Major Predictors of Inpatient Falls: A Multisite Study

Citation: The Journal of nursing administration, Oct 2015, vol. 45, no. 10, p. 498-502 (October 2015)

Author(s): Moe, Krista, Brockopp, Dorothy, McCowan, Denise, Merritt, Sharon, Hall, Brittany

Abstract: The purpose of this secondary data analysis was to identify key factors predictive of falls in hospitals. Patient falls remain a major concern for hospitals. Falls can increase patient morbidity/mortality and increase legal risk/cost for institutions. While a number of high-risk falls assessments are available, key predictors of falls have not been identified. A secondary data analysis was performed on 281,865 high-risk falls assessments collected in a multisite study. For the total sample, logistic regression analyses demonstrated that 3 factors, falls within the past 6 months (OR=2.98), confusion (odds ratio, 2.05), taking a laxative (odds ratio, 1.54), are strong predictors of falling. Similar results were found for individual hospitals, different units within hospitals, and urban versus rural hospital locations. Findings suggest that assessments of fall risk should heavily weigh the 3 predictors identified in this study. Another approach would be to intervene based on these predictors.

Source: Medline

Depression and Outcome of Fear of Falling in a Falls Prevention Program

Citation: The American journal of geriatric psychiatry : official journal of the American Association for Geriatric Psychiatry, Oct 2015, vol. 23, no. 10, p. 1088-1097 (October 2015)

Author(s): Iaboni, Andrea, Banez, Carol, Lam, Robert, Jones, Simon A, Maki, Brian E, Liu, Barbara A, Flint, Alastair J

Abstract: To examine whether depression predicts less improvement in fear of falling and falls efficacy in older adults attending a falls prevention program (FPP). Using a prospective observational design in an academic medical center, the authors studied 69 nonmedicated adults aged 55 years or older (mean age: 77.8 ± 8.9 years) who had experienced at least one fall in the previous year and who attended the FPP. The primary outcome variable was change in severity of fear of falling during the FPP. Secondary outcome variables were change in falls efficacy and fear-related restriction of activities during the FPP. Independent variables were baseline depressive disorders and depressive symptom severity. Twenty-one of 69 study participants (30.4%) had a depressive disorder at baseline. Depressive disorder and depressive symptoms were not associated with change in severity of fear of falling or restriction of activity. On the other hand, depressive disorder was associated with improvement in falls efficacy, although this finding was not significant in multivariate analysis. Among participants with a depressive disorder, improvement in falls efficacy was significantly correlated with improvement in depressive symptoms. There was no association between baseline depression and change in fear of falling in this FPP. The correlation between improvement in depressive symptoms and improvement in falls efficacy raises the question as to whether a cognitive-behavioral intervention that simultaneously targets both depression and falls efficacy would be a useful component of a FPP. Copyright © 2015 American Association for Geriatric Psychiatry. Published by Elsevier Inc. All rights reserved.

Source: Medline

Physical Activity and Falls in Older Men: The Critical Role of Mobility Limitations

Citation: Medicine and science in sports and exercise, Oct 2015, vol. 47, no. 10, p. 2119-2128 (October 2015)

Author(s): Jefferis, Barbara J, Merom, Dafna, Sartini, Claudio, Wannamethee, S Goya, Ash, Sarah, Lennon, Lucy T, Iliffe, Steve, Kendrick, Denise, Whincup, Peter H

Abstract: Physical activity (PA) has many health benefits but may increase falls risk among older adults. We study how objectively measured habitual daily PA is related to falls by exploring the modifying effect of mobility limitations and the mediating roles of fitness and lower-limb strength. One thousand six hundred fifty (53%) of 3137 surviving participants (men age 71-91 yr) in an ongoing UK-population-based cohort study wore an ActiGraph GT3x accelerometer over the hip for 1 wk in 2010 to measure PA (exposure) and reported demographic and health status, including mobility limitations. One year later, 825 men reported falls history (outcome). Seven hundred of 825 men had ≥600 min d of accelerometer wear for ≥3 d. Nineteen percent (n = 128) reported falls 1 yr later. Associations between PA and falls differed by presence of mobility limitations. Among 66% (n = 471) of men without mobility limitations, number of falls increased incrementally (for every 30 min of moderate to vigorous PA [MVPA]: incidence rate ratio [IRR], 1.50; 95% confidence interval [CI], 1.10-2.03, adjusted for falls risk factors). Step count was not related to number of falls below 9000 steps per day but was related to number of falls ≥9000 steps per day (for every additional 1000 steps per day: IRR, 1.59; 95% CI, 1.16-2.18). Among 33% (n = 229) of men with mobility limitations, falls risk declined with increasing activity (for every 1000 steps per day: IRR, 0.80; 95% CI, 0.70-0.91; for every 30 min of MVPA: IRR, 0.61; 95% CI, 0.42-0.89; for every additional 30 min of sedentary behavior ≥600 min d: IRR, 1.22; 95% CI, 1.07-1.40). Interventions to promote MVPA in older men should incorporate falls prevention strategies. Among adults with mobility limitations, trials should investigate whether increasing MVPA levels can reduce falls risk.

Source: Medline
Improving falls risk screening and prevention using an e-learning approach

Citation: Journal of nursing management, Oct 2015, vol. 23, no. 7, p. 910-919 (October 2015)

Author(s): Johnson, Maree, Kelly, Linda, Siric, Katica, Tran, Duong Thuy, Overs, Bronwyn

Abstract: This study investigated the impact of an e-learning education programme for nurses on falls risk screening, falls prevention and post-falls management. Falls injury within older inpatients is a major patient safety concern. Using a pre-post design, observation of the patient and environment and patient health care record audits, were conducted following the introduction of a falls e-learning education programme. Audits of patient health care records (using the Falls Chart Audit Tool), together with observation of practice for 119 (pre) and 99 (post) patients, were undertaken. Initial risk screening was conducted using the Modified Ontario Stratify Scale for most patients (95%). Interventions such as a falls risk flag in the records/on beds, supervision when the patient is mobilising or in the bathroom, area clear of hazards, use of chair/bed alarms, and referral to allied health staff were significantly improved. Initial risk screening of patients and improvements in preventive interventions were demonstrated. This falls e-learning programme represents a cost-effective method of increasing falls mitigation strategies within large organisations. The Falls Chart Audit Tool provides a valuable monitoring tool for managers. Falls risk screening when the patient's condition changes, requires vigilance by managers or reminders within clinical information systems. © 2014 John Wiley & Sons Ltd.

Source: Medline

Predicting falls in elderly patients with chronic pain and other chronic conditions

Citation: Aging Clinical and Experimental Research, October 2015, vol./is. 27/5(653-661), 1594-0667;1720-8319 (14 Oct 2015)


Abstract: Background: The aim was to identify fall predictors in elderly suffering from chronic pain (CP) and to test their applicability among patients with other chronic conditions. Methods: 1,379 non-institutionalized patients aged 65 years and older who were suffering from CP (S.AGE CP sub-cohort) were monitored every 6 months for 1 year. Socio-demographic, clinical and pain data and medication use were assessed at baseline for the association with falls in the following year. Falls were assessed retrospectively at each study visit. Logistic regression analyses were performed to identify fall predictors. The derived model was applied to two additional S.AGE sub-cohorts: atrial fibrillation (AF) (n = 1,072) and type-2 diabetes mellitus (T2DM) (n = 983). Results: Four factors predicted falls in the CP sub-cohort: fall history (OR: 4.03, 95 % CI 2.79-5.82), dependency in daily activities (OR: 1.81, 95 % CI 1.27-2.59), age >75 (OR: 1.53, 95 % CI 1.04-2.25) and living alone (OR: 1.73, 95 % CI 1.24-2.41) (Area Under the Curve: AUC = 0.71, 95 % CI 0.67-0.75). These factors were relevant in AF (AUC = 0.71, 95 % CI 0.67-0.75) and T2DM (AUC = 0.67, 95 % CI 0.59-0.73) sub-cohorts. Fall predicted probability in CP, AF and T2DM sub-cohorts increased from 7, 7 and 6 % in patients with no risk factors to 59, 66 and 45 % respectively, in those with the four predictors. Fall history was the strongest predictor in the three sub-cohorts. Conclusion: Fall history, dependency in daily activities, age >75 and living alone are independent fall predictors in CP, AF and T2DM patients.

Publication Type: Journal: Article

Source: EMBASE

Multi-chronic musculoskeletal pain is a useful clinical index to predict the risk of falls in older adults with normal motor function

Citation: Aging Clinical and Experimental Research, October 2015, vol./is. 27/5(711-716), 1594-0667;1720-8319 (14 Oct 2015)

Author(s): Asai T., Misu S., Sawa R., Doi T., Yamada M.

Abstract: Background: The number of chronic musculoskeletal pain sites (nCMS) is reportedly associated with risk of falls. Older participants in community-based research show a wide range of physical functions, but few studies have focused on the risk of falls in older adults with normal motor function (NMF). Clarification of the effects of pain on dual-tasking performance is also important, given the strong link between falls and dual-tasking. Aims: The objectives were to investigate the associations between: (1) nCMS and falls; and (2) nCMS and dual-task performance in older adults with NMF. Methods: A total of 112 older adults with NMF (44 men, 68 women; 73.4 +/- 4.6 years) were classified as fallers (n = 22) or non-fallers (n = 90) according to their fall history. Musculoskeletal pain in the lower body was assessed using questions ascertaining pain in musculoskeletal sites (back, hip, knee, foot, or toe). Participants were assigned to three pain groups according to nCMS. Basic physical performances and gait performances (normal gait, fast gait, or dual-task gait) were measured. Results: The nCMS represented a significant risk factor for falls according to logistic regression modeling after adjusting for the five chair stand test and fear of falls. The nCMS was not associated with any gait variables. Discussion: Potential fall risk may be increased by nCMS, even in older adults with NMF. Pain-related reduction in attention resources may not represent a risk factor for falls among older adults with NMF. Conclusions: The nCMS represents a potential risk factor for falls in older adults with NMF.

Publication Type: Journal: Article

Source: EMBASE

A multidisciplinary care pathway for the evaluation of falls and syncope in geriatric patients

Citation: European Geriatric Medicine, October 2015, vol./is. 6/5(487-494), 1878-7649 (01 Oct 2015)

Author(s): Wold J.F.H., Ruiter J.H., Cornel J.H., Vogels R.L.C., Jansen R.W.M.M.

Abstract: Introduction: A multidisciplinary care pathway based on current guidelines was developed to evaluate unexplained non-accidental falls and/or syncope in geriatric patients aged 65 years or older. Material and methods: We applied the lean six-sigma methodology. In the assessment phase, we defined the historic level of care for syncope patients in a small sample of patients. In the improvement phase, we developed a new clinical pathway with a close collaboration between geriatricians, cardiologists and neurologists. This 2 day structured diagnostic program included a comprehensive geriatric assessment, evaluation of nutritional status and disabilities, laboratory tests, and 12-lead
electrocardiogram. In case of fall problems, brain-MRI or CT scans were performed. Blood pressure measurements for orthostatic and postprandial hypotension were performed. When indicated, patients were seen by a neurologist, cardiologist, dietitian or an old age psychiatrist. During the sustain phase, we implemented our new program and critically evaluated 262 patients. Results: Of the 262 patients, aged 79.6 +/- 6.5 years, only 44 patients were referred for evaluation of syncope while in 117 patients, a syncope was diagnosed. Sixty-one patients were diagnosed with both a syncope and separate falls. Only 6 of the 117 elderly patients had syncope without falling. Conclusions: With this novel multidisciplinary pathway for the combined evaluation of unexplained non-accidental falls and syncope, we achieved a diagnosis in 89% with a large overlap between falls and syncope. Therefore, cardiologists, neurologists and geriatricians should collaborate for the evaluation of falls and syncope.

Publication Type: Journal: Article

Source: EMBASE

Falls by individuals with chronic obstructive pulmonary disease: A preliminary 12-month prospective cohort study

Citation: Respirology, October 2015, vol./is. 20(7)(1096-1101), 1323-7799;1440-1843 (01 Oct 2015)


Abstract: Background and objective Despite evidence of an increased fall risk in people with chronic obstructive pulmonary disease (COPD), there is a paucity of prospective fall data in this population. This preliminary study aimed to prospectively examine the prevalence rate, incidence rate and associated risk factors for falls in a sample of community-dwelling people with COPD over 1 year. Methods Forty-one participants with stable COPD (mean +/- SD) aged 71 +/- 8 years with a forced expiratory volume in 1 s of 45.1 +/- 16.2% predicted were included. At baseline, participants' demographic, physical function and fall-related measures were documented. Falls were monitored for 12 months following initial assessments. Results The prevalence of people having falls was 40% (95% CI: 24-56%); amongst these, 75% had frequent falls. The overall fall incidence rate was 1.17 falls/person-year. Risk factors associated with a higher fall incidence rate ratio (IRR) in COPD were: number of pack-years (IRR: 1.02; 95%CI: 1.00,1.04), comorbidities (IRR: 2.02; 95%CI: 1.42,3.06), number of medications (IRR: 1.15; 95%CI: 1.00,1.34), history of falls in the previous year (IRR: 1.89; 95%CI: 1.10,3.34), fear of falling (IRR: 1.08; 95% CI: 1.02,1.14) and higher score in a fall risk assessment questionnaire for older adults (IRR: 1.14; 95% CI: 1.05,1.25); P < 0.05. When adjusted for age, only pack-years (P = 0.01), number of comorbidities (P < 0.001) and history of falls (P = 0.03) were related to an increased fall incidence. Conclusions These preliminary findings demonstrated the fall prevalence and incidence rate in community-dwelling people with stable COPD and identified prospective risk factors for an increased fall incidence, which suggest potential mitigation strategies.

Publication Type: Journal: Article

Source: EMBASE

The association of antihypertensives with postural blood pressure and falls among seniors residing in the community: A case-control study

Citation: European Journal of Clinical Investigation, October 2015, vol./is. 45/10(1069-1076), 0014-2972;1365-2362 (01 Oct 2015)

Author(s): Zia A., Kamaruzzaman S.B., Myint P.K., Tan M.P.

Abstract: Background: A drop in postural blood pressure (BP) may contribute to falls, while antihypertensives have been considered to induce postural drop or orthostatic hypotension (OH) and falls among older people. However, this relationship between antihypertensives, postural BP and the risk of falls has never been evaluated in a single study. Objective: To examine the association of postural BP changes and BP therapy with the risk of falls among community-dwelling older people in a case-control manner. Method: Cases (n = 202) included participants aged > 65 years with two falls or one injurious fall while controls (n = 156) included participants > 65 years with no falls in the preceding 12 months. Antihypertensives usage and medical history were recorded. Supine BP measurements were obtained at 10 min rest and at 1, 2 and 3 min after standing. Orthostatic hypotension was defined as a reduction in BP of 20/10 mmHg within 3 min of standing. Results: Individual antihypertensive classes were not associated with falls. Minimal standing systolic BP (SBP) was significantly lower among fallers [128 (+/- 273) vs. 1357 (+/- 247) mmHg; P = 001], but fallers were not more likely to fulfill the diagnostic criteria for OH. Diuretics were associated with OH and alpha-blockers were associated with minimal standing SBP. Univariate analysis revealed that the use of > 2 antihypertensives was associated with recurrent and injurious falls [OR,1.97;CI,1.2-3.1], which was no longer significant after multivariate adjustment for age and number of comorbidities [OR, 1.6; CI, 0.95-2.6]. Discussion: Minimal standing SBP or a lower SBP at 2 or 3 minutes standing was associated with falls rather than OH using consensus definition. Association between > 2 antihypertensives and falls was attenuated by increasing age and comorbidities. Our findings challenge previous assumptions that OH or the use of antihypertensives is associated with falls. Future studies should now seek to link these findings prospectively with falls in order to guide decision-making for BP lowering therapy among older patients.

Publication Type: Journal: Article

Source: EMBASE