a block, we expected to see about an 11.2% decrease in the elderly pedestrian fall rate. We found that the inverse relationship between tree canopy cover over streets and elderly pedestrian falls was only significant during the leaf-on season in the spring and summer. Finally, sub-analysis found that the relationship between tree canopy cover over streets and elderly pedestrian falls was stronger in low-income areas, compared to high-income areas. Planting street trees is a potential evidence-based intervention to prevent pedestrian falls. However, special attention must go beyond the quantity of tree canopy cover over streets to consider biophysical factors and social conditions.

Language: en

Keywords

Elderly pedestrian falls; Health disparity; Outdoor falls; Tree canopy cover over streets

The prevalence of polypharmacy and fall-risk-increasing drugs after hospital discharge for hip fracture: A retrospective study

Zidrou C, Vasiliadis AV, Tsatlidou M, Charitoudis G, Beletsiotis A. J. Frailty Sarcopenia Falls 2022; 7(2): 81-87.

Abstract

OBJECTIVES: To evaluate the incidence of polypharmacy and the use of fall-risk-increasing drugs (FRIDs) in patients >65 years of age.

METHODS: 478 patients >65 years old, discharged from an Orthopaedic Department because of hip-fracture surgery, capable of walking before surgery, were included. The baseline characteristics of the patients and the total numbers of drugs and FRIDs were recorded from the electronic hospital registration system. Polypharmacy was defined as the average daily use of five or more drugs. The gender differences in drug prescriptions were calculated.

RESULTS: All the patients took medications except for eight (1.7%); 46% of the patients were taking <5 medications, while 386 (80.8%) were taking ≤3 FRIDs. The female patients were taking more drugs (5±2.7) and FRIDs (2.4±1.3) than the male ones (4.5±3 and 1.9±1.3) (both p<0.01). The average numbers of drugs and FRIDs prescribed at discharge were 4.9±2.8 and 2.3±1.3, respectively. The Barthel Index was higher for patients taking <5 drugs, while the length of hospital stay was greater for patients taking ≥5 medications. Increased age was associated with taking ≥5 medications (p<0.05).

CONCLUSIONS: Polypharmacy and FRID use are prevalent among patients over 65 years old who have been hospitalized and surgically treated because of hip fractures.

Language: en

Keywords

Clinical decision support for fall prevention: defining end-user needs

Rice H, Garabedian PM, Shear K, Bjarnadottir RI, Burns Z, Latham NK, Schentrup D, Lucero RJ, Dykes PC. Appl. Clin. Inform. 2022; 13(3): 647-655.

Abstract

BACKGROUND AND SIGNIFICANCE: Falls in community-dwelling older adults are common, and there is a lack of clinical decision support (CDS) to provide health care providers with effective, individualized fall prevention recommendations.

OBJECTIVES: The goal of this research is to identify end-user (primary care staff and patients) needs through a human-centered design process for a tool that will generate CDS to protect older adults from falls and injuries.

METHODS: Primary care staff (primary care providers, care coordinator nurses, licensed practical nurses, and medical assistants) and community-dwelling patients aged 60 years or older associated with Brigham & Women's Hospital-affiliated primary care clinics and the University of Florida Health Archer Family Health Care primary care clinic were eligible to participate in this study. Through semi-structured and exploratory interviews with participants, our team identified end-user needs through content analysis.

RESULTS: User needs for primary care staff (n = 24) and patients (n = 18) were categorized under the following themes: workload burden; systematic communication; in-person assessment of patient condition; personal support networks; motivational tools; patient understanding of fall risk; individualized resources; and evidence-based safe exercises and expert guidance. While some of these themes are specific to either primary care staff or patients, several address needs expressed by both groups of end-users.

CONCLUSION: Our findings suggest that there are many care gaps in fall prevention management in primary care and that personalized, actionable, and evidence-based CDS has the potential to address some of these gaps.

Language: en

Dysfunction in dynamic, but not static balance is associated with risk of accidental falls in hemodialysis patients: a prospective cohort study

Abstract

BACKGROUND: Patients with chronic kidney disease undergoing hemodialysis (HD) have a high incidence of falls. Impairment of balance function is a risk factor for falls in the general elderly, and no report examining the association between balance dysfunction and fall incidence in HD patients exists.

METHODS: This prospective cohort study was conducted at a single center. The timed-up-and-go test (TUG) as a dynamic balance function was performed and length of the center of pressure (CoP) as a static balance function was measured before and after the HD session at baseline. Data of the number and detailed information of accidental falls for 1 year were collected. Multiple regression analyses were performed to assess the relationships between the number of falls and balance function.

RESULTS: Forty-three patients undergoing HD were enrolled in the study. During 1 year of observation, 24 (55.8%) patients experienced accidental falls. TUG time was longer, and CoP was shorter in the post-HD session than in the pre-HD session. Adjusted multiple regression analyses showed that the number of accidental falls was independently associated with TUG time in the pre-HD session (B 0.267, p < 0.001, R(2) 0.413) and that in the post-HD session (B 0.257, p < 0.001, R(2) 0.530), but not with CoP.

CONCLUSIONS: Dynamic balance was associated with fall incidence in maintenance HD patients. The evaluation and intervention of dynamic balance function might reduce the risk of falls in HD patients. TRIAL REGISTRATION: This study was carried out with the approval of the Niigata Rinko Hospital Ethics Committee (approval number 2005-92) (Registered on December 11, 2019) and registered in The University Hospital Medical Information Network (registration number 000040618).

Language: en

Keywords

Accidental falls; Dynamic balance; Hemodialysis; Static balance

Effects of sleep duration on falls in a West Virginia population-based study, BRFSS, 2018

Abstract

INTRODUCTION: West Virginia is a state in which most counties are rural, as well as a state with multiple health disparities among its population. The purpose of this study was to determine the association of sleep duration and falls for non-institutionalized West Virginia adults, aged 40 years and above, using the National Sleep Foundation's definition of "may be appropriate" and "not recommended" sleep durations for specific ages.

METHODS: Behavior Risk Factor Surveillance System (BRFSS) 2018 data concerning West Virginia residents were extracted for sleep duration and number of falls within the previous year. Data were analyzed with Chi square and logistic regression analyses on falls.

RESULTS: There were 2780 participants, aged 45 years and above. Slightly more than half (51.0%) were female. In adjusted logistic regression analysis, the adjusted odds ratio for falls in participants who did not have the recommended sleep duration was 1.77; 95%CI: 1.38, 2.27; p<0.0001 as compared with participants who did have the recommended sleep duration.

CONCLUSION: Inadequate sleep duration, based on age, was associated with ≥1 falls within the previous year in a West Virginia Appalachian population.

Language: en

Keywords

Falls in oldest-old adults hospitalized in acute geriatric ward

Oren G, Jolkovsky S, Tal S. Eur. Geriatr. Med. 2022; ePub(ePub): ePub.

Abstract

PURPOSE: The study aims to identify risk factors for falling among acutely ill older patients, hospitalized in acute geriatric ward.

METHODS: A retrospective study of 260 cases of patients who had fallen and 439 controls was conducted in a geriatric ward. We retrieved from the electronic hospital records data including patient demographics, medical diagnoses, and laboratory results, and drugs taken prior to the fall were reviewed. In addition, data on functional and cognitive status were recorded. Admission Morse Falls Scale for every patient was also retrieved.

RESULTS: The following on-admission diagnoses were associated with a higher incidence of falls during hospitalization: hypertension (84% vs. 38%), congestive heart failure (CHF), 74% vs 16%, dementia (36% vs. 5%), and delirium (36% vs 5%). A higher percentage of fallers compared to controls consumed beta blockers (69% vs. 53%), benzodiazepines (46% vs. 32%), antidepressants (33% vs. 23%), oral diabetes drugs (20% vs. 11%) and opiates (8% vs. 4%). On-admission Morse Falls Scale score was found to be higher in the patients who fell (59 vs.53). The strongest predictors of falling during hospitalization were CHF, hypertension, dementia, delirium, assisted mobility and dependence.

CONCLUSION: A systematic screening of risk factors for falls and identification of them might contribute to reducing the risk associated with falls during hospitalization.

Language: en

Keywords

Falls; Risk factors; Acute geriatric ward; Hospitalized patients; Oldest-old

Perspectives of primary care providers on multidisciplinary collaboration to prevent medication-related falls

Abstract

BACKGROUND: The causes of falls are often multifactorial. The prevention of falls benefits from a multidisciplinary approach. As people who fall are generally older and users of polypharmacy who frequently visit pharmacies, pharmacists may contribute to fall prevention.

OBJECTIVES: This study aims to explore the perceptions of primary care providers on multidisciplinary collaboration in fall prevention especially with pharmacists.

METHODS: Two focus groups were held with each of the following health disciplines: physiotherapists, home care nurses, and practice nurses. A topic list was developed based on the capability opportunity motivation - behaviour (COM-B) model and the theoretical domains framework (TDF). Focus groups were audiotaped and transcribed verbatim. Data were collected in the Netherlands between March and June 2021.

RESULTS: Six online focus groups were held with 17 physiotherapists, 14 home care nurses, and 15 practice nurses. Participants reported to collaborate multidisciplinary to prevent falls, but they had very limited collaboration with community pharmacists regarding fall prevention. Participants had limited knowledge on drugs that increase the risk of falls. This contributed to their low awareness of the potential role of pharmacists in fall prevention. Other reasons for poor collaboration in fall prevention were lack of agreements with pharmacists, limited coordination and communication. Participants were open to more collaboration with pharmacists and believed this could potentially improve patient outcomes.

CONCLUSIONS: Multidisciplinary agreements among health care providers, including community pharmacists, about referral criteria, roles and responsibilities, communication and coordination, could stimulate further collaboration in fall prevention.

Language: en