Safety Literature 16th August 2020

Association between arterial stiffness, frailty and fall-related injuries in older adults

Turusheva A, Frolova E, Kotovskaya Y, Petrosyan Y, Dumbadze R. Vasc. Health Risk Manag. 2020; 16: 307-316.

DOI 10.2147/VHRM.S251900 **PMID** 32764951

Abstract

PURPOSE: This study was conducted to investigate the relationships between arterial stiffness, frailty and fall-related injuries among community-dwelling older adults.

Materials and Methods: A cross-sectional study of a random sample of older adults aged 60 years and older was conducted. Main study parameters: arterial stiffness was measured by the determining the cardio-ankle vascular index (CAVI); Frailty status was defined using a 7-item frailty screening scale, developed in Russia. This questionnaire included question about falls and fall-related injuries. Orthostatic test and anthropometric tests were done. Medical history (comorbidity, medications), the Osteoporosis Self-assessment Tool (OST), nutritional, physical, cognitive and functional status were evaluated.

Results: The study population included 163 people aged 60-89 years. The average predicted value of CAVI in women aged 60-69 was 9.13 ± 0.13, in men, 9.49 ± 0.05; in women aged 70-79, it was 9.49 ± 0.16, in men, 9.73 ±0.11; in women aged 80 and older it was 10.04 ±0.18, in men, 10.24 ±0.10 units. The CAVI above the predicted value was associated with fall-related injuries even after adjustment for age, sex, use of β-blockers (BBs), history of stroke, and region of residence with the odds ratio 3.52 (95% CI: 1.03 -12.04).

Conclusion: Our study revealed an independent association between arterial stiffness and fall-related injuries in older adults over 60 years. The findings suggest that clinicians, especially geriatricians, should pay attention to arterial stiffness of patients with fall-related injuries. Similarly, the patients with CAVI above age-predicted value should be evaluated for risk of falls for prevention of fall-related injuries.

Language: en

Keywords

elderly; falls; falls prevention; stroke; cardio-ankle vascular index (CAVI); β-blockers (BBs)

Bathroom modifications, clutter, and tripping hazards: prevalence and changes after incident falls in community-dwelling older adults

Gell NM, Brown H, Karlsson L, Peters DM, Mroz TM. J. Aging Health 2020; ePub(ePub): ePub.

DOI 10.1177/0898264320949773 **PMID** 32776813

Abstract

OBJECTIVES: To describe the prevalence of bathroom modifications, clutter, and tripping hazards in the homes of US older adults and to examine changes after an incident fall.

METHODS: We used data from the 2015-2017 National Health and Aging Trends Study (n = 7499). Outcomes were the prevalence of bathroom modifications, clutter, and tripping hazards and changes after incident fall.

RESULTS: In 2015, 26.5% of community-dwelling older adults had clutter or tripping hazards in the home, and 69.3% had at least one bathroom modification. Compared to nonfallers, older adults with multiple falls were significantly more likely to modify the bathroom. The magnitude of hazard reduction was similar after multiple falls but was not statistically significant.

DISCUSSION: Bathroom modifications are common and increase after multiple falls. A single incident fall does not appear to lead to home environment changes to reduce fall risk. Targeting home hazards may be an opportunity to reduce fall risk.

Language: en

Keywords

fall risk; environment; bathroom

Changes in the static balance of older women participating in regular Nordic walking sessions and Nordic walking combined with cognitive training

Piotrowska J, Guszkowska M, Leś A, Rutkowska I. Int. J. Environ. Res. Public Health 2020; 17(15): e5617.

DOI 10.3390/ijerph17155617 **PMID** 32759833

Abstract

Regular Nordic walking (NW) improves physical fitness, including the ability to maintain balance, in older adults. However, little is known about whether complementing the exercise programme with cognitive training (CT) contributes to increased effects. The aim of the study was to determine and compare the effect of regular NW and NW combined with CT on the ability to maintain static balance in older adults. The study examined 61 women aged 64 to 93 years living in adult day care centres. Twenty people participated in a three-month programme combining NW and CT (group NW + CT), 20 people participated only in NW classes (group NW), and 21 people were a control group (group C). The Romberg balance test, Fullerton Functional Fitness Test, and Attention and Perceptivity Test were used. After the programme, an increase in the time of maintaining the balance (with eyes open on the left and right legs) was observed in groups NW + CT and NW, with no such changes found in group C. This increase was greater in group NW + CT. Increased agility and strength of the hand were predictors of improving the ability to maintain balance. Regular NW improved the ability to maintain balance with eyes open in female residents of adult day care centres.

Language: en

Keywords

aging; physical activity; cognitive training; Nordic walking

Conscious movement processing, fall-related anxiety, and the visuomotor control of locomotion in older adults

Ellmers TJ, Cocks AJ, Kal EC, Young WR. J. Gerontol. B Psychol. Sci. Soc. Sci. 2020; ePub(ePub): ePub.

DOI 10.1093/geronb/gbaa081 **PMID** 32761087

Abstract

OBJECTIVES: Older adults anxious about falling will often consciously process walking movements in an attempt to avoid falling. They also fixate their gaze on the present step rather than looking ahead to plan future actions. The present work examined whether conscious movement strategies result in such restricted visual planning.

METHODS: A total of 18 community-dwelling older adults (agemean = 71.22; SD = 5.75) walked along a path and stepped into two raised targets. Repeated-measures analyses of variance were used to compare gaze behavior and movement kinematics when participants walked: (a) at baseline (ground level); (b) under conditions designed to induce fall-related anxiety (walkway elevated 0.6 m); and (c) in the absence of anxiety (ground level), but with explicit instructions to consciously process movements.

RESULTS: Participants reported increased conscious movement processing when walking both on the elevated walkway (fall-related anxiety condition) and at ground level when instructed to consciously process gait. During both conditions, participants altered their gaze behavior, visually prioritizing the immediate walkway 1-2 steps ahead (areas needed for the on-line visual control of individual steps) at the expense of previewing distal areas of the walking path required to plan future steps. These alterations were accompanied by significantly slower gait and increased stance durations prior to target steps.

CONCLUSIONS: Consciously processing movement (in the relative absence of anxiety) resulted in gaze behavior comparable to that observed during conditions of fall-related anxiety. As anxious participants also self-reported directing greater attention toward movement, this suggests that fall-related anxiety may disrupt the visual control of gait through increased conscious movement processing.

Language: en

Keywords

Visual search; Gait; Eye tracking; Fear of falling; Internal focus

Cost-effectiveness of the PDSAFE personalised physiotherapy intervention for fall prevention in Parkinson's: an economic evaluation alongside a randomised controlled trial

Xin Y, Ashburn A, Pickering RM, Seymour KC, Hulbert S, Fitton C, Kunkel D, Marian I, Roberts HC, Lamb SE, Goodwin VA, Rochester L, McIntosh E, PDSAFE Collaborative group. BMC Neurol. 2020; 20(1): e295.

DOI 10.1186/s12883-020-01852-8 **PMID** 32781987

Abstract

BACKGROUND: PDSAFE is an individually-tailored, physiotherapist-delivered, balance, strength and strategy training programme aimed at preventing falls among people with Parkinson's. We evaluated the cost-effectiveness of PDSAFE compared with usual care for people with Parkinson's at higher risk of falling, from a UK National Health Service and Personal Social Service perspective.

METHODS: Resource use and quality of life data (EQ-5D-3L) were collected from 238 participants randomised to the PDSAFE intervention and 236 participants randomised to control, at baseline, 3 months, 6 months (primary outcome), and 12 months. Adjusted cost and quality-adjusted life-years (QALYs) were estimated using generalised linear models and uncertainty estimated using a non-parametric bootstrap.

RESULTS: Over 6 months, the PDSAFE intervention was associated with an incremental cost of £925 (95% CI £428 to £1422) and a very small and statistically insignificant QALY gain of 0.008 (95% CI - 0.006 to 0.021). The resulting incremental cost-effectiveness ratio (ICER) was £120,659 per QALY and the probability of the intervention being cost-effective at a UK threshold of £30,000/QALY was less than 1%. The ICER varied substantially across subgroups although no subgroup had an ICER lower than the £30,000 threshold. The result was sensitive to the time horizon with the ICER reducing to £55,176 per QALY when adopting a 12-month time horizon and assuming a sustained treatment effect on QoL, nevertheless, the intervention was still not cost-effective according to the current UK threshold.

CONCLUSIONS: Evidence from this trial suggests that the PDSAFE intervention is unlikely to be cost-effective at 6 months. The 12-month analysis suggested that the intervention became closer to being cost-effective if quality of life effects were sustained beyond the intervention period, however this would require confirmation. Further research, including qualitative studies, should be conducted to better understand the treatment effect of physiotherapy and its impact on quality of life in people with Parkinson's given existing mixed evidence on this topic.

TRIAL REGISTRATION: ISRCTN48152791. Registered 17 April 2014. http://www.isrctn.com/ISRCTN48152791.

Language: en

Keywords

Cost; Quality of life; Cost-effectiveness; Parkinson’s; Physiotherapist

Evaluating a novel multifactorial falls prevention activity programme for community-dwelling older people after stroke: a mixed-method feasibility study

Koh JSG, Hill AM, Hill KD, Etherton-Beer C, Francis-Coad J, Bell E, Bainbridge L, de Jong LD. Clin. Interv. Aging 2020; 15: 1099-1112.

DOI 10.2147/CIA.S251516 **PMID** 32764897

Abstract

PURPOSE: The overall purpose of this study was to explore participants' and physiotherapists' experiences regarding the acceptability, implementation, and practicality of a novel group-based multifactorial falls prevention activity programme for community-dwelling older people after stroke. Specifically, the purpose was to explore if and how participating could impact on the participants' health-related quality of life (HRQoL) in terms of their daily lived experience regarding physical, mental, emotional and social well-being. A secondary purpose was to explore whether participating in the programme could positively influence participants' balance, strength, falls efficacy, mobility and motor impairment of the trunk.

Materials and Methods: This was an exploratory mixed-method Phase I feasibility study. A convenience sample of five older community-dwelling people after stroke participated in a novel eight-week multifactorial activity programme which included falls education, a mix of individually tailored and group-based strength and balance exercises, exploring limits of stability and safe landing techniques and a social element. Qualitative data from post-intervention interview transcripts with the participants and the physiotherapists who delivered the programme were thematically analysed using both deductive and inductive approaches to explore the participants' and therapists' experiences with the programme. Quantitative outcomes included balance, strength, falls efficacy, mobility and motor impairment of the trunk.

Results: The programme was deemed feasible in terms of acceptability, implementation and practicality by the participants as well as the physiotherapists delivering the programme. The overarching theme regarding HRQoL identified that participating in the programme was perceived to empower the participants living with stroke and positively influenced their daily physical, mental, emotional and social well-being. Participant outcomes showed a change in the direction of improvements in balance, strength, mobility, motor impairment of the trunk and reduced concerns about falling. Subjectively, participants only reported perceived improvements in balance and strength.

Conclusion: Running a novel multifactorial falls prevention activity programme for older community-dwelling people after stroke was feasible. Participating in the programme helped participants to perceive improved balance, strength and empower them to make meaningful changes, improving their daily lived experiences. A future fully powered study could build on these results to investigate physical improvements, prevention of falls and improvements to domains of HRQoOL.

Language: en

Keyword

accidental falls; aged; quality of life; qualitative research; exercise; stroke; evaluation studies as topic

Falls and visual impairment among elderly residents in 'homes for the aged' in India

Marmamula S, Barrenkala NR, Challa R, Kumbham TR, Modepalli SB, Yellapragada R, Bhakki M, Friedman DS, Khanna RC. Sci. Rep. 2020; 10(1): e13389.

DOI 10.1038/s41598-020-70066-2 **PMID** 32770042

Abstract

We evaluated the prevalence of falls and their association with visual impairment (VI) in elderly residents in 'homes for the aged' in Hyderabad, India. Participants aged ≥ 60 years were recruited from 41 homes, and a comprehensive eye examination was conducted. Interviews were conducted to collect personal and demographic information, systemic health status, fear of falling, depression, and history of falls in the last year. VI categories included low vision (presenting visual acuity worse than 6/18 to 3/60) and blindness (presenting visual acuity worse than 3/60). The data of 1,074 participants were analysed. The mean age was 74.4 years (standard deviation:8.7 years); 63.9% were women, 19.4% had no formal education, 28.1% were diabetic and 56.9% were hypertensive. The annual prevalence of falls was 29.1% (95% CI: 26.4-32.0). Multivariable analysis showed those with VI had significantly higher odds of falls (Odds Ratio:1.47; p = 0.043). The prevalence of falls was higher among those with VI due to uncorrected refractive errors. We found a very high prevalence of falls in elderly individuals living in 'homes for the aged' in Hyderabad, India. Addressing VI can result in fewer falls and contribute to healthy aging in India.

Language: en

Falls risk factor assessment and secondary prevention in the older old

Bloomfield K, Lau M, Connolly MJ. N. Zeal. Med. J. 2020; 133(1519): 24-31.

DOI unavailable **PMID** 32777792

Abstract

AIMS: Falls are common in 80-plus year-olds and there is evidence available in terms of risk factors and prevention measures. We aimed to review falls risk factor assessment and secondary prevention strategies in patients in this age group presenting acutely to services other than older adult health services at Waitemata District Health Board.

METHODS: We retrospectively reviewed electronic hospital records of those >80 years presenting to acute services with a primary or secondary diagnosis of a fall, or fall-related injury. Admission characteristics, risk factor identification and subsequent referrals for falls prevention were recorded. Six-month outcomes including readmissions and mortality were assessed.

RESULTS: One hundred and thirty-eight discharge summaries were reviewed (71% female, median age 89). Thirty-one percent had a previous fall-related hospital admission in the six months prior. There was high prevalence of psychoactive medications (51%) and falls-related cardiovascular drugs (78%) at discharge. No patients were referred for falls prevention programmes or geriatric assessment at discharge. At six months 19% had died and 44% had been readmitted.

CONCLUSIONS: There are inadequate falls prevention referrals, indicating a quality of care gap. The older age group presenting to acute services have high rates of polypharmacy, hospitalisations and death.

Language: en

Investigating the psychometric properties of the Carers' Fall Concern instrument to measure carers' concern for older people at risk of falling at home: a cross-sectional study

Ang SGM, O'Brien AP, Wilson A. Int. J. Older People Nurs. 2020; ePub(ePub): ePub.

DOI 10.1111/opn.12338 **PMID** 32767725

Abstract

AIMS: This study aimed to investigate the psychometric properties of the Carers' Fall Concern Instrument (CFC-I) for measuring carers' concern for older people (care recipients) at risk of falling.

BACKGROUND: Family carers are crucial in preventing older people from falling at home. Their concerns for older people at risk of falling have severe implications on carers' psychological well-being and ability to prevent falls. However, there is no validated instrument measuring this concern.

METHODS: A cross-sectional study was used to examine the validity and reliability of the CFC-I. Carers looking after older people living at home completed the 17-item CFC-I and provided information about their care arrangements and the older people's fall history. Construct validity was tested using exploratory factor analysis and hypothesis testing. Internal consistency was determined by calculating Cronbach's alpha coefficient.

RESULTS: 143 carers completed the survey either by face-to-face or by online. After deleting one item with an item-total correlation of below 0.3, the remaining 16-item CFC-I reported a Cronbach alpha of 0.93. Construct validity was supported by strong item-total correlations (0.51-0.76), mean inter-item correlations (0.47) and factor loadings (0.557-0.809). Factor analysis revealed three factors that include concerns about care recipients' health and function, living environment and carers' perception of fall and fall risk. The 16-item CFC-I can discriminate between carers of older people with and without recurrent (fallen 3/ more times) falls.

CONCLUSION: The 16-item CFC-I is a valid and reliable scale for measuring carers' concern for the older people's risk of falling. Future analysis of test-retest and inter-rater reliability of the instrument will further support its clinical use for carers.

IMPLICATIONS FOR PRACTICE: The newly developed multi-item CFC-I can be used to quantify the carers' level of fall concern and inform targeted interventions for carers when caring for older people who are at risk of falling.

Language: en

Keywords

falls; fall risk; older people; fear of falling; carers; fall concern

Is pain catastrophizing associated with poor mobility performance and falls in older adults?

Nawai A, Foust JB, Shi L, You T, Leveille SG. Arch. Gerontol. Geriatr. 2020; 91: e104219.

DOI 10.1016/j.archger.2020.104219 **PMID** 32771882

Abstract

BACKGROUND: Pain catastrophizing has been associated with pain intensity and mobility limitations in adults, and may be associated with mobility problems among older adults with chronic pain. This study examined the associations between pain catastrophizing and pain characteristics, and physical performance in older people.

METHODS: The MOBILIZE Boston Study II (MBS) included 354 adults aged ≥70 years, living in the Boston area, originally enrolled in the MBS I from 2005-2008. Pain catastrophizing was measured using the 13-item Pain Catastrophizing Scale (PCS), with scores ranging from 13-65. Pain severity and pain interference were assessed by subscales of the Brief Pain Inventory. Pain distribution was classified as none, single site, and multisite. Mobility performance was assessed using the Short Physical Performance Battery (SPPB). Falls were assessed prospectively using monthly fall calendar postcards.

RESULTS: One-fourth of all participants (24 %) had high scores on the PCS (score>30). PCS was inversely associated with age and was greater among those with osteoarthritis, depression, or anxiety (p-value<0.05). PCS score was associated with global measures of pain including pain severity (p-value = 0.01), pain interference (p-value = 0.004) and multisite pain compared to no pain (p-value = 0.006). After adjusting for confounders, PCS was not associated with mobility and fall in this older population.

CONCLUSION: Although pain catastrophizing is prevalent in older adults with chronic pain, it was not associated with mobility or falls in older people. Further research is needed to determine possible long-term effects of pain catastrophizing on chronic pain and functioning in older adults.

Language: en

Keywords

Mobility; Fall; Older adults; Chronic pain; Pain catastrophizing

Midlife falls are associated with increased risk of mortality in women: findings from the National Health and Nutrition Examination Survey III

Karvonen-Gutierrez CA, Ylitalo KR, Peng MQ. Arch. Gerontol. Geriatr. 2020; 91: e104206.

DOI 10.1016/j.archger.2020.104206 **PMID** 32763757

Abstract

OBJECTIVES: Falls are a public health concern for older adults but are also common among midlife adults. However, the consequences of falls occurring during midlife are not well understood.

METHODS: This investigation assessed the relationship between falls and mortality among midlife adults using survey data from the Third National Health and Nutrition Examination Survey (n = 1,295), linked to the National Death Index. The relationship between recurrent falls (≥2 falls) in the past year and 10-year death rate was assessed using survey-weighted Cox regression.

RESULTS: Nearly 20 % of adults who died within 10 years of their interview date were recurrent fallers at the time of interview. For women only, recurrent fallers had more than 4-fold increased hazard of death within 10 years compared to non-recurrent fallers (HR = 4.41; 95 % CI:2.24,8.68).

CONCLUSIONS: Findings suggest that midlife women are particularly vulnerable to adverse outcomes following recurrent falls. Fall prevention efforts should include efforts targeted at midlife women.

Language: en

Keywords

Midlife; Recurrent falls; Sex differences

Mortality after falls in Amsterdam; data from a retrospective cross sectional study

Hakkenbrak NAG, Zuidema WP, Rikken QGH, Halm JA, Dorn T, Reijnders UJL, Giannakopoulos GF. Forensic Sci. Int. Rep. 2020; 2: e100061.

DOI 10.1016/j.fsir.2020.100061 **PMID** unavailable

Abstract

Introduction

Annually, approximately 3600 people decease as a result of a fall in the Netherlands, according to the Statistics Netherlands. The aim of this study is to evaluate the demographic parameters, fall characteristics and resulting injury patterns of this group in the region of Amsterdam.

Methods

All patients deceased as a result of injury due to a fall in the period July 1st 2013 until July 1st 2018 in the region of Amsterdam were included. Data were collected from the database (Formatus) of the Department of Forensic Medicine (Public Health Service Amsterdam).

Results

During the study period 1258 patients deceased after a fall. The median age was 86 years (0-103 years) and 41 % was male. A psychiatric disease, was diagnosed or suspected in 44 % of the population of which cognitive impairment, including dementia, was encountered in most of the cases (82 %). The majority of the falls happened at home (47 %) or at nursing facilities. A minority (1.3 %) was work related. Over 81 % of the falls was from standing position, 17.6 % was not from standing position of which 80.1 % regarded falls from stairs. The majority was male. Multitrauma patients accounted for 17.1 % of the population. From the remaining 1040 patients, 61.7 % sustained one or more injuries to the pelvis or extremities. Central nervous system (CNS) injuries were described in 31.3 % of the patients. Mortality was in 26.8 % of the cases due to primary CNS injury, 62.3 % was due to complications of which clinical deterioration (58.7 %) and infection (17.1 %) were the most common.

Conclusions

In the region of Amsterdam the majority of deaths due to a fall regards the geriatric population. Fall from standing position and mortality due to complications, mainly clinical deterioration, accounted for the majority of deaths. Intervention to prevent falls, and thereby complications, need more awareness to reduce mortality.

Language: en

Keywords

Fall; Height; Mechanism of injury; Mortality

Orthostatic blood pressure recovery associates with physical performance, frailty and number of falls in geriatric outpatients

Mol A, Slangen LRN, van Wezel RJA, Maier AB, Meskers CGM. J. Hypertens. 2020; ePub(ePub): ePub.

DOI 10.1097/HJH.0000000000002617 **PMID** 32773650

Abstract

OBJECTIVE: Blood pressure (BP) recovery after orthostatic hypotension might be important to prevent cerebral hypoperfusion episodes in older adults, and be related to better clinical outcome. The objective was to study the relationship between BP recovery and clinical outcome, that is physical and cognitive performance, frailty and falls, in geriatric outpatients.

METHODS: One hundred and sixty-eight geriatric outpatients underwent continuous (beat-to-beat) BP measurements during standing up, and a comprehensive geriatric assessment, including assessment of physical performance (chair stand test), cognitive performance (Mini Mental State Examination), frailty (Fried criteria) and falls in the previous year. BP recovery was evaluated at 15-30, 30-60, 60-120 and 120-180 s after standing up and defined as mean SBP and DBP in the respective time intervals minus baseline BP. Associations with clinical outcome were assessed using linear (physical and cognitive performance and frailty) and logistic (falls) regression, adjusting for age, sex, baseline BP and initial BP drop.

RESULTS: SBP recovery was associated with frailty (30-60 s interval; β=0.013, P=0.02) and falls (30-60 s interval; odds ratio=1.024, P=0.02). DBP recovery was associated with physical performance (30-60 s interval; β=0.215, P=0.01), frailty (30-60 s interval; β=0.028, P=0.02) and falls (30-60 s interval; odds ratio=1.039, P=0.04). Neither SBP nor DBP recovery was associated with cognitive performance.

CONCLUSION: DBP recovery was particularly associated with clinical outcome in geriatric outpatients, suggesting BP recovery to be of clinical interest.

Language: en

Risk factors of recurrent falls among older adults admitted to the trauma surgery department

Curran-Groome W, Klein G, Miller SB, Hui A, Wilson JS, Kuoiloi C, Masarapu V, Alabd A, Mascaro T, Logan G, Lubeck J. Geriatr Orthop Surg Rehabil 2020; 11: e2151459320943165.

DOI 10.1177/2151459320943165 **PMID** 32782850

Abstract

Falls affect more than 29 million American adults ages ≥65 years annually. Many older adults experience recurrent falls requiring medical attention. These recurrent falls may be prevented through screening and intervention. In 2014 to 2015, records for 199 older adult patients admitted from a major urban teaching hospital's emergency department were queried. Open-ended variables from clinicians' notes were coded to supplement existing closed-ended variables. Of the 199 patients, 52 (26.1%) experienced one or more recurrent falls within 365 days after their initial fall. Half (50.0%) of all recurrent falls occurred within the first 90 days following discharge. A large proportion of recurrent falls among older adults appear to occur within a few months and are statistically related to identifiable risk factors. Prevention and intervention strategies, delivered either during treatment for an initial fall or upon discharge from an inpatient admission, may reduce the incidence of recurrent falls among this population.

Language: en

Keywords

prevention; elderly; falls; balance; recurrent

Sarcopenia Definitions and Outcomes Consortium (SDOC) criteria are strongly associated with malnutrition, depression, falls, and fractures in high-risk older persons

Kirk B, Zanker J, Bani Hassan E, Bird S, Brennan-Olsen S, Duque G. J. Am. Med. Dir. Assoc. 2020; ePub(ePub): ePub.

DOI 10.1016/j.jamda.2020.06.050 **PMID** 32771358

Abstract

OBJECTIVES: Sarcopenia Definitions and Outcomes Consortium (SDOC) provides cut-points based on muscle weakness (low grip strength) and slowness (poor gait speed) for low-risk populations; however, it is unknown if these criteria apply to high-risk populations. We examined the association between SDOC criteria and important health status indicators in high-risk older persons.

DESIGN: Cross-sectional study.

SETTING AND PARTICIPANTS: 356 community-dwelling older persons (median age: 79 years, interquartile range: 73, 83; 75.2% women) attending a falls and fractures clinic in Melbourne, Australia.

METHODS: Grip strength (hydraulic dynamometer) and gait speed (over 4 m) were used to define sarcopenia using SDOC cut-points. Health measures included falls (past 1 year) and fractures (past 5 years) by self-report, and malnutrition, depression, balance confidence, fear of falling, static balance (limits of stability), dynamic balance (Four-Square Step Test), and body composition [body mass index and lean mass, fat mass, and bone density (via dual-energy x-ray absorptiometry)] were assessed using validated procedures. Fasting vitamin D and parathyroid hormone concentrations were measured by immunoassays. Participants were categorized as nonsarcopenic or sarcopenic based on the SDOC cut-points, and multivariate models were used to examine the association between sarcopenia and health status indicators while adjusting for confounding factors.

RESULTS: After adjusting for covariates, sarcopenic older persons (n = 162, 45.5%) were positively associated with malnutrition [odds ratio (OR) 3.21, 95% confidence interval (CI) 1.63, 6.32], depression (OR 4.11, 95% CI 2.31, 7.29), fear of falling (OR 1.08, 95% CI 1.06, 1.10) as well as recurrent (2 or more) falls (OR 1.62, 95% CI 1.01, 2.59) and fractures (OR 2.26, 95% CI 1.17, 4.36), and negatively associated with poor balance confidence (OR 0.96, 95% CI 0.95, 0.97) (P <.05 vs nonsarcopenic).

CONCLUSIONS AND IMPLICATIONS: SDOC criteria are strongly associated with important health status indicators in high-risk older persons, which strengthens the clinical utility of the SDOC in these populations.
Language: en

Keywords
falls; Sarcopenia; older adults; fear of falling; depression; fractures; malnutrition

The intersection of falls and dementia in primary care: evaluation and management considerations

Casey CM, Caulley J, Phelan EA. Med. Clin. North Am. 2020; 104(5): 791-806.

DOI 10.1016/j.mcna.2020.06.003 **PMID** 32773046

Abstract

A large body of research has addressed the assessment and management of fall risk among community-dwelling older adults. Persons with dementia are at higher risk for falls and fall-related injuries, yet less is known about effective strategies for reducing falls and injuries among those with dementia. Falls and dementia are regularly considered to be discrete conditions and are often managed separately. Increasing evidence shows that these conditions frequently co-occur, and one may precede the other. This article explores the relationship between falls and dementia, including the importance of rehabilitation strategies for reducing fall risk in these individuals.

Language: en

Keywords

Falls; Fall prevention; Older adults; Occupational therapy; Persons with dementia; Physical therapy; Rehabilitation services; Risk assessment and management

The relationship between performance of sit-to-stand from a chair and getting down and up from the floor in community-dwelling older adults

Ardali G, States RA, Brody LT, Godwin EM. Physiother. Theory Pract. 2020; ePub(ePub): ePub.

DOI 10.1080/09593985.2020.1802796 **PMID** 32757803

Abstract

BACKGROUND AND PURPOSE: The ability to perform sit-to-stand from a chair and getting down and up from the floor, or the ability to safely perform a floor transfer are important transitional activities for independent living. The sit-to-stand maneuver is frequently performed by community-dwelling older adults and is routinely evaluated as a part of geriatric physical therapy assessment. Conversely, a floor transfer is rarely performed by older adults or addressed by clinicians, even when working with frail patients who live alone and are at high risk for falls. Accordingly, the specific aim of this cross-sectional study was to determine the concurrent, predictive, and discriminant validity of the five times sit-to-stand (5xSTS) test against 3-point floor transfer performance.

METHODS: A total of 46 community-dwelling adults, ages 65-96 years, were recruited using a stratified sampling technique based on self-reported levels of floor transfer ability: independent (n = 16); assisted (n = 15); and dependent (n = 15). Forty-five of the 46 participated in the data collection process. Participants were first assessed for the 5xSTS test and were categorized based on performance as unable to perform (n = 14), poor performance (>13.6 seconds), or good performance (≤13.6 seconds). Participants then performed the 3-point floor transfer test and were classified based on results as independent (n = 18), assisted (n = 10), or dependent (n = 17). Spearman correlations were calculated to assess the concurrent validity for the 5xSTS testing procedure against 3-point floor transfer performance. The Kruskal-Wallis test was used to: 1) determine the discriminant validity of 5xSTS test outcome performance among groups that differ in 3-point floor transfer test performance; and 2) examine the significance level of the socio-demographic data.

RESULTS: Moderate to strong positive correlations were found between the 3-point floor transfer test and the categorical performance outcomes of the 5xSTS test (rho ranged from 0.67 to 0.88, $p < .001$). A strong negative correlation was found between 5xSTS scores and the 3-point floor transfer test (rho = 0.86, $p < .001$). There was moderate sensitivity (71%) and strong specificity (93%) for the 5xSTS test to predict floor transfer performance. The outcomes of 5xSTS performance differed significantly among 3-point floor transfer performance outcome groups. Older adults who were unable to perform 5xSTS test were also dependent in floor transfer performance. In contrast, older adults who demonstrated good performance in the 5xSTS test were independent in floor transfer performance ($p \leq 0.012$).

CONCLUSION: Floor transfer is a highly important safety maneuver for older adults, although it is rarely performed and assessed. This study documents that the 5xSTS test displays concurrent, predictive, and discriminative validity properties, making it a potentially

useful initial screening tool to predict floor transfer ability. Failure to complete the 5xSTS test may also be a reliable indicator of floor transfer performance dependency among community-dwelling older adults.

Language: en

Keywords

five times sit to stand test; Floor transfer test; getting down and up from the floor; sit to stand from chair