

Safety Literature 7th August 2022**A protection motivation theory approach to understanding how fear of falling affects physical activity determinants in older adults**

Preissner CE, Kaushal N, Charles K, Knäuper B. J. Gerontol. B Psychol. Sci. Soc. Sci. 2022; ePub(ePub): ePub.

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DOI 10.1093/geronb/gbac105 **PMID** 35917189

Abstract

OBJECTIVES: This study applied an extended Protection Motivation Theory to investigate the relative importance of fear of falling (FoF) among motivational and intentional determinants of physical activity (PA) behavior.

METHODS: Older U.S. adults (N = 667, 65+) were surveyed using online research panels and completed measures of self-efficacy and response efficacy (coping appraisal), perceived vulnerability and perceived severity (threat appraisal), FoF, autonomous motivation, intention, physical health, and past PA level.

RESULTS: Our structural equation model showed that past PA level and health predicted intention via cognitive constructs. PA and health predicted FoF and motivation via threat and coping appraisal. FoF did not directly predict intention.

DISCUSSION: Results from this sample provide support for the predictive effects of threat appraisal on fear. However, findings suggest that FoF may not be of great importance for the formation of PA intention compared with an established habit of being physically active and a subsequently fostered coping appraisal and motivation.

Language: en

Keywords

exercise; intention; Coping appraisal; physical health

Assessing the relationship between hearing impairment and falls in older adults

Wang J, Liu N, Zhao X. *Geriatr. Nurs.* 2022; 47: 145-150.

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Abstract

Falls and fall-related injuries are the major sources of mortality, disability, and dysfunction among older people. The study aimed to examine the association between hearing impairment and falls in Chinese older adults, using data from the Chinese Longitudinal Healthy Longevity Survey. The outcome variable was experienced falls in the past year, and the exposure variable was hearing impairment. The odds ratio (OR) of falls was 1.51 and 1.47 for men and women with hearing impairment than those without hearing impairment after adjusting for covariates. For participants aged 60-69 years, 70-79 years, 80-89 years, and ≥ 90 years, the OR of risk of falls associated with hearing impairment was 2.80, 1.41, 1.50 and 1.44, respectively. These results suggested that there was an association between hearing impairment and falls. Older adults with hearing impairment had a higher risk of falls than those without hearing impairment in the Chinese older population.

Language: en

Keywords

Falls; Older adults; Risk factors; Auditory impairment; Hearing loss

Associations between visual impairment, incident falls and fall frequency among older Asians: longitudinal findings from the Singapore Epidemiology of Eye Diseases study

Gupta P, Man REK, Fenwick EK, Qian C, Sim R, Majithia S, Tham YC, Sabanayagam C, Wong TY, Cheng CY, Lamoureux EL. Br. J. Ophthalmol. 2022; ePub(ePub): ePub.

(Copyright © 2022, BMJ Publishing Group)

DOI 10.1136/bjo-2021-320873 **PMID** 35914927

Abstract

BACKGROUND: Association between baseline visual impairment (VI) bilaterality and severity, and associated causes; and incident and frequent falls at 6 years in a multiethnic Asian population aged ≥ 60 years.

METHODS: It is a population-based prospective cohort study. Visual acuity was clinically measured at both visits. Self-reported incidence and frequency of falls were defined as having no fall at baseline but having one fall and ≥ 2 incident falls in the 12 months prior to the follow-up visit, respectively.

RESULTS: Of the 1972 older participants (mean age (SD): 67.37 (5.4) years), 253 (12.8%) and 69 (3.5%) reported at least one fall and ≥ 2 falls, respectively, at a 6-year follow-up. After multivariable adjustments, baseline bilateral VI, but not unilateral, was associated with higher odds of any incident falls (mild bilateral VI: OR=1.79, 95% CI 1.07 to 2.98; moderate-severe VI in one eye and mild VI in the other eye: OR=1.58, 95% CI 1.01 to 2.47). However, having any form of bilateral VI (OR ranging between 2.46 and 4.32; all $p < 0.05$) and even unilateral mild VI (OR=2.34, 95% CI 1.09 to 5.03) significantly increased the odds of incident frequent falls, compared with bilateral normal vision. VI caused by correctable (OR=2.02, 95% CI 1.19 to 3.44) and uncorrectable (OR=3.09, 95% CI 1.08 to 8.80) eye conditions were both associated with greater odds of incident frequent falls, compared with no VI.

CONCLUSIONS: Baseline bilateral but not unilateral VI conferred nearly two-fold higher odds of incident fall. Importantly, even mild unilateral VI conferred a substantially greater likelihood of frequent falls from correctable and uncorrectable conditions.

Language: en

Keywords

epidemiology; public health; vision

Dynamic performance-exposure algorithm for falling risk assessment and prevention of falls in community-dwelling older adults

Pereira C, Rosado H, Almeida G, Bravo J. *Geriatr. Nurs.* 2022; 47: 135-144.

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Abstract

This study aimed to design a dynamic performance-exposure algorithm for falling risk assessment and prevention of falls in community-dwelling older adults. It involved a cross-sectional and follow-up survey assessing retrospective and prospective falls and respective performance-related, exposure and performance-exposure risk factors. In total, 500 Portuguese community-dwelling adults participated. Data modelling showed significant ($p < 0.05$) relationships between the above risk factors and selected nine key ordered outcomes explaining falls to include in the algorithm: previous falls; health conditions; balance; lower strength; perceiving action boundaries; fat mass; environmental hazards; rest periods; and physical activity. Respective high-, moderate- and low-risk cutoffs were established. The results demonstrated a dynamic relationship between older adults' performance capacity and the exposure to fall opportunity, counterbalanced by the action boundary perception, supporting the build algorithm's conceptual framework. Fall prevention measures should consider the factors contributing most to the individual risk of falling and their distance from low-risk safe values.

Language: en

Keywords

Falls; Recommendations; Performance; Risk factors; Aging; Risk exposure

Health-related physical fitness as a risk factor for falls in elderly people living in the community: a prospective study in China

Duan H, Wang H, Bai Y, Lu Y, Xu X, Wu J, Wu X. Front. Public Health 2022; 10: 874993.

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Abstract

OBJECTIVES: Health-related physical-fitness (HRPF) involves multi-components of physical functional tests and is reported to be associated with the risk of fall. The study sought to determine whether specific physical fitness components were stronger predictors of falls among elderly people.

METHODS: This prospective cohort study involved 299 community residents age ≥ 60 years from Shanghai, China. The baseline data included comprehensive assessment of sociodemographic, clinical, and HRPF test. Subjects were followed for 1 year and were contacted by telephone to report falls. LASSO regression and Multivariate regression analysis were used to identify risk predictors of fall. In addition, we used receiver operating characteristic (ROC) curve analyses to determine whether the predictors have diagnostic.

RESULTS: During the 1-year prospective fall assessment, 11.7% of these subjects experienced one or frequent falls. LASSO models revealed that age ($=0.01$) and 8-ft up-and-go test score ($=0.06$) were positively associated with falls, while activity-specific balance confidence (ABC; $= -0.007$) and 2-min step test score ($= -0.005$) were inversely related. The Area Under roc Curve (AUC) for a linear combination of age, ABC scale score, 2-min step test and 8-ft up-and-go test was 0.778 (95% confidence interval: 0.700-0.857), which was superior to any of the variables taken alone.

CONCLUSION: Age, activity-specific balance confidence and fitness abnormalities were determined to contribute to the incident of falls. The value of 2-min step test score, and 8-ft up-and-go test score were the key HRPF components in predicting falls among elderly people.

Language: en

Keywords

Aged; Humans; Middle Aged; Risk Factors; Prospective Studies; elderly; community; falls; prospective study; China/epidemiology; *Geriatric Assessment; *Physical Fitness; health-related physical fitness; LASSO

Preventing falls among older adults in primary care: a mixed methods process evaluation using the RE-AIM Framework

Johnston YA, Reome-Nedlik C, Parker EM, Bergen G, Wentworth L, Bauer M. Gerontologist 2022; ePub(ePub): ePub.

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Abstract

BACKGROUND AND OBJECTIVES: Falls are a leading cause of injuries and injury deaths for older adults. The Centers for Disease Control and Prevention's Stopping Elderly Accidents Deaths and Injuries (STEADI) initiative, a multifactorial approach to fall prevention, was adapted for implementation within the primary care setting of a health system in upstate New York. The purpose of this paper is to: (a) report process evaluation results for this implementation using the Reach, Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM) framework and (b) examine the utility of RE-AIM for assessing barriers and facilitators. **RESEARCH DESIGN AND METHODS:** This evaluation used mixed methods. Qualitative evaluation involved semi-structured interviews with key stakeholders and intercept interviews with healthcare providers and clinic staff. Quantitative methods utilized surveys with clinic staff. Process evaluation tools were developed based on the AIM dimensions of the RE-AIM framework. The study was conducted over a 2-month period approximately 18 months post-implementation and complements previously published results of the program's reach and effectiveness.

RESULTS: Primary barriers by RE-AIM construct included competing organizational priorities (Adoption); competing patient care demands (Implementation); and staff turnover (Maintenance). Primary facilitators included having a physician champion (Adoption); preparing and training staff (Implementation); and communicating about STEADI and recognizing accomplishments (Maintenance).

DISCUSSION AND IMPLICATIONS: Results revealed a high degree of concordance between qualitative and quantitative analyses. The framework supported assessments of various stakeholders, multiple organizational levels, and the sequence of practice change activities. Mixed methods yielded rich data to inform future implementations of STEADI-based fall prevention.

Language: en

Keywords

Evaluation; Barriers; Falls; Analysis – Mixed Methods; Facilitators; STEADI

The effectiveness of the Healthworks Staying Steady community-based falls prevention exercise programme to improve physical function in older adults: a 6-year service evaluation

James E, Oman P, Ali M, Court P, Goodall S, Nichols SJ, O'Doherty AF. BMC Public Health 2022; 22(1): e1457.

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Abstract

BACKGROUND: Falls prevention exercise programmes are evidence-based and recommended for improving physical function in older adults. However, few service evaluations exist to assess the effectiveness of community-delivered interventions in practice.

METHODS: We conducted a six-year, retrospective evaluation of the community-delivered Staying Steady programme (Healthworks, United Kingdom). Staying Steady is a 27-week, tailored strength and balance programme delivered in a group setting (1-h, once/week) and at home (30–40 min, 2–3 times/week). Participants were referred by healthcare professionals, or self-referred, due to a history or risk of falling. Routinely collected outcome measures (30-s chair stand, Timed Up and Go, four-stage balance test, and patient reported outcomes; including 'fear of falling' and 'ability to manage health') were analysed. Factors associated with programme completion were reported. The intervention effect on physical function was analysed in subgroups: participants used arms to chair-stand or a walking-aid at both ('aided'), neither ('unaided'), or one assessment timepoint ('aided at baseline only' or 'aided at follow-up only').

RESULTS: There were 1,426 referrals; 835 (67.3%) participants enrolled on to the Staying Steady programme, 406 (32.7%) declined, 185 (13.0%) were inappropriately referred and excluded from analysis. After enrolling, 451 (54.0%) participants completed, and 384 (46.0%) dropped out. Chair stand performance improved in participants who were unaided ($n = 264$; median 2.0 [1.0, 4.0] repetitions; $P < 0.001$), or aided at baseline, follow-up or both ($n = 170$, $P < 0.05$). Timed Up and Go performance improved in the unaided ($n = 387$; median -3.1 [-5.4, -1.4] s, $P < 0.001$), and aided at baseline only ($n = 32$; median -4.9 [-10.8, -3.4] s, $P < 0.001$) groups. Four-stage balance performance improved ($n = 295$; median 1.0 [0.0, 1.0] points, $P < 0.001$). After programme completion, participants self-reported an improved ability to manage their health and daily activities, improved confidence, and a reduced fear of falling. Presence of chronic obstructive pulmonary disease, fear of falling, prescribed nutritional support, disability and social deprivation influenced non-completion of Staying Steady.

CONCLUSIONS: Completing Staying Steady improved physical function in older adults. METHODS to encourage retention of participants from groups associated with low uptake and adherence should be investigated.

Language: en

Keywords

Falls; Exercise; Healthcare; Balance; Health inequality; Service evaluation; Strength

The prehospital management of ambulance-attended adults who fell: a scoping review

Watkins PM, Masters S, Hill AM, Tohira H, Brink D, Finn J, Buzzacott P. Australas. Emerg. Care 2022; ePub(ePub): ePub.

(Copyright © 2022, College of Emergency Nursing Australasia, Publisher Elsevier Publishing)

DOI 10.1016/j.auec.2022.07.006 **PMID** 35909044

Abstract

BACKGROUND: The ageing population is requiring more ambulance attendances for falls. This scoping review aimed to map and synthesise the evidence for the prehospital management of Emergency Medical Services (EMS) attended adult patients who fall.

METHODS: The Joanna Briggs Institute methods for scoping reviews were used. Six databases were searched (Medline, Scopus, CINAHL, Cochrane, EMBASE, ProQuest), 1st August 2021. Included sources reported: ambulance attended (context), adults who fell (population), injuries, interventions or disposition data (concept). Data were narratively synthesised.

RESULTS: One-hundred and fifteen research sources met the inclusion criteria. Detailed information describing prehospital delivered EMS interventions, transport decisions and alternative care pathways was limited. Overall, adults < 65 years were less likely than older adults to be attended repeatedly and/or not transported. Being male, falling from height and sustaining severe injuries were associated with transport to major trauma centres. Older females, falling from standing/low height with minor injuries were less likely to be transported to major trauma centres.

CONCLUSION: The relationship between patient characteristics, falls and resulting injuries were well described in the literature. Other evidence about EMS management in prehospital settings was limited. Further research regarding prehospital interventions, transport decisions and alternative care pathways in the prehospital setting is recommended.

Language: en

Keywords

Injury; EMS; Fall; Emergency Medical Technician; Paramedic

Vestibular therapy to reduce falls in people with Alzheimer's disease: study protocol for a pilot randomized controlled trial

Yesantharao LV, Rosenberg P, Oh E, Leoutsakos J, Munro CA, Agrawal Y. Pilot Feasibility Stud. 2022; 8(1): e167.

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DOI 10.1186/s40814-022-01133-w **PMID** 35918757

Abstract

BACKGROUND: Falls are highly common in patients with Alzheimer's disease (AD); around two-thirds of AD patients fall annually. Fall events are major drivers of injury, early institutionalization, and shorter survival. Balance and mobility impairment are among the most important fall risk factors in AD patients. Vestibular therapy (VT) is an effective rehabilitation intervention in improving balance and fall risk through vestibular function, but not often used in AD. We want to evaluate the feasibility of using VT to reduce falls and improve balance function in patients with AD and drive use of an existing, potentially beneficial therapy in a patient population whose high level of vestibular deficits is currently unaddressed.

METHODS: The proposed pilot clinical trial will be a parallel-group randomized controlled trial. Patients with a diagnosis of mild-moderate AD, age ≥ 60 , and the presence of a caregiver will be recruited from the Johns Hopkins Memory and Alzheimer's Treatment Center. Eligible patients will be offered vestibular testing. Patients with vestibular loss will be offered participation in the VT trial. One-hundred AD patients with vestibular loss will be enrolled and randomized 1:1 into the control and intervention arms of the trial. All patients will undergo baseline balance and cognitive assessment, followed by 8 weeks of active control therapy or VT, consisting of ~25-min office sessions with a vestibular therapist. Patients will be tracked for falls and undergo follow-up balance and cognitive assessment at 8 and 52 weeks (1 year) to assess the potential short-term and longer-term effects, respectively, of VT on balance and cognition. The main outcomes of this trial are falls, balance (using the Berg Balance Scale and the Timed Up and Go test), and cognition (using the clock drawing test, the Card Rotations test, the Money Road Map test, and the triangle completion task).

DISCUSSION: As the population ages and the number of individuals with AD in the US grows to a projected 14 million in 2050, managing falls in AD will continue to grow as a critical public health concern; this trial assesses feasibility of a potential solution. **TRIAL REGISTRATION:** ClinicalTrial.Gov identifier - NCT03799991. Registered 01 August 2019.

Language: en

Keywords

Alzheimer's disease; Fall-related injury; Vestibular rehabilitation; Vestibular therapy

Wearable sensor systems for fall risk assessment: a review

Subramaniam S, Faisal AI, Deen MJ. *Front. Digit. Health* 2022; 4: e921506.

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Abstract

Fall risk assessment and fall detection are crucial for the prevention of adverse and long-term health outcomes. Wearable sensor systems have been used to assess fall risk and detect falls while providing additional meaningful information regarding gait characteristics. Commonly used wearable systems for this purpose are inertial measurement units (IMUs), which acquire data from accelerometers and gyroscopes. IMUs can be placed at various locations on the body to acquire motion data that can be further analyzed and interpreted. Insole-based devices are wearable systems that were also developed for fall risk assessment and fall detection. Insole-based systems are placed beneath the sole of the foot and typically obtain plantar pressure distribution data. Fall-related parameters have been investigated using inertial sensor-based and insole-based devices include, but are not limited to, center of pressure trajectory, postural stability, plantar pressure distribution and gait characteristics such as cadence, step length, single/double support ratio and stance/swing phase duration. The acquired data from inertial and insole-based systems can undergo various analysis techniques to provide meaningful information regarding an individual's fall risk or fall status. By assessing the merits and limitations of existing systems, future wearable sensors can be improved to allow for more accurate and convenient fall risk assessment. This article reviews inertial sensor-based and insole-based wearable devices that were developed for applications related to falls. This review identifies key points including spatiotemporal parameters, biomechanical gait parameters, physical activities and data analysis methods pertaining to recently developed systems, current challenges, and future perspectives.

Language: en

Keywords

machine learning; fall risk assessment; fall detection; gait analysis; inertial sensors; plantar pressure; smart insole; wearables

Severity of unconstrained simultaneous bilateral slips: the impact of frontal plane feet velocities relative to the center of mass to classify slip-related falls and recoveries

Ouattas A, Rasmussen CM, Hunt NH. Front. Public Health 2022; 10: e898161.

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Abstract

Targeted interventions to prevent slip-related falls may be informed by specific kinematic factors measured during the reactive response that accurately discriminate recoveries from falls. But reactive responses to diverse slipping conditions during unconstrained simultaneous bilateral slips, which are closely related to real-world slips, are currently unknown. It is challenging to identify these critical kinematic factors due to the wide variety of upper and lower body postural deviations that occur following the slip, which affect stability in both the sagittal and frontal planes. To explore the utility of kinematic measurements from each vertical plane to discriminate slip-related falls from recoveries, we compared the accuracy of four Linear Discriminant Analysis models informed by predetermined sagittal or frontal plane measurements from the lower body (feet velocities relative to the center of mass) or upper body (angular momentum of trunk and arms) during reactive responses after slip initiation. Unconstrained bilateral slips during over-ground walking were repeatedly administered using a wearable device to 10 younger (24.7 ± 3.2 years) and 10 older (72.4 ± 3.9 years) adults while whole-body kinematics were measured using motion capture. Falls ($n = 20$) and recoveries ($n = 40$) were classified by thresholding the dynamic tension forces measured in an overhead harness support system and verified through video observation. Frontal plane measurements of the peak feet velocities relative to the center of mass provided the best classification (classification accuracy = 73.3%), followed by sagittal plane measurements (classification accuracy = 68.3%). Measurements from the lower body resulted in higher accuracy models than those from the upper body, but the accuracy of all models was generally low compared to the null accuracy of 66.7% (i.e., predicting all trials as recoveries). Future work should investigate novel models that include potential interactions between kinematic factors. The performance of lower limb kinematics in the frontal plane in classifying slip-related falls demonstrates the importance of administering unconstrained slips and measuring kinematics outside the sagittal plane.

Language: en

Keywords

recovery; response; falls; gait; *Gait/physiology; *Postural Balance/physiology; biomechanics; diverse-slips; fall-prevention; Foot/physiology; mediolateral; Walking/physiology

The association of glycemic control and fall risk in diabetic elderly: a cross-sectional study in Hong Kong

Cheng LY, Leung SY, Leung MKW. BMC Prim. Care 2022; 23(1): e192.

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DOI 10.1186/s12875-022-01807-7 **PMID** 35915395

Abstract

BACKGROUND: Many foreign studies investigated glycemic control and fall risk. However, there was insufficient study on this topic in Hong Kong. This study aims to find out the association of glycemic control and fall risk in the diabetic elderly in a general outpatient clinic in the North District of Hong Kong. Their frequency of falls and other associated risk factors of fall were also studied.

METHODS: A cross-sectional questionnaire survey was conducted on 442 diabetic patients aged 65 years-old or above with regular follow-up in a general outpatient clinic. Main outcome measure was the number of falls in the past one year from the interview date. Recurrent falls was defined as two or more falls in the past one year from the interview date. Subjects were asked about experience of hypoglycemic symptoms. HbA1c level, chronic illness, retinopathy etc. were obtained through computerized medical record review. Chi square test and logistic regression were used to assess the association between outcomes and the explanatory variables.

RESULTS: In the past one year, 23.3% participants experienced at least one fall and 8.6% had recurrent falls. Hypoglycemic symptoms, and lower visual acuity < 0.6 were significantly associated with fall (OR 2.42, $p = 0.007$ and OR 1.75, $p = 0.038$ respectively). Age 75-79 years-old had a higher likelihood of fall than the 65-69 age group (OR 2.23, $p = 0.044$). Patients with HbA1c 7.0-7.4% had a lower risk of recurrent falls when compared to those with intensive control (OR 0.32, $p = 0.044$). Other risk factors that increased risk of recurrent falls were hypoglycemic symptoms (OR 6.64, $p < 0.001$) and history of cerebral vascular accident (OR 4.24, $p = 0.003$).

CONCLUSIONS: Hypoglycemic symptoms had a very strong association with falls. Less stringent HbA1c control reduced the risk of recurrent falls. Healthcare professionals need to take a more proactive approach in enquiring about hypoglycemia. There should be individualized diabetic treatment target for the diabetic elderly.

Language: en

Keywords

Elderly; Fall; Diabetes; Glycemic control; Hypoglycemia

The revised Humpty Dumpty Fall Scale: an update to improve tool performance and predictive validity

Sarik DA, Hill-Rodriguez D, Gattamorta KA, Gonzalez JL, Esteves J, Zamora K, Cordo J. J. *Pediatr. Nurs.* 2022; 67: 34-37.

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DOI 10.1016/j.pedn.2022.07.023 **PMID** 35908424

Abstract

PURPOSE: The purpose of this study was to identify potential modifications to the Humpty Dumpty Fall Scale (HDFS) in order to enhance the accuracy of fall prediction in the pediatric population, thus contributing to the safest possible environment for the hospitalized child.

DESIGN AND METHODS: A secondary analysis of data collected by Gonzalez et al. (2020), including a total of 2428 patients, was conducted for this study. Multiple logistic regression was used to examine the relationship between each parameter of the HDFS (e.g., age, gender, diagnosis, cognitive impairments, environmental factors, response to surgery/sedation/anesthesia, and medication usage) and the outcome of fall status.

RESULTS: After reviewing associations between HDFS parameters and fall risk, neither gender nor medication use were found to be associated with fall risk. These two parameters were removed from the scoring algorithms, and the HDFS was modified to a minimum score of 5 and maximum score of 20, with a score of 12 or above indicative of high risk of fall. The modified scale demonstrated a sensitivity of 84% and specificity of 57%.

CONCLUSIONS: These revisions are anticipated to help support clinical practice and improve fall prevention, thus supporting a safer pediatric environment for the hospitalized child.

Language: en

Keywords

Pediatrics; Falls; Risk factors; Humpty dumpty; Practice measures; Risk classification

Trajectories of cognitive and physical performance after accidental falls in nursing home residents: a prospective study

Trevisan C, Noale M, Imoscopi A, Bigolaro C, Derni C, Agio E, Dal Ben S, Ceccato M, Tono F, Maggi S, Welmer AK, Sergi G. *Geriatr. Nurs.* 2022; 47: 100-106.

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DOI 10.1016/j.gerinurse.2022.07.001 **PMID** 35901577

Abstract

This prospective study evaluated cognitive and physical trajectories of nursing home (NH) residents after fall occurrence and their predictors. In 167 residents aged ≥ 60 , we considered the closest pre-fall assessment and up to the first three post-fall assessments of cognitive and physical functions performed through Mini-Mental State Examination (MMSE) and Tinetti tests. Mixture models identified three post-fall cognitive and physical trajectories: stability, slow decline, and rapid decline. At logistic regression, older age, fewer informal visits, and falls within one month from institutionalization increased the probability of experiencing a decline in MMSE and Tinetti scores. Worse pre-fall cognitive function increased the likelihood of cognitive and physical decline, while worse pre-fall Tinetti score negatively impacted only physical decline. In conclusion, the impact of falls on the cognitive and physical health of NH residents may be modulated by their pre-fall cognitive function and some modifiable factors, such as social interactions and physical function.

Language: en

Keywords

Cognition; Accidental falls; Nursing homes; Physical performance