

Safety Literature 8th December 2019

A mixed methods process evaluation of a person-centred falls prevention program

Morris RL, Hill KD, Ackerman IN, Ayton D, Arendts G, Brand C, Cameron P, Etherton-Beer CD, Flicker L, Hill AM, Hunter P, Lowthian JA, Morello R, Nyman SR, Redfern J, Smit V, Barker AL. *BMC Health Serv. Res.* 2019; 19(1): 906.

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Abstract

BACKGROUND: RESPOND is a telephone-based falls prevention program for older people who present to a hospital emergency department (ED) with a fall. A randomised controlled trial (RCT) found RESPOND to be effective at reducing the rate of falls and fractures, compared with usual care, but not fall injuries or hospitalisations. This process evaluation aimed to determine whether RESPOND was implemented as planned, and identify implementation barriers and facilitators.

METHODS: A mixed-methods evaluation was conducted alongside the RCT. Evaluation participants were the RESPOND intervention group (n = 263) and the clinicians delivering RESPOND (n = 7). Evaluation data were collected from participant recruitment and intervention records, hospital administrative records, audio-recordings of intervention sessions, and participant questionnaires. The Rochester Participatory Decision-Making Scale (RPAD) was used to evaluate person-centredness (score range 0 (worst) - 9 (best)). Process factors were compared with pre-specified criteria to determine implementation fidelity. Six focus groups were held with participants (n = 41), and interviews were conducted with RESPOND clinicians (n = 6). Quantitative data were analysed descriptively and qualitative data thematically. Barriers and facilitators to implementation were mapped to the 'Capability, Opportunity, Motivation - Behaviour' (COM-B) behaviour change framework.

RESULTS: RESPOND was implemented at a lower dose than the planned 10 h over 6 months, with a median (IQR) of 2.9 h (2.1, 4). The majority (76%) of participants received their first intervention session within 1 month of hospital discharge with a median (IQR) of 18 (12, 30) days. Clinicians delivered the program in a person-centred manner with a median (IQR) RPAD score of 7 (6.5, 7.5) and 87% of questionnaire respondents were satisfied with the program. The reports from participants and clinicians suggested that implementation was facilitated by the use of positive and personally relevant health messages. Complex health and social issues were the main barriers to implementation.

CONCLUSIONS: RESPOND was person-centred and reduced falls and fractures at a substantially lower dose, using fewer resources, than anticipated. However, the low dose

delivered may account for the lack of effect on falls injuries and hospitalisations. The results from this evaluation provide detailed information to guide future implementation of RESPOND or similar programs. TRIAL REGISTRATION: This study was registered with the Australian New Zealand Clinical Trials Registry, number ACTRN12614000336684 (27 March 2014).

Language: en

Keywords

Falls prevention; emergency department; fractures; older adults; process evaluation, complex intervention, mixed methods

Age-related differences to neck range of motion and muscle strength: potential risk factors to fall-related traumatic brain injuries

Wood TA, Sosnoff JJ. Aging Clin. Exp. Res. 2019; ePub(ePub): ePub.

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Abstract

BACKGROUND: Fall-related traumatic brain injuries (TBIs) are a serious health concern for adults over the age of 75 years, yet there is limited knowledge on possible modifiable risk factors. The neck is responsible for supporting the head during falls and age-related differences to the neck muscular could provide modifiable risk factors. However, there is limited empirical data pertaining to age-related differences in neck range of motion (ROM) and muscle strength in adults over the age of 75 years. **AIMS:** To understand the age-related differences in neck muscle ROM and strength, we quantified neck active and passive ROM and isometric strength in four directions in young (18-30 years), young-old (60-74 years) and old-old (75-89 years) groups.

METHODS: 57 participants were divided into groups based on age. Participants underwent testing of neck active and passive ROM and neck isometric strength in flexion, extension, and lateral flexion.

RESULTS: One-way ANOVAs revealed a significant effect of group on active and passive ROM in flexion, extension, and right and left lateral flexion ($p < 0.001$). Moreover, one-way ANOVAs revealed a significant group difference in only left lateral flexion strength ($p < 0.030$), yet there were large effect sizes observed between the young and old-old groups.

DISCUSSION: These findings suggest there are some age-related differences to the neck ROM and strength, which may be placing older adults at a greater risk for fall-related TBIs.

CONCLUSION: Future research should investigate the association between neck ROM and strength and head impact during falls in older adults.

Language: en

Keywords

Aging; Muscle strength; Neck; Range of motion; Traumatic brain injuries

Automated detection of multidirectional compensatory balance reactions: a step towards tracking naturally-occurring near-falls

Nouredanesh M, Gordt K, Schwenk M, Tung J. IEEE Trans. Neural Syst. Rehabil. Eng. 2019; ePub(ePub): ePub.

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PMID

31794400

Abstract

Falls are the leading cause of fatal and non-fatal injuries among seniors with serious and costly consequences. Laboratory evidence supports the view that impaired ability to execute compensatory balance reactions (CBRs) or near-falls is linked to an increased risk of falling. Therefore, as an alternative to the commonly used fall risk assessment methods examining spatial-temporal parameters of gait, this study focuses on the development of machine learning-based models to detect multidirectional CBRs using wearable inertial measurement units (IMUs). Random forest models were developed based upon the data captured by five wearable IMUs to 1) detect CBRs during normal gait, and 2) identify the type of CBR (eight different classes). A perturbation treadmill (PT) was employed to systematically elicit CBRs (i.e. PT-CBRs) during walking in different directions (e.g slip-like, trip-like, and medio-lateral) and amplitudes (e.g., low-, high-amplitude). We hypothesized that these PT-CBRs could simulate naturally-occurring CBRs (N-CBRs). Proof-of-concept testing in 9 young, healthy adults demonstrated accuracies of 96.60% and 80.64% for the PT-CBR detection and type identification models, respectively. Performance of the detection model was tested against a published dataset (IMUFD) simulating N-CBRs, including the most common types observed in older adults in long-term care facilities, which achieved sensitivity of 100%, but poor specificity. Adding normal gait data from IMUFD for training improved specificity, indicating treadmill walking alone is insufficient exemplar data. Perturbation treadmill combined with overground walking data is a suitable paradigm to collect training datasets of involuntary CBR events. These findings suggest that accurate detection of naturally-occurring CBRs is feasible, and supports further investigation of implementing a wearable sensor system to track of naturally-occurring CBRs as a novel means of fall risk assessment.

Language: en

Correlates of fear of falling and falls efficacy in geriatric patients recovering from hip/pelvic fracture

Eckert T, Kampe K, Kohler M, Albrecht D, Büchele G, Hauer K, Schäufele M, Becker C, Pfeiffer K. Clin. Rehabil. 2019; ePub(ePub): ePub.

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Abstract

OBJECTIVE: To gain a better understanding about the nature of fear of falling, this study analyzed associations between psychological and physical aspects related to fear of falling and falls efficacy in hip/pelvic fracture patients.

DESIGN: Baseline data of a randomized controlled trial. **SETTING:** Geriatric inpatient rehabilitation hospital. **SUBJECTS:** In all, 115 geriatric patients with hip/pelvic fracture (mean age: 82.5 years) reporting fear of falling within first week of inpatient rehabilitation. **INTERVENTIONS:** None. **MAIN MEASURES:** Falls efficacy (Short Falls Efficacy Scale-International; Perceived Ability to Manage Falls), fear of falling (one-item question), fall-related post-traumatic stress symptoms (six items based on Diagnostic and Statistical Manual of Mental Disorders (4th ed.; DSM-IV) criteria), physical performance (Short Physical Performance Battery) and psychological inflexibility (Acceptance and Action Questionnaire-II) were assessed.

RESULTS: Path analyses demonstrated that low falls efficacy (Short Falls Efficacy Scale International) was significantly related to poor physical performance ($\beta^* = -.277, P \leq .001$), but not to psychological inflexibility and fall-related post-traumatic stress symptoms ($P \geq .05$). Fear of falling was directly associated with fall-related post-traumatic stress symptoms ($\beta^* = .270, P = .007$) and indirectly with psychological inflexibility ($\beta^* = .110, P = .022$). Low perceived ability to manage falls was significantly related to previous falls ($\beta^* = -.348, P \leq .001$), psychological inflexibility ($\beta^* = -.216, P = .022$) and female gender ($\beta^* = -.239, P \leq .01$).

CONCLUSION: Falls efficacy and fear of falling constitute distinct constructs. Falls efficacy measured with the Short Falls Efficacy Scale International reflects the appraisal of poor physical performance. Fear of falling measured by the single-item question constitutes a fall-specific psychological construct associated with psychological inflexibility and fall-related post-traumatic stress symptoms.

Language: en

Keywords Hip fracture; elderly; falls efficacy; fear of falling; post-traumatic stress

Effects of exergaming on balance of healthy older adults: a systematic review and meta-analysis of randomized controlled trials

Fang Q, Ghanouni P, Anderson SE, Touchett H, Shirley R, Fang F, Fang C. *Games Health J.* 2019; ePub(ePub): ePub.

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Abstract

Balance is critical for older adults to perform daily activities. However, age-related declines in balance increase the risk of falls and severe injuries, such as bone fractures and head injuries. Exergames have been widely applied to improve health-related outcomes in older adults. This meta-analysis aims to quantify the effects of exergaming interventions on balance performance in healthy older adults. A literature search was performed using PubMed, ScienceDirect, SPORTDiscus, COCHRANE, EBSCO, and EMBASE. A total of 16 experimental studies met inclusion criteria for a full-text review. Data synthesis examined balance functions, including static, dynamic, proactive, and perceived balance abilities when performing daily activities. Intervention protocols of the reviewed studies included an average of two to three 40-minute exergaming sessions per week for 8 weeks. A random effects model identified significant effects in favor of the exergaming group, with moderate effect size in dynamic balance (Hedges' $g = 0.36$, 95% CI = 0.26-1.30, $P < 0.001$), and perceived balance (Hedges' $g = 0.31$, 95% CI = 0.04-0.58, $P = 0.02$); and considerable effect size in Chair Stand Test (Hedges' $g = 0.78$, 95% CI = 0.26-1.30, $P = 0.003$), and balance test batteries (Hedges' $g = 0.72$, 95% CI = 0.42-1.02, $P < 0.001$). No significant effect was found in the static balance (Hedges' $g = 0.22$, 95% CI = -0.31 to 0.76, $P = 0.42$), or proactive balance (Hedges' $g = 0.54$, 95% CI = -0.12 to 1.20, $P = 0.11$). Meta-analysis identified exergaming-associated benefits in older adults' balance function and confidence. This finding supports the feasibility of exergaming as a supplementary approach to improve balance for healthy older adults. Health professionals may optimize treatment effect by integrating exergaming sessions into a traditional balance exercise program.

Language: en

Keywords

Balance; Exergames; Meta-analysis; Older adults; Videogames; Virtual reality



Effects of Nintendo Wii fit game training on balance among Lebanese older adults

Fakhro MA, Hadchiti R, Awad B. Aging Clin. Exp. Res. 2019; ePub(ePub): ePub.

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Abstract

BACKGROUND: Falls are the second leading cause of accidental death, with persons older than 65 years being the most affected. Moreover, gait- and balance-related problems represent the most consistent predictors of future falls. **AIMS:** The aim was to determine the effects of Wii fit game training on dynamic and static balance among Lebanese older adults.

METHODS: A randomized-controlled trial was conducted over a period of 8 weeks, where institutionalized older adults with no history of falls were randomized into two groups. The participants of each group were carefully followed up during the intervention and data collection periods. The intervention group was trained for standing balance during a 40-min session, starting with the "Soccer Heading" game during the first 4 weeks, followed by the "Table Tilt" game for the remaining 4 weeks. Timed up-and-go (TUG) test and the Nintendo Wii Balance Board were used to measure the dynamic and static balance, respectively, both at baseline and post-intervention.

RESULTS: Sixty-four participants recruited from both, the Tyre and Saida districts were enrolled in the study. Within-group comparison of TUG test values between baseline and post-intervention; both groups showed an extremely significant difference ($P = 0.000$). Similarly, the between-group comparison showed a significant difference ($P = 0.013$). Concerning the center of pressure measures, only the intervention group showed a very significant improvement between baseline and post-intervention measures ($P = 0.002$).

CONCLUSION: Wii fit balance training is a valid method for improving both dynamic and static balance among Lebanese older adults.

Language: en

Keywords

Dynamic balance; Falls; Older adults; Static balance; Wii fit

Exercise for preventing falls in older people living in the community: an abridged Cochrane systematic Review

Sherrington C, Fairhall N, Wallbank G, Tiedemann A, Michaleff ZA, Howard K, Clemson L, Hopewell S, Lamb S. *Br. J. Sports Med.* 2019; ePub(ePub): ePub.

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PMID 31792067

Abstract

OBJECTIVES: To assess the effects of exercise interventions for preventing falls in older people living in the community. **SELECTION CRITERIA:** We included randomised controlled trials evaluating the effects of any form of exercise as a single intervention on falls in people aged 60+years living in the community.

RESULTS: Exercise reduces the rate of falls by 23% (rate ratio (RaR) 0.77, 95% CI 0.71 to 0.83; 12 981 participants, 59 studies; high-certainty evidence). Subgroup analyses showed no evidence of a difference in effect on falls on the basis of risk of falling as a trial inclusion criterion, participant age 75 years+ or group versus individual exercise but revealed a larger effect of exercise in trials where interventions were delivered by a health professional (usually a physiotherapist). Different forms of exercise had different impacts on falls. Compared with control, balance and functional exercises reduce the rate of falls by 24% (RaR 0.76, 95% CI 0.70 to 0.81; 7920 participants, 39 studies; high-certainty evidence). Multiple types of exercise (commonly balance and functional exercises plus resistance exercises) probably reduce the rate of falls by 34% (RaR 0.66, 95% CI 0.50 to 0.88; 1374 participants, 11 studies; moderate-certainty evidence). Tai Chi may reduce the rate of falls by 19% (RaR 0.81, 95% CI 0.67 to 0.99; 2655 participants, 7 studies; low-certainty evidence). We are uncertain of the effects of programmes that primarily involve resistance training, dance or walking.

CONCLUSIONS AND IMPLICATIONS: Given the certainty of evidence, effective programmes should now be implemented.

Language: en

Keywords

aging/ageing; exercise; fall; functional; meta-analysis

Feasibility and accuracy of different methods for collecting data on falls among older people with dementia

Adamczewska N, Vassallo M, Thomas PW, Thomas S, Barrado-Martín Y, Nyman SR. *Alzheimer Dis. Assoc. Disord.* 2019; ePub(ePub): ePub.

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DOI

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PMID

31789633

Abstract

This study compared different methods for collecting data on falls among people with dementia to identify which is most feasible and accurate. Eighty-three dyads, comprised of a community-dwelling person with dementia and their informal carer, participated in the TAI ChI for people with demenTia (TACIT) trial. Falls were collected prospectively over 6 months using monthly calendars, weekly and monthly telephone interviews, and 3-monthly telephone interviews with the carer. Unique falls identified across the reporting methods were combined, and this total was compared against each reporting method in isolation and combinations. A higher frequency of falls indicated greater accuracy. Falls data collection was most feasible with weekly telephone interviews (84%), and most accurate with the combination of weekly telephone interviews with monthly calendars (96%). For the greatest completeness and accuracy of falls data with community-dwelling people with dementia, researchers should use both weekly telephone interviews and monthly calendars.

Language: en

Malnutrition according to the European Society of Clinical Nutrition and Metabolism (ESPEN) definition and falls in general older population: Findings in the EPIDOS study-Toulouse cohort

Sánchez-Rodríguez D, Rolland Y, Annweiler C. Clin. Nutr. 2019; ePub(ePub): ePub.

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31787370

Abstract

Malnutrition is a disease related to musculoskeletal health; it impairs mobility and constitutes a major cause of mortality. The European Society of Clinical Nutrition and Metabolism (ESPEN) criteria define malnutrition as a low fat-free mass together with weight loss and a low age- and sex-specific body mass index ...

Language: en

Organizational factors of fall injuries among residents within German nursing homes: secondary analyses of cross-sectional data

Zimmermann J, Swora M, Pfaff H, Zank S. Eur. J. Ageing 2019; 16(4): 503-512.

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DOI

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PMID

31798374

Abstract

The present study explored risk factors for fall injuries among nursing home residents, with a specific focus on the influence of organizational structure within facilities and their environment, which have been insufficiently investigated in the European context. For the analyses, secondary data collected in 2016 from 220 nursing homes across Germany were used. As a risk adjustment, two separate models were calculated for fall injuries among residents without ($N = 7320$) and with cognitive impairment ($N = 8633$).

RESULTS showed that residents without cognitive impairment had a decreased risk of fall injuries by 40.1% ($P < 0.01$), while those with cognitive impairment were at an increased risk of 23.8% ($P < 0.05$) when living in facilities that had dementia care units. However, disparities were found between federal states for both groups of residents ($P < 0.05$ vs. $P < 0.01$, respectively). Similarly, a higher proportion of registered nurses were associated with decreased risk of fall injuries among cognitively impaired residents (45.6%), which differed between federal states ($P < 0.01$). Facilities with homelike environments had a 16.7% ($P < 0.05$) lower risk of fall injuries among cognitively impaired residents than did traditionally organized facilities. Further research is needed to explain the disparities between German federal states using representative samples.

Language: en

Keywords

Adverse care outcome; Fall injury; Long-term care; Older adult

Prevalence of falls in elderly people: a population based study

Almeida LMDS, Meucci RD, Dumith SC. Rev. Assoc. Med. Bras. (1992) 2019; 65(11): 1397-1403.

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10.1590/1806-9282.65.11.1397

PMID

31800903

Abstract

INTRODUCTION: The occurrence of falls is related to a complex interaction of risk factors, aggravated by aging. This research aimed to investigate the occurrence of falls in the elderly, as well as to identify the risk factors for this event.

METHODS: A cross-sectional, population-based study conducted in a municipality in the extreme south of Brasil. Probabilistic sampling was used, the sample unit being the census tracts. Data were collected through home interviews. The research was approved by the research ethics committee.

RESULTS AND DISCUSSION: This study was performed using a sample of 211 elderly individuals. The prevalence of falls was 28.9% (95% CI 22.8 to 35.0). ($P = 0.01$), living alone ($p = 0.04$), self-perception of regular or poor health ($p = 0.03$), and obesity ($p = 0.01$).

CONCLUSIONS: We found that approximately one in three elderly individuals fell in the last year.

Language: en

The association between health beliefs and fall-related behaviors and its implication for fall intervention among Chinese elderly

Li F, Zhou D, Chen Y, Yu Y, Gao N, Peng J, Wang S. *Int. J. Environ. Res. Public Health* 2019; 16(23): e16234774.

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Abstract

To apply the Health Belief Model (HBM) to fall prevention of the elderly and estimate fall health beliefs and their relationships with fall-related behaviors, a citywide cross-sectional study was conducted among people aged 60 years or over in 13 out of 16 districts in Shanghai, China, in September 2018. A total of 5833 participants were investigated. Of this, 43.4% were male; 48.8% were aged 60-69; 18.1% were uneducated; and 50.3% were living in urban areas. People who were older, less educated, living in rural areas generally had lower scores in the 7 HBM dimensions and also had lower proportions of fall risk-reduction behaviors, except that the less educated elderly were more likely to participate in exercise and training and the rural elderly were more likely to check house environment and participate in exercise and training ($p < 0.001$). The HBM dimensions were generally positively correlated with the risk-reduction behaviors except that "perceived severity" was negatively correlated with four risk-reduction behaviors and behavior number, "cues to action" was negatively correlated with purchasing shoes, and "perceived benefits" was negatively correlated with participating in exercise activities and fall prevention training ($p < 0.05$). When HBM is applied in the field of fall prevention, the interpretation of the results of each dimension has its characteristics in the fields of injury research. Fall prevention strategies should focus on improving the health beliefs and behaviors in those who were older, less educated and living in rural areas, implementing different levels of fall prevention activities to meet different needs, improving the accessibility and applicability of related resources, and raising the organizational level of related fall prevention activities.

Language: en

Keywords

association; falls; health belief; risk behavior; the elderly

The efficacy and safety of exercise for prevention of fall-related injuries in older people with different health conditions, and differing intervention protocols: a meta-analysis of randomized controlled trials

Zhao R, Bu W, Chen X. BMC Geriatr. 2019; 19(1): e341.

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Abstract

BACKGROUND: Whether exercise prevents fall-related injuries in different health conditions and with different training protocols is still unclear. This study aimed to determine the effect of exercise on fall-related injuries by participant characteristics and divergent exercise protocols. The safety and compliance of exercise were also examined.

METHODS: Electronic database searches were conducted in PubMed, Web of Science, and EMBASE for randomised controlled trials that evaluated the influence of exercise on fall-induced injuries in older people.

RESULTS: Twenty-five trials met the inclusion criteria. Exercise significantly reduced the risk of fall-related injuries in older adults, risk ratio (RR) 0.879 [95% confidence interval (CI) 0.832-0.928]. Among the injuries, events needing medical care or resulting fractures were also decreased by exercise intervention, with RR 0.681 (0.562-0.825) and 0.561 (0.366-0.860), respectively. When analysis was stratified by participant characteristics and exercise protocols, we found that participants at high risk of falling, or with osteoporosis, were sensitive to exercise intervention. Combined exercise protocols and balance training were the most effective exercise types in reducing fall-related injuries. Exercise-associated beneficial effects were even significant in very old people (≥ 80 years) and across the duration of interventions (< 6 months, 6 to 12 months and ≥ 12 months). Exercise only generated a very low injury rate per participant year (0.002, 95% CI 0-0.05) and showed relatively good compliance of exercise (as reported in the included papers) (78.5, 95% CI 72.8-84.2%).

CONCLUSIONS: Exercise is effective in preventing fall-induced injuries across a variety of baseline participant characteristics and exercise protocols. Exercise was associated with a low injury rate and had a good compliance, suggesting it is a feasible approach to managing fall-related injuries.

Language: en

Keywords

Exercise; Exercise protocols; Health status; Injurious falls; Older people



The Multidimensional Prognostic Index predicts falls in older people: an 8-year longitudinal cohort study of the Osteoarthritis Initiative

Veronese N, Siri G, Cella A, Maggi S, Zigoura E, Puntoni M, Smith L, Musacchio C, Barone A, Sabbà C, Vallone F, Pilotto A. *J. Am. Med. Dir. Assoc.* 2019; ePub(ePub): ePub.

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Abstract

OBJECTIVES: Falls are associated with several negative outcomes. Early identification of those who are at risk of falling is of importance in geriatrics, and comprehensive geriatric assessment (CGA) seems to be promising in this regard. Therefore, the present study investigated whether the multidimensional prognostic index (MPI), based on a standard CGA, is associated with falls in the Osteoarthritis Initiative (OAI).

DESIGN: Longitudinal, 8 years of follow-up. **SETTING AND PARTICIPANTS:** Community-dwelling older people (≥ 65 years of age) with knee osteoarthritis or at high risk for this condition.

METHODS: A standardized CGA including information on functional, nutritional, mood, comorbidities, medications, quality of life, and cohabitation status was used to calculate a modified version of the MPI, categorized as MPI-1 (low), MPI-2 (moderate), and MPI-3 (high risk). Falls were self-reported and recurrent fallers were defined as ≥ 2 in the previous year. Logistic regression was carried out and results are reported as odds ratio (ORs) with their 95% confidence intervals (CIs).

RESULTS: The final sample consisted of 885 older adults (mean age 71.3 years, female = 54.6%). Recurrent fallers showed a significant higher MPI than their counterparts (0.46 ± 0.17 vs 0.38 ± 0.16 ; $P < .001$). Compared with those in MPI-1 category, participants in MPI-2 (OR 2.13; 95% CI 1.53–2.94; $P < .001$) and in MPI-3 (OR 5.98; 95% CI 3.29–10.86; $P < .001$) reported a significant higher risk of recurrent falls over the 8-years of follow-up. Similar results were evident when using an increase in 0.1 points in the MPI or risk of falls after 1 year.

CONCLUSIONS AND IMPLICATIONS: Higher MPI values at baseline were associated with an increased risk of recurrent falls, suggesting the importance of CGA in predicting falls in older people.

Language: en

Keywords Multidimensional prognostic index; comprehensive geriatric assessment; falls; osteoarthritis initiative

To STOPP or to START? Potentially inappropriate prescribing in older patients with falls and syncope

de Ruiter SC, Biesheuvel SS, van Haelst IMM, van Marum RJ, Jansen RWMM. *Maturitas* 2020; 131: 65-71.

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DOI

10.1016/j.maturitas.2019.10.013

Abstract

OBJECTIVES: To investigate the prevalence of potentially inappropriate prescribing (PIP) according to the revised STOPP/START criteria in older patients with falls and syncope.

STUDY DESIGN: We included consecutive patients with falls and syncope aged ≥ 65 years at the day clinic of the Northwest Clinics, the Netherlands, from 2011 to 2016. All medication use before and after the visit was retrospectively investigated using the revised STOPP/START criteria. **MAIN OUTCOME MEASURES:** The prevalence/occurrence of PIP before the visit, persistent PIP after the visit, and unaddressed persistent PIP not explained in the patient's chart.

RESULTS: PIP was present in 98 % of 374 patients (mean age 80 (SD \pm 7) years; 69 % females). 1564 PIP occurrences were identified. 1015 occurrences persisted (in 91 % of patients). 690 occurrences (in 80 % of patients) were not explained in the patient's chart. The most frequent unaddressed persistent forms of PIP were prescriptions of vasodilator drugs for patients with orthostatic hypotension (16 %), and benzodiazepines for >4 weeks (10 %) or in fall patients (8 %), and omission of vitamin D (28 %), antihypertensive drugs (24 %), and antidepressants (17 %). 54 % of all medication changes were initiated for reasons beyond the scope of the STOPP/START criteria.

CONCLUSIONS: Almost every patient in our study population suffered from PIP. In 80 %, PIP continued after the clinical visit, without an explanation in the patient's chart. The most frequent PIP concerned medication that increased the risk of falls or syncope, specifically vasodilator drugs and benzodiazepines. Physicians should be aware of PIP in older patients with falls and syncope. Further studies should investigate whether a structured medication review may improve clinical outcomes.

Language: en

Keywords

Falls; Older patients; Potentially inappropriate prescribing; Syncope

Understanding fall risk factors in community-dwelling older adults: a cross-sectional study

Carrasco C, Tomas-Carus P, Bravo J, Pereira C, Mendes F. *Int. J. Older People Nurs.* 2019; ePub(ePub): ePub.

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Abstract

AIM AND OBJECTIVE: Ageing is associated with an increased risk of falling. Identification of risk factors is crucial for the prevention of falls in older people.

METHODS: A total of 508 older adults enrolled in a cross-sectional study. For the assessment of risk factors, the research team collected basic data and health-related information and performed morphofunctional evaluations (strength and flexibility of lower body and dynamic balance).

RESULTS: A significantly greater proportion of women experienced fall episodes within the past year. Additionally, certain chronic diseases were significantly more prevalent in the fall subgroup compared to the non-fall subgroup. The non-fall subgroup showed significantly better scores of lower body strength and dynamic balance than the fall subgroup.

CONCLUSION: Multivariable regression analysis revealed that gender and lower body strength seem to be the main risk factors for fall event (s) within the past year in community-dwelling older adults from the Portuguese region of Alentejo. **IMPLICATIONS FOR PRACTICE:** Differences in fall risk factors due to gender, ethnicity and geography must be taken into account in clinical practice. Nurses must identify the environmental, social and individual risks that constitute health threats and trigger protective intervention programs. Nursing care for older people must also meet needs related to physical activity (e.g., strength-training exercise), since lower body weakness is strongly associated with falls.

Language: en

Keywords

dynamic balance; falls; lower body strength; seniors

Why do older adults taking antidepressants fall?

Iaboni A, Mulsant BH. *Am. J. Geriatr. Psychiatry* 2019; ePub(ePub): ePub.

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PMID

31786145

Abstract

[Abstract unavailable]

Language: en

Argentine tango reduces fall risk in Parkinson's patients

Peter S, Crock ND, Billings BJ, Wu R, Sterling S, Koul S, Taber WF, Pique K, Golan R, Maitland G. J. Am. Med. Dir. Assoc. 2019; ePub(ePub): ePub.

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(Copyright © 2019, Lippincott Williams and Wilkins)

DOI

10.1016/j.jamda.2019.10.009

PMID

31780412

Abstract

Argentine tango (tango) is a partnered dance focused on walking and balance dynamics. Partners learn correct posture and the ability to use the floor as a walking aid. For example, a forward step is broken down into multiple aspects: weight shifting, knee and hip positions, torso dissociation from hips, and gradual foot placement onto the floor again. Literature reports that tango significantly improves Unified Parkinson Disease Rating Scale (UPDRS) motor scores in patients with Parkinson's disease (PD) compared to no intervention ...

Language: en

Falls due to loss of consciousness are associated with maxillofacial fracture severity

Ito R, Kubota K, Yaguchi S, Furudate K, Tanaka Y, Kobayashi W. J. Oral Maxillofac. Surg. 2019; ePub(ePub): ePub.

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Abstract

PURPOSE: Falls are a common cause of the maxillofacial fractures, and falls associated with loss of consciousness might have special characteristics. The purpose of the present study was to measure the association between the types of falls and maxillofacial injury severity.

PATIENTS AND METHODS: The present retrospective cross-sectional study focused on patients with maxillofacial fractures resulting from falls who had been treated at the Hirosaki University Hospital from 1990 to 2016. The falls were divided into 2 categories according to the reason for their occurrence: 1) falls from slipping, tripping, or stumbling (STSFs); and 2) falls from loss of consciousness (LOCFs). The primary outcome measure of the present study was the severity of the maxillofacial fractures. The secondary outcomes were the pattern of maxillofacial fractures, pattern of concomitant injuries, and treatment modality. Multiple linear regression analysis was performed to evaluate the independent predictors for fracture severity.

RESULTS: A total of 148 patients had been admitted for maxillofacial fractures resulting from falls. The sample included 107 STSFs (72.3%) and 41 LOCFs (27.7%). The cause of the LOCFs was orthostatic-hypotension syncope in 13 patients, neurally mediated syncope in 10, cardiogenic syncope in 9, epilepsy in 5, and other in 4 patients. The proportion of mandibular fractures and the mean facial injury severity scale score were significantly greater in the LOCF group (2.20 ± 1.19) than in the STSF group (1.65 ± 1.15 ; $P = .0067$). The incidence of concomitant injuries was significantly greater in the STSF group than in the LOCF group ($P = .023$), and the distribution of sites was significantly different between the 2 groups ($P = .039$).

CONCLUSIONS: Our results have shown that maxillofacial fractures secondary to LOCFs tend to be more severe and to have a lower incidence of concomitant injuries compared with STSFs. We believe these features originate from the absence of protective reflexes resulting from the loss of consciousness.

Language: en

The association between health beliefs and fall-related behaviors and its implication for fall intervention among Chinese elderly

Li F, Zhou D, Chen Y, Yu Y, Gao N, Peng J, Wang S. *Int. J. Environ. Res. Public Health* 2019; 16(23): e16234774.

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31795234

Abstract

To apply the Health Belief Model (HBM) to fall prevention of the elderly and estimate fall health beliefs and their relationships with fall-related behaviors, a citywide cross-sectional study was conducted among people aged 60 years or over in 13 out of 16 districts in Shanghai, China, in September 2018. A total of 5833 participants were investigated. Of this, 43.4% were male; 48.8% were aged 60–69; 18.1% were uneducated; and 50.3% were living in urban areas. People who were older, less educated, living in rural areas generally had lower scores in the 7 HBM dimensions and also had lower proportions of fall risk-reduction behaviors, except that the less educated elderly were more likely to participate in exercise and training and the rural elderly were more likely to check house environment and participate in exercise and training ($p < 0.001$). The HBM dimensions were generally positively correlated with the risk-reduction behaviors except that "perceived severity" was negatively correlated with four risk-reduction behaviors and behavior number, "cues to action" was negatively correlated with purchasing shoes, and "perceived benefits" was negatively correlated with participating in exercise activities and fall prevention training ($p < 0.05$). When HBM is applied in the field of fall prevention, the interpretation of the results of each dimension has its characteristics in the fields of injury research. Fall prevention strategies should focus on improving the health beliefs and behaviors in those who were older, less educated and living in rural areas, implementing different levels of fall prevention activities to meet different needs, improving the accessibility and applicability of related resources, and raising the organizational level of related fall prevention activities.

Language: en

Keywords

association; falls; health belief; risk behavior; the elderly

