Welcome

This issue includes:

• NSW Falls Prevention Network Forum 2012 Report with summary of presentations and photos
• New Resources and Conferences information
• Abstracts - the latest abstracts from the research literature

The 5th Biennial Australian and New Zealand Falls Prevention Society (ANZFPS) Conference will be held in Adelaide at the Convention Centre from the 28-30th October 2012, further information is available at www.anzfpsconference.com.au/

fallsnetwork.neura.edu.au

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“Falls Prevention is Everyone’s Business”
NSW Falls Prevention Network Forum

The 2012 NSW Falls Prevention Network Forum was held on Friday June 1st at the Wesley Conference Centre, 220 Pitt St, Sydney, and was opened by Ms Noeline Brown, the Ambassador for Ageing, Australian Government Department of Health and Ageing. This year the special focus was on working with special populations such as Aboriginal and Torres Strait Islander and Culturally and Linguistically Diverse (CALD).

The forum was attended by 298 professionals from hospitals, community services, residential aged care, health promotion, and local government and consumer representatives with 318 having registered to attend the day.

This forum saw the introduction of the Pam Albany Guest Lecture in memory of a great champion for injury prevention at both State and National levels. Pam was responsible for the instigation of the NSW Falls Prevention Program. The inaugural Pam Albany Lecture was given by Professor Stephen Lord, Senior Principal Research Fellow, from the Falls and Balance Research Group at Neuroscience Research Australia.

The morning Plenary Sessions were web streamed with 53 participants taking part in the live webstreaming including a number from interstate. The webcast was also available after the event and there have been 334 views (to July 15th). The feedback on the webstreaming was positive with those joining finding the sessions informative and relevant.

The webcast is still accessible at http://www.ustream.tv/channel/fallspreventionnetwork

Presentations in all sessions were filmed and these have been edited and are available on a CDROM contact e.vance@neura.edu.au if you would like a copy.

There were 13 trade exhibits with 24 representatives manning the exhibit stalls.

160 evaluations were completed and returned, a return rate of 53.7% which is acceptable.

SUMMARY OF EVALUATIONS

This year the majority of respondents (62%) worked in Allied Health followed by Nursing (19.5%) and Health Promotion (5.7%) and Research (5.7%). The main work setting was Community (45.6%) followed by Hospital (33.8%) and Residential Aged Care (9.4%). This forum engages with professionals from each of the care settings.

The majority of respondents (78.8%) were involved in a number of falls prevention initiatives in their work, with 29.4% involved in exercise programs (either group or individually prescribed), 16.7% were...
involved with Stepping On programs, 12.7% with screening/or assessment and referral. and 10.3% providing education for clients or staff. Other falls prevention activities included being part of a falls committee (5.6%), Falls Intervention team (5.6%), co-ordinating a range of falls prevention activities (3.2%), involved in Falls Clinics (3.2%) or falls policy and management at a Facility level (3.2%).

Overall the majority of respondents enjoyed the meeting and found the information provided relevant to their work area. The most useful aspects of this forum were:

- Update of research evidence and presentations on current research;
- Networking with colleagues and sharing information;
- Diversity of speakers and presentations;
- Ideas for motivation and behavioural change.

The main suggestions for topics for future meetings were:

- Effectiveness of different interventions;
- Falls prevention initiatives for dementia;
- Community and Home based exercise programs;
- Equipment for falls prevention;
- Stepping On report from NSW Ministry of Health.

Other topics included:

- How to source/get better resourcing to implement programs particularly for rural areas;
- Concurrent Sessions for different settings and/or specific conditions such as Parkinson’s disease;
- Delirium and patient safety in Hospital;
- Further information on engagement of older people;
- Hearing impairment and falls;
- Dizziness, assessment and treatment.

Overall comments on the forum were very positive, a selection is provided in Box 1.

Box 1 Overall Comments on the Forum

‘enjoyable day, many useful ideas to take back to my workplace’
‘always a great networking opportunity’
‘excellent forum would recommend to others’
‘always motivating to hear what work others are doing’
‘Excellent calibre of presenters, all very informative, passionate and inspirational’
‘plenty to take away and put into daily practice’
‘good to attend but not that relevant to caseload’

This forum provides a mechanism for sharing current falls prevention research and best practice across the continuum of care and provides an opportunity for participants to network and share with colleagues. Recording and webstreaming the sessions have increased the reach of this forum to those professionals who are unable to attend the day or who would like to listen to the presentations again. Recordings on CDROM of all the sessions from this forum will be available in August and information on how to obtain the recording will be circulated on the NSW Falls Prevention Network listserv and also available on the NSW Falls Prevention Network website which also has copies of the PDFs of all presentations and a link to the webcast.
PLENARY SESSION 1
This session included the inaugural Pam Albany Lecture, presented by Professor Stephen Lord from the Falls and Balance Research Group at Neuroscience Research Australia (NeuRA) on *Falls Risk factors and fall prevention initiatives: A research update: Cardiovascular and CNS-related risk factors for falls, water exercise and podiatry interventions.*

This presentation included a number of risk factor studies, part of the Sydney Memory and Ageing study, a longitudinal study of 1,092 community dwelling older people, now in its 6th year, looking at age related conditions.

White matter hypersensitivities are often present in older people with vascular disease and associated with reduced balance, impaired gait and mobility as well as an increased risk of cognitive impairment, dementia and falls. The PhD study of Jacqueline Zheng found that greater white matter hyperintensity volumes were significantly associated with an increased risk of falls.

Another study by Dr Alfred Wong found that arterial stiffness, one measure of vascular changes was related to postural stability and increased risk of falls in men. This highlighted that changes in cardiovascular integrity can be a risk factor for falls particularly in older men.

A randomised controlled trial (RCT) on water based exercises which included challenge to balance exercises in osteoarthritic older people compared with a computer based class found no significant differences in physiological tests for balance in the groups tested. However this study did not include enough participants to provide a clear picture on falls risk. Further studies are needed to establish whether water based exercises with a balance component can reduce the risk of falling.

The final study was an RCT on Podiatry interventions for a population of older people with foot problems. Over 1/3 of older people experience foot pain and problems and have impaired balance, gait and an increased risk of falls due to these problems. This study compared usual podiatry care with an enhanced program that also included foot orthoses, footwear advice (and voucher to purchase better shoes), foot and ankle exercises and a falls prevention booklet. There were 36% fewer falls in the group who were provided with the enhanced program compared to usual podiatry care and the exercise component seemed to be one of the main factors for this reduction.

Other presentations in this plenary session included:
*Falls risk factors in Chinese older people: Implications for interventions,* Ms Marcella Kwan, PhD candidate, Falls and Balance Research Group, NeuRA.

This presentation presented findings from the Chinese Older People Study of Injuries – X-cultural (Chopstix) study, a multi-cohort prospective study conducted in in Taiwan, Hong Kong and Australia with 692 Chinese and 764 Caucasian community-dwelling older people. Findings indicated that the Caucasian cohorts fell at least 50% or more than any of the Chinese cohorts. Low fall rates in Chinese cohorts were not due to better physical ability and appear to be due to increased caution and reduced exposure to risk due to more structured activity patterns.
From epidemiology to targeted interventions: A whistle stop tour of ongoing research, Associate Professor Jacqueline Close, Falls Injury Prevention Group, NeuRA.

This presentation provided an overview of patterns of fall related injuries. There has been a decrease in the incidence of fracture related hospitalisations in particular hip fractures (between 1998 to 2011) but an increase in the incidence of non-fracture related hospitalisations particularly traumatic brain injuries during this period.

This presentation also outlined studies identifying at risk older community dwellers such as those calling an ambulance after a fall but who are not transported to hospital and the use of an intervention for this population.

Studying the risk factors of older fallers coming through the Emergency Department and prevention of inpatient falls through reduction in the use of psychoactive drugs and encouraging the use of Vitamin D supplementation were also discussed.

The final part of this presentation was an overview of the establishment of a National Hip Fracture Registry for Australia and New Zealand similar to that which has been established in the UK. The hip fracture registry would improve patient outcomes, ensure safety and quality, reduce inequality, be a driver for organisational change and would enable change in practice as well as provide opportunity for further research. The establishment of this registry is a collaborative effort with a range of stakeholders.

A simple screening tool can identify ED attendees at risk of future falls, Dr Anne Tiedemann, Musculoskeletal Health Division, The George Institute for Global Health.

This presentation reported on the development of a falls risk screening tool for the ED, its assessment for external validity and comparison of the tools predictive ability to a measure of previous falls and to other tools available for use in this setting. It was found that the independent predictors for falling identified by this tool were previous multiple falls, taking 6 or more medications and using a walking aid outdoors.

The external validation found that using a walking aid outdoors did not change the validity and therefore this was not included in the final screening tool.

This tool was found to be significantly better than just using previous falls as a screening question and it compared favourably with the FROP-COM screen and the PROFET tool. This tool was developed in the ED with support of the ED staff and ASET and Allied Health staff are well placed to use this tool.

PLENARY SESSION 2

This session included a range of presentations on working with Aboriginal and Torres Strait Islander and Culturally and Linguistically Diverse (CALD) populations.
Working with Aboriginal and Torres Strait Islander People: Insights into their care, Dr Simon Chalkley, Prince of Wales Hospital and Koori Growing Old Study.

This presentation outlined some of the factors associated with poor health in the Aboriginal and Torres Strait Islander population including cultural, historical and socioeconomic factors. An overview of the work carried out by the Aboriginal Community Health Centre at La Perouse and the model of care used was also provided. This model included using an outreach service led by local indigenous health workers and steered by a committee that included representatives from the local Aboriginal community.

Working with the Aboriginal Population, Mr. Steve Ella, Aboriginal Drug and Alcohol Traineeship Program, Central Coast LHD.

This presentation focused on the importance of considering the impact historical government policies had on Aboriginal and Torres Strait Islander communities and their relationships with the non-aboriginal community. Steve provided a number of tips on working closely with Aboriginal populations including awareness and respectfulness of the extended family and kinship structures, listening to the needs of the Aboriginal person, using clear uncomplicated language, being open and honest, keeping ones word and wherever possible for men to speak to men and women to women.

Peer Educators Health Promotion Program, Mr. Md Habibullah and Ms Mary Prince, Health Promotion Service for Older People, Combined Pensioners and Superannuants Association (CPSA) of NSW.

The Peer Educators Health Promotion Program is funded by the NSW Ministry of Health, with oversight of the South Eastern Sydey Local Health District and auspiced by the Combined Pensioners and Superannuants Association (CPSA) of NSW. This program trains volunteer peer educators from CALD and English backgrounds to deliver a range of community presentations on health areas such as falls prevention, osteoporosis, medication management, diabetes awareness and oral health care. The programs are delivered in a range of community languages and settings.

Peer educators are recruited through advertising and undergo a training course with 5 modules that need to be completed as well as spending time with a trained Peer educator and preparing and delivering a presentation. Once the initial training is completed, there is further training in each of the specific health areas (8 hours per health topic).

From 2007- 2011 a total of 124 sessions on falls prevention have run with 3,668 participants. The feedback from participants has been very positive with 79% finding the sessions to be very good or excellent.

For more information go to: Health Promotion Service for Older People
PLENARY SESSION 3

This session was opened with a presentation by Dr Sue Curtis and Mr. Owen Curtis (from Ortran Self-management Solutions) around Unlocking potential for engagement to enhance professional’s ability to engage with their clients and other professionals around prevention initiatives.

This presentation examined the relationship between the service provider and client and the importance of focusing on the client’s preferences, needs and values. There was also discussion about the most powerful tool being our own potential and how we use it for behavioural change. A panel of participants were introduced to some visual tools which could be used aid in understanding client’s motivation and what matters to them.

The other presentations in this session included:

To do or not to do, that is the question (and the challenge), Ms Sally Castell, Northern Sydney Health Promotion.

This presentation focused on the creative process of encouraging and motivating older people to exercise by observing, providing knowledge and using ones’ experience and skill. Motivational strategies involved assisting older people to acquire the belief, vision, understanding and ability to become involved in activities that are appropriate to their needs and abilities. It is important to be aware of the differing functional abilities and cognitive capacities of older clients and aim messages appropriately.

Programs should be marketed as being enjoyable and providing physical, social and mental benefits to the individual. Finding the trigger that each person needs to more actively engage in an activity and using a range of communication mechanisms to get the message across are also important. There are multiple ways to support and encourage people to be active, there is no magic bullet just a continual, ongoing and evolving process.

The curious enquirer – can we get the client’s YES to exercise? Ms Margaret Daly, Occupational Therapy Department, Royal North Shore Hospital

This presentation focused on motivational interviewing, asking clients the right questions to understand their motivation, truly listening to them and empowering them rather than trying to make it right. Using techniques of empathic listening to try and understand how they feel and help them explore how they can make a difference in their own health by taking back responsibility and control. Integrate exercises into their daily activities, use visible prompts and have clients self measure their progress and reinforce achievements and gains. If they are having difficulties, explore blockages and discuss other ways and avoid why questions. Asking the right questions enables clients to work out what works for them.

Motivating residential aged care residents to participate in exercise, Ms Sharon Butler, Better Balance Program, Anglican Retirement Villages

This presentation focused on how to encourage residents in residential aged care facilities to participate in exercise programs. It is important to understand residents personality and physical problems. Encouraging residents to come out of their rooms to see what the group is doing is important. The use of music helps with exercise programs in residential care. The exercise leaders should be
enthusiastic and provide motivation to participate, a personal touch is also important. Incentives such as food, ice creams and coffee vouchers can also be used.

*Enrolled Nurses take on falls prevention at Northern Sydney Home Nursing Service*, Ms Joanne MacMillan, Aged Care/ Dementia CNC, Northern Sydney Home Nursing Service

A falls prevention program comprising a falls risk assessment, a home falls prevention program and information packs for patients and carers was provided by nurses over an implementation period. This program was assessed and found to be useful, however RNs could not continue to complete the program as part of their care due to increased workloads. The ENs expressed an interest in facilitating the continuation of the program as this provided them with more responsibility and the program has continued with great success. The ENs are supported in the program by the NUM and Aged Care / Dementia CNC.

*Games for health and wellbeing: Videogames as a Telehealth technology*, Dr Stuart Smith, Senior Research Officer, Neuroscience Research Australia

Interactive video games may offer a way to ensure compliance with exercise. Older people can engage with this technology using their existing TV. An exercise mat has been developed that can be used with a TV and can also be linked into existing game consoles such as the Wii and X-box and the consoles and games are relatively inexpensive. Monitoring can also occur and information sent over an internet or phone link to health professionals.

**FALLS NETWORK FORUM 2012**
Ms Lorraine Lovitt

Daniel Schoene and Joanne Lo
fantastic helpers on the registration table

Ms Noeline Brown
opening the Forum

Greg Rendell from
Invisa-Beam International

Forum participants at Trade display during morning

Health Promotion Service for
Older People display

Dr Sue Curtis, Ortran Self Management Solutions

NSW Falls Prevention Network Advisory Group

A/Prof Jacqueline, Close, Ms Lara Harvey and Ms Betty Ramsay

Ms Donna Ingram, MLALC

Panel participants for unlocking potential for engagement presentation

Dr Jo Mitchell
New Resources and Websites

Australian Institute of Health and Welfare

New reports from AIHW on Hospitalisations due to falls by older people.

AIHW Report Profile, *Hospitalisations due to falls by older people 2006-07 to 2008-09*


Bradley C 2012. *Hospitalisations due to falls by older people, Australia 2007–08*. Injury research and statistics series no. 61. Cat. no. INJCAT 137. Canberra: AIHW.


Seniors Services website

seniorsservicesguide.com.au

There are many aged care services to help older Australians remain happy and healthy in their own homes. For example, the government Home and Community Care (HACC) program funds basic support services which are provided either free or at a subsidised cost by community, church and charitable organisations, and some private businesses. There are also plenty of commercial providers who offer services for a fee.

This website allows people to find services in their locality such as activities, social support, cleaning and handyman services.

Conferences/Meetings

5th Biennial Australian and New Zealand Falls Prevention Society Conference, 28th - 30th October, Adelaide Convention Centre

The main theme for this year’s conference is *Translating Research into practice*. Go to www.anzfpsconference.com.au/

This conference will be of interest and relevance to health professionals and others who provide care and support to older people, and who are interested in reducing the rate of falls and harm from falls. The conference showcases Australasian and international research.

Registration is now open and early bird rates apply until July 27th.
www.activeandhealthy.nsw.gov.au

Find a falls prevention exercise program in your local community.

Designated for
• General Practitioners
• Health & Community Services staff
• Community members (older people, family, friends and carers)

Search by suburb
To find a falls prevention exercise program in your local area.

Exercise programs
Have been approved for registration on this website.
Programs include: Tai Chi, Stepping On, Gentle Exercise and more.

Other highlights
• The Staying Active and On Your Feet booklet with exercises to do at home, and lifestyle and home safety checklists.
• Information for health professionals - falls prevention best-practice.

View the website at: www.activeandhealthy.nsw.gov.au
Please promote this website and provide feedback at: www.activeandhealthy.nsw.gov.au/feedback
Abstracts

Recent abstracts from the research literature

Reviews

Systematic review of the effect of home modification and fall prevention programs on falls and the performance of community-dwelling older adults.

Chase CA, Mann K, Wasek S, Arbesman M.


Abstract

This systematic review explored the impact of fall prevention programs and home modifications on falls and the performance of community-dwelling older adults. It was conducted as part of the American Occupational Therapy Association’s Evidence-Based Practice Project. Thirty-three articles were analyzed and synthesized. The strongest results were found for multifactorial programs that included home evaluations and home modifications, physical activity or exercise, education, vision and medication checks, or assistive technology to prevent falls. Positive outcomes included a decreased rate of functional decline, a decrease in fear of falling, and an increase in physical factors such as balance and strength. The strength of the evidence for physical activity and home modification programs provided individually was moderate. Implications for practice, education, and research are also discussed.

The effect of whole body vibration on balance, mobility and falls in older adults: A systematic review and meta-analysis.

Lam FM, Lau RW, Chung RC, Pang MY.


Abstract

This systematic review aimed to examine the effect of WBV on balance, mobility and falls among older adults. The databases used included MEDLINE, the Excerpta Medica database, the Cumulative Index to Nursing and Allied Health Literature, the Cochrane Library Databases of Systematic Reviews, Physiotherapy Evidence Database (PEDro), PubMed, and Science Citation Index (last search in October 2011). Randomized controlled trials that investigated the effect of WBV on balance, mobility or falls in older adults were included in this review. The PEDro score was used to examine the methodological quality of the selected studies. The effect of WBV on balance, mobility and fall-related outcomes were extracted. The data extraction and rating were performed by a researcher and the results were confirmed by the principal investigator. Meta-analysis was done if 3 or more studies measured the same outcome of interest. Among 920 articles screened, fifteen articles (thirteen trials) satisfied the criteria and were included in this review. The PEDro score was used to examine the methodological quality of the selected studies. The effect of WBV on balance, mobility and fall-related outcomes were extracted. The data extraction and rating were performed by a researcher and the results were confirmed by the principal investigator. Meta-analysis was done if 3 or more studies measured the same outcome of interest. Among 920 articles screened, fifteen articles (thirteen trials) satisfied the criteria and were included in this review. Methodological quality was good for six of the studies (PEDro score=6-7). Meta-analysis revealed that WBV has a significant treatment effect in Tinetti Total Score (p<0.001), Tinetti Body Balance Score (p=0.010) and Timed-Up-and-Go test (p=0.004). No significant improvement was noted in Tinetti Gait Score after WBV training (p=0.120). The effect of WBV on other balance/mobility outcomes and fall rate remains inconclusive. To conclude, WBV may be effective in improving relatively basic balance ability and mobility among older adults, particularly frailer ones. More good-quality WBV trials are required.

Examining the relationship between specific cognitive processes and falls risk in older adults: a systematic review.

Hsu CL, Nagamatsu LS, Davis JC, Liu-Ambrose T.

Abstract

This systematic review aims to establish which cognitive domains are associated with falls or falls risk. Recent evidence suggests that impaired cognition increases seniors’ risk of falling. The purpose of this review was to identify the cognitive domains that are significantly associated with falls or falls risk in older adults. We conducted a systematic review of peer-reviewed journal articles published from 1948 to present, focusing on studies investigating different domains of cognitive function and their association with falls or falls risk in adults aged 60 years or older. In accordance with Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines, we completed a comprehensive search of MEDLINE, PubMed, and EMBASE databases to identify studies examining the association between cognitive function and falls or falls risk. With an expert in the field, we developed a quality assessment questionnaire to rate the quality of the studies included in this systematic review. Twenty-five studies were included in the review. We categorized studies based on two related but distinct cognitive domains: (1) executive functions or (2) dual-task ability. Twelve studies reported a significant association between executive functions and falls risk. Thirteen studies reported that dual-task performance is a predictor of falls or falls risk in older adults. Three studies did not report an association between cognition and falls risk. Consistent evidence demonstrated that executive functions and dual-task performance were highly associated with falls or falls risk. The results from this review will aid healthcare professionals and researchers in developing innovative screening and treatment strategies for mitigating falls risk by targeting specific cognitive domains.

The neurobiology of falls

Fasano A, Plotnik M, Bove F, Berardelli A.


Abstract

Falling is a major clinical problem; especially, in elderly population as it often leads to fractures, immobilization, poor quality of life and life-span reduction. Given the growing body of evidences on the physiopathology of balance disorders in humans, in recent years the approach of research on falls has completely changed and new instruments and new definitions have been formulated. Among them, the definition of “idiopathic faller” (i.e. no overt cause for falling in a given subject) represented a milestone in building the “science of falling”. This review deals with the new determinants of the neurobiology of falling: (1) the role of motor impairment and particularly of those “mild parkinsonian signs” frequently detectable in elderly subjects, (2) the role of executive and attentive resources when coping with obstacles, (3) the role of vascular lesions in “highest level gait disorder” (a condition tightly connected with senile gait, cautious gait and frailty), (4) the role of the failure of automaticity or inter-limbs coordination/symmetry during walking and such approach would definitely help the development of screening instrument for subjects at risk (still lacking in present days). This translational approach will lead to the development of specific therapeutic interventions.

Epidemiology and risk factors

Depression as a predictor of falls amongst institutionalized elders.

Wang YC, Lin FG, Yu CP, Tseng YM, Liang CK, Chang YW, Chou CC, Chien WC, Kao S.


Abstract

Objective: In this study, we set out to examine the combined effects of medical condition and depression status on fall incidents amongst institutionalized elderly people.

Methods: A cross-sectional study was carried out to investigate the fall history of institutionalized elders involving 286 subjects. Experiences of falls over the previous year were recorded, with at least two falls during the prior one-year period, or one injurious fall defined as ‘fallers’. The Geriatric Depression Scale-15 was used as a screening instrument for depression status.
Results: Based on a multivariate logistic regression and stratification analysis, depression was found to have enhanced effects with various medical conditions on fall risk. As compared with the non-depressive reference group, a five-fold fall risk was discernible amongst depressed elders with multiple medications, whilst a six-fold risk was found amongst depressive elders using ancillary devices, along with a 11-fold amongst depressive elders with neural system diseases.

Conclusions: This study provides the evidence of enhancing effects between depression and medical conditions on the risk of falls amongst institutionalized elderly people. Thus, depressed elders with neural system diseases, using ancillary devices or multiple medications, should be specifically listed as very high risk of falling amongst institutionalized elderly, and strictly prevent them from falls. Screening and treatment of depression could also be a useful strategy in the prevention of falls amongst institutionalized elderly with poor medical condition.

Health-related predictors of falls and fractures in women over 40.

Nitz JC, Stock L, Khan A.


Abstract

A longitudinal study of women aged 40-80 predicted single falls from a previous fall history and deficient vestibular integration. Multiple falls were predicted by a fall history, low activity levels, more medical conditions and deficient vestibular integration. Low bone mineral density, more medical conditions and fall history predicted fractures.

INTRODUCTION: The purpose of this study was to identify potentially modifiable health-related factors predicting falls and fractures, focussing on women over 40.

METHODS: Four hundred and forty-nine women aged 40-80 years from the Longitudinal Assessment of Women study participated. Demographic information (age, BMI, medications, medical conditions and activity level), balance assessments (including timed up & go and modified clinical test for sensory interaction of balance) and measurements of bone mineral density and body composition were collected in 2001; fall and fracture data were gathered in 2003, 2005, 2007, 2008 and 2010 to determine incidence.

RESULTS: Multinomial logistic regression revealed that single falls could be predicted by a history of previous falls (OR 3.08) and being unsteady in bipedal stance on foam with eyes closed (OR 1.99). Multiple falls were predicted by a history of falls at baseline (OR 4.69), low levels of activity (OR 2.17), greater number of medical conditions (OR 1.12) and being unsteady in bipedal stance on foam with eyes closed (OR 4.21). Low bone mineral density (OR 3.13), greater number of medical conditions (OR 1.32) and a history of falls (OR 3.04) were predictive of fractures.

CONCLUSIONS: Poor health, decreased balance, and inactivity are predictive of falls and low bone mineral density, low activity level and poor health predictive fractures. Results suggest failing the balance test bipedal stance on foam with eyes closed in the presence of low activity and poor health is a valid quick screening tool for detecting potential fallers for referral for in-depth balance assessment and intervention.

Fall frequency and risk assessment in early Parkinson’s disease.


Abstract

BACKGROUND: We sought to define the frequency of falls in early PD and assess potential risk factors for falls in this population.

METHODS: We analyzed the data from two randomized, placebo controlled trials (NET-PD FS1 and FS-TOO) of 413 individuals with early PD over 18 months of follow-up in FS1 and 12 months in FS-TOO. Falls were defined as any report of falls on the UPDRS or the adverse event log. We assessed the frequency of falls overall and by age. The
relationship between prespecified fall risk markers and the probability of falling was assessed using logistic and multiple logistic regression. A hurdle Poisson model was used to jointly model the probability of remaining fall-free and the number of falls.

RESULTS: During the follow-up period, 23% of participants fell, and 11% were habitual fallers. In a multiple logistic regression model, age, baseline UPDRS Falling score, and baseline PDQ-39 scores were associated with subsequent fall risk (p < 0.001). Similarly, in a hurdle Poisson regression model, age, baseline UPDRS falling item, and baseline PDQ-39 were all significantly related to the probability of falling, but only UPDRS falling > 0 was associated with the number of falls.

CONCLUSION: Falls are frequent and are associated with impaired quality of life, even in early PD. Current standard rating scales do not sufficiently explain future fall risk in the absence of a prior fall history. New assessment methods for falls and postural instability are required to better evaluate this important problem in clinical trials and clinical practice.

Do Elderly People at More Severe Activity of Daily Living Limitation Stages Fall More?
Henry-Sánchez JT, Kurichi JE, Xie D, Pan Q, Stineman MG.
Am. J. Phys. Med. Rehabil. 2012; ePub(ePub): ePub. Affiliation: From the Hospital de La Concepción (JTH-S), San Germán, Puerto Rico; and Department of Biostatistics and Epidemiology, Center for Clinical Epidemiology and Biostatistics (JEK, DX, QP, MGS), and Department of Physical Medicine and Rehabilitation (MGS), School of Medicine, University of Pennsylvania, Philadelphia. DOI: 10.1097/PHM.0b013e31825596af PMID: 22561383 (Copyright © 2012, Lippincott Williams and Wilkins).

Abstract

OBJECTIVE: The aim of this study was to explore how activity of daily living (ADL) stages and the perception of unmet needs for home accessibility features associate with a history of falling.

DESIGN: Participants were from a nationally representative sample from the Second Longitudinal Survey of Aging conducted in 1994. The sample included 9250 community-dwelling persons 70 yrs or older. The associations of ADL stage and perception of unmet needs for home accessibility features with a history of falling within the past year (none, once, or multiple times) were explored after accounting for sociodemographic characteristics and comorbidities using a multinomial logistic regression model.

RESULTS: The adjusted relative risk of falling more than once peaked at 4.30 (95% confidence interval, 3.29-5.61) for persons with severe limitation (ADL-III) compared those with no limitation (ADL-0) then declined for those at complete limitation (ADL-IV). The adjusted relative risks of falling once and multiple times were 1.42 (95% confidence interval, 1.07-1.87) and 1.85 (95% confidence interval, 1.44-2.36), respectively, for those lacking home accessibility features.

CONCLUSIONS: Risk of falling appeared greatest for those whose homes lacked accessibility features and peaked at intermediate ADL limitation stages, presumably at a point when people have significant disabilities but sufficient function to remain partially active.

Evaluation of Falls Risk in Community-Dwelling Older Adults Using Body-Worn Sensors.
Greene BR, Doheny EP, Walsh C, Cunningham C, Crosby L, Kenny RA.

Abstract

Background: Falls are the most common cause of injury and hospitalization and one of the principal causes of death and disability in older adults worldwide. This study aimed to determine if a method based on body-worn sensor data can prospectively predict falls in community-dwelling older adults, and to compare its falls prediction performance to two standard methods on the same data set.

Methods: Data were acquired using body-worn sensors, mounted on the left and right shanks, from 226 community-dwelling older adults (mean age 71.5 ± 6.7 years, 164 female) to quantify gait and lower limb movement while performing the ‘Timed Up and Go’ (TUG) test in a geriatric research clinic. Participants were
Results: Results obtained through cross-validation yielded a mean classification accuracy of 79.69% (mean 95% CI: 77.09-82.34) in prospectively identifying participants that fell during the follow-up period. Results were significantly (p < 0.0001) more accurate than those obtained for falls risk estimation using two standard measures of falls risk (manually timed TUG and the Berg balance score, which yielded mean classification accuracies of 59.43% (95% CI: 58.07-60.84) and 64.30% (95% CI: 62.56-66.09), respectively).

Conclusion: Results suggest that the quantification of movement during the TUG test using body-worn sensors could lead to a robust method for assessing future falls risk.

Falls and Fall-Related Injury Are Common in Older People with Chronic Liver Disease.

Abstract
BACKGROUND: Improved survival with chronic liver disease (CLD) and increased incidence in the older has led to a rapidly expanding population which faces similar “geriatric syndromes” as the general population. With risk factors such as autonomic dysfunction, cognitive impairment, and muscle abnormalities in CLD it is expected that falls and injury will be common. AIM: To determine prevalence of falls and injury in chronic liver disease and to identify potential modifiable fall associations.

METHODS: Falls prevalence was estimated by providing patients aged ≥65 years with CLD a falls data collection tool, via the post or in the clinic. A younger CLD cohort and age-matched and sex-matched community controls was used for comparison. A sub-group underwent multidisciplinary falls assessment to identify modifiable fall associations.

RESULTS: Falls were significantly more common in older people with CLD (47 % in previous year) than in controls; incidence of injury did not differ. Regression identified orthostatic symptoms, lower-limb strength, and fear of falling as being independently associated with falls in CLD. Those who had fallen had significantly greater difficulty with daily activities.

CONCLUSION: Falls are prevalent in older people with CLD, and are potentially preventable with multifactorial intervention. Services must prepare for expansion in the older CLD population; here we demonstrate how this expansion may affect falls services and provide a potential therapeutic target.

Gait impairment and falls in cognitively impaired older adults: an explanatory model of sensorimotor and neuropsychological mediators.
Taylor ME, Ketels MM, Delbaere K, Lord SR, Mikolaizak AS, Close JC.

Abstract
OBJECTIVES: to explore the associations between spatiotemporal gait parameters and falls in cognitively impaired older people and to investigate whether sensorimotor and neuropsychological factors mediate the association between gait performance and falls.

DESIGN: prospective cohort study with a 1 year follow-up.

SETTING: community-dwelling sample. Participants: sixty-four participants (62-96 years of age) with cognitive impairment.

MEASUREMENTS: gait analysis and sensorimotor and neuropsychological functions were assessed in all participants. Falls were identified prospectively for 1 year.
RESULTS: multiple fallers (≥2 falls) had significantly slower gait velocity, shorter stride length, greater double support time and increased step length variability in univariate analyses. Multivariate logistic regression indicated that the relationship between gait and falls was mediated primarily by sensorimotor function and to a lesser extent by neuropsychological performance.

CONCLUSION: the findings indicate that slow and variable gait patterns increase the risk of falls in cognitively impaired older adults. Further, the association between gait and falls seems to be mediated in large by reduced sensorimotor functioning. Further research is needed to investigate whether interventions aimed at improving gait and/or sensorimotor fall risk factors, such as strength and balance, can prevent falls in cognitively impaired older adults.

Understanding Risk of Falls in People With Cognitive Impairment Living in Residential Care.
Whitney J, Close JC, Jackson SH, Lord SR.

Abstract
OBJECTIVES: To better understand fall risk factors in older adults with cognitive impairment living in residential care.

DESIGN: A prospective observational cohort study.

SETTING: Residential care homes in South London, UK.

PARTICIPANTS: Residents older than 60, with cognitive impairment who had a life expectancy of at least 6 months and were not bedbound or recently discharged from hospital.

MEASUREMENTS: Baseline assessments were undertaken in domains of demographics, medical history, medication use, behavior, affect, gait, balance, sensorimotor performance and neuropsychological function. Participants were followed for 6 months for falls using care home reporting systems.

RESULTS: A total of 109 participants completed baseline assessment and had adequate falls follow-up. Fallers took more medications, were more likely to be taking antidepressants, had more functional impairment, poorer balance and gait, were more impulsive and anxious, exhibited more dementia-related behaviors, and performed worse on cognitive tests involving attention and orientation, memory, and fluency. Logistic regression analysis identified 4 significant and independent predictors of falls: poor attention and orientation, increased postural sway with eyes closed, anxiety, and antidepressant use. The AUC for this model was 0.84 (95% CI 0.76-0.91).

CONCLUSIONS: This study identified important risk factors for falls potentially amenable to intervention in older people with cognitive impairment living in residential care. This information may be useful in designing effective approaches to fall prevention in this high-risk population.

Falls in newly admitted nursing home residents: a national study.
Leland NE, Gozalo P, Teno J, Mor V.

Abstract
OBJECTIVES: To examine the relationship between nursing home (NH) organizational characteristics and falls in newly admitted NH residents.

DESIGN: Observational cross-sectional study from January 1, 2006, to December 31, 2006.

SETTING: NHs in the United States in 2006.

PARTICIPANTS: Individuals (n = 230,730) admitted to a NH in 2006 without a prior NH stay and with a follow-up Minimum Data Set (MDS) assessment completed 30 days or more after admission.
Abstracts Continued
Recent abstracts from the research literature

MEASUREMENTS: The relationship between experiencing a fall noted on the MDS assessment and NH characteristics (e.g., staffing, profit and chain status, religious affiliation, hospital-based facility status, number of beds, presence of a special care unit, funding) was examined, adjusting for NH resident characteristics.

RESULTS: Twenty-one percent of this cohort (n = 47,750) had experienced at least one fall in the NH at the time of the MDS assessment, which was completed for newly admitted NH residents who had at least a 30-day stay. NHs with higher certified nursing assistant (CNA) staffing had lower rates of falls (adjusted odds ratio = 0.97, 95% confidence interval = 0.95-0.99).

CONCLUSION: For newly admitted NH residents, NHs with higher CNA staffing had a lower fall rate. In an effort to maximize fall prevention efforts, further research is needed to understand the relationship between CNA staffing and falls in this NH population.

Prospective Study of Falls and Risk Factors for Falls in Adults With Advanced Cancer.

Stone CA, Lawlor PG, Savva GM, Bennett K, Kenny RA.

J. Clin. Oncol. 2012; ePub(ePub): ePub. Affiliation: Carol A. Stone, Our Lady’s Hospice and Care Services; Carol A. Stone, George M. Savva, Kathleen Bennett, and Rose Anne Kenny, Trinity College Dublin; Rose Anne Kenny, St James’ Hospital, Dublin, Ireland; and Peter G. Lawlor, Bruyère Continuing Care and University of Ottawa, Ottawa, Ontario, Canada. DOI: 10.1200/JCO.2011.40.7791 PMID: 22585687 (Copyright © 2012, American Society of Clinical Oncology).

Abstract

PURPOSE: Retrospective studies of inpatients with cancer suggest that a cancer diagnosis confers a high risk of falls. In adults with advanced cancer, we aimed to prospectively document the incidence of falls, identify the risk factors, and determine if falls in this population occur predominantly in older patients.

PATIENTS AND METHODS: Patients admitted consecutively to community and inpatient palliative care services with metastatic or locoregionally advanced cancer who were mobile without assistance were recruited. Risk-factor assessment was conducted on initial encounter. Patients underwent follow-up via weekly telephone contact for 6 months or until time of fall or death. Relationship between covariates and time to fall was examined using hazard ratios (HRs) derived from univariate and multivariate Cox proportional hazards models.

RESULTS: Of 185 participants (52.4% men; mean age 68 ± standard deviation of 12.6 years), 50.3% fell; 35 (53%) of 66 participants age < 65 years and 58 (48.7%) of 119 age ≥ 65 years fell; 61.3% of falls occurred in the community; 42% resulted in injury. Median time to fall was 96 days (95% CI, 64.66 to 127.34). Primary brain tumor or brain metastasis (HR 2.5; P = .002), number of falls in the preceding 3 months (HR, 1.27; P = .005), severity of depression (HR, 1.12; P = .012), benzodiazepine dose (HR, 1.05; P = .004), and cancer-related pain (HR, 1.96; P = .024) were independently associated with time to fall in multivariate analysis.

CONCLUSION: Fifty percent of adults with advanced cancer, regardless of age, will experience a fall associated with high risk of physical injury. There is a compelling need to assess the efficacy of assessment and management of modifiable fall risk factors in patients with advanced cancer.

Depressive symptoms in addition to visual impairment, reduced strength and poor balance predict falls in older Taiwanese people.

Kwan MM, Lin SI, Close JC, Lord SR.


Abstract

OBJECTIVE: to determine whether depression is an important and independent predictor of falls in community-dwelling older people living in Taiwan.

DESIGN: longitudinal study.

SETTING: five randomly selected villages from Tainan city, Taiwan.
PARTICIPANTS AND METHODS: in total, 280 community-dwelling people not taking anti-depressant medication aged 65-91 years (mean age 74.9). Participants completed the Geriatric Depression Scale and underwent a range of sensorimotor, balance and mobility tasks and were then followed up for 2 years with monthly telephone calls to determine falls incidence.

RESULTS: of the 260 participants with complete follow-up data, 174 (66.9%) experienced no falls, 51 (19.6%) fell once and 35 (13.5%) fell two or more times. Depressive symptoms were significantly more prevalent in recurrent fallers (40.0%) and once-only fallers (27.5%) compared with non-fallers (16.1%). Negative binomial regression analysis identified depression, poor depth perception, reduced lower limb strength and increased sway as independent and significant predictors of falls.

CONCLUSION: depressive symptoms were found to be common in older Taiwanese people and associated with an increased fall risk. These findings suggest that in addition to implementing approaches to maximise vision, strength and balance, fall prevention strategies should also include interventions to assess and treat depression.

Fear of Falling

Fear of Falling and Coexisting Sensory Difficulties As Predictors of Mobility Decline in Older Women.

Viljanen A, Kulmala J, Rantakokko M, Koskenvuo M, Kaprio J, Rantanen T.


Abstract

BACKGROUND: Mobility decline, the coexistence of several sensory difficulties and fear of falling (FOF) are all common concerns in older people; however, knowledge about the combined effect of FOF and coexisting sensory difficulties on mobility is lacking.

METHODS: Data on self-reported FOF, difficulties in hearing, vision, balance, and walking 2 km were gathered with a structured questionnaire among 434 women aged 63-76 years at baseline and after a 3-year follow-up. Logistic regression models were used for analyses.

RESULTS: Every third participant reported difficulties in walking 2 km at baseline. In cross-sectional analysis, the odds ratio for difficulties in walking 2 km was higher among persons who reported FOF compared with persons without FOF and the odds increased with the increasing number of sensory difficulties. Persons who reported FOF and who had three sensory difficulties had almost fivefold odds (odds ratio = 4.7, 95% confidence interval = 1.9-11.7) for walking difficulties compared with those who reported no FOF and no sensory difficulties. Among the 290 women without walking difficulties at baseline, 54 participants developed difficulty in walking 2 km during the 3-year follow-up. Odds ratio for incident walking difficulty was 3.5 (95% confidence interval = 1.6-7.8) in participants with FOF and with 2-3 sensory difficulties compared with persons without FOF and with at most one sensory difficulty at baseline.

CONCLUSIONS: Older women who have several coexisting sensory difficulties combined with FOF are particularly vulnerable to mobility decline. Avoidance of walking as a result of FOF is likely to be reinforced when multiple sensory difficulties hinder reception of accurate information about the environment, resulting in accelerated decline in walking ability.

Balance training reduces fear of falling and improves dynamic balance and isometric strength in institutionalised older people: a randomised trial.

Gusi N, Carmelo Adsuar J, Corzo H, Del Pozo-Cruz B, Olivares PR, Parraca JA


Abstract

QUESTION: What is the effect of a balance training protocol with the Biodex Balance System in institutionalised older people with fear of falling?
Abstracts Continued

Recent abstracts from the research literature

DESIGN: Randomised controlled trial with concealed allocation and assessor blinding.

PARTICIPANTS: Forty older people who lived in a nursing home and had fear of falling.

INTERVENTION: The experimental group completed a 12-week balance training protocol based on balancing/rebalancing training with the Biodex Balance System, with two sessions per week. During the training period, participants in both groups received the same multidisciplinary care (such as physiotherapy, occupational therapy and nursing) that they usually received in the nursing home.

OUTCOME MEASURES: The primary outcome was fear of falling (Falls Efficacy Scale International questionnaire). Secondary outcomes were dynamic balance (Fall Risk Test) and isometric strength (torque of knee flexor and extensor isometric strength measured with an isokinetic dynamometer). Outcome measures were taken before and after the training program protocol.

RESULTS: Compared to the control group, the exercise group had significantly greater improvements at 12 weeks in fear of falling (by 8 points, 95% CI 4 to 12), in dynamic balance (by 2 degrees, 95% CI 1 to 3), and in isometric strength of the knee flexors (by 7Nm, 95% CI 3 to 11) and knee extensors (by 7Nm, 95% CI 1 to 13).

CONCLUSION: The training program was feasible and effective in reducing fear of falling and improving dynamic balance and isometric strength in institutionalised older people with fear of falling.

Effect of Guided Relaxation and Imagery on Falls Self-Efficacy: A Randomized Controlled Trial.

Kim BH, Newton RA, Sachs ML, Glutting JJ, Glanz K.


Abstract

OBJECTIVES: To examine the effects of guided relaxation and imagery (GRI) on improvement in falls self-efficacy in older adults who report having a fear of falling.

DESIGN: Randomized, controlled trial with allocation to GRI or guided relaxation with music of choice.

SETTING: General community.

PARTICIPANTS: Ninety-one men and women aged 60 to 92.

INTERVENTION: Participants were randomized to listen to a GRI audio compact disk (intervention group) or a guided relaxation audio compact disk and music of choice (control group) twice a week for 6 weeks for 10 minutes per session. MEASUREMENTS: Primary outcome measure was the Short Falls Efficacy Scale-International (FES-I). Secondary outcome measures were the Leisure Time Exercise Questionnaire (LTEQ) and the Timed Up and Go (TUG) mobility test.

RESULTS: GRI participants reported greater improvements on the Short FES-I (P = .002) and LTEQ (P = .001) scores and shorter time on the TUG (P = .002) than the guided relaxation and music-of-choice group.

CONCLUSION: GRI was more effective at increasing falls self-efficacy and self-reported leisure time exercise and reducing times on a simple mobility test than was guided relaxation with music of choice. GRI is an effective, simple, low-cost tool for older community dwellers.

Risk Assessment

The inter-rater and test-retest reliability of the Home Falls and Accidents Screening Tool

Vu TV, Mackenzie L.


Abstract

BACKGROUND/AIM: The Home Falls and Accidents Screening Tool was developed to assist health professionals to identify falls risk among community-dwelling older people arising from their home environment. The aim of this
study was to evaluate the Home Falls and Accidents Screening Tool by examining its inter-rater and test-retest reliability.

METHODS: Community-dwelling older people, over the age of 65 (n = 31) were recruited from the caseload of nine occupational therapists across three area health services in Sydney and the Hunter region. A total of 31 home visits were conducted by the researcher and an occupational therapist to independently administer the Home Falls and Accidents Screening Tool. Follow-up visits were then conducted within a two-week period by one of the raters to re-administer the Home Falls and Accidents Screening Tool. Reliability was evaluated using percentage agreement, intra-class correlations and kappa coefficients.

RESULTS: The intra-class correlation coefficient for the Home Falls and Accidents Screening Tool overall score was 0.82 (95% CI, 0.66-0.91) for inter-rater reliability and 0.77 (95% CI, 0.57-0.88) for test-retest reliability, indicating a good level of reliability for the tool. ‘Undefined stair edges’ was the only item that demonstrated poor inter-rater reliability (kappa = 0.37). All items except ‘loose mats’ (kappa = 0.19) reached acceptable or excellent levels of test-retest reliability with kappa scores greater than 0.40.

CONCLUSION: The Home Falls and Accidents Screening Tool demonstrated consistency across raters and across different time periods. Further studies into the reliability of the Home Falls and Accidents Screening Tool would benefit from sampling raters from varying professional backgrounds and older people with higher levels of function.

Intervention Studies

The effect of Vitamin D on falls and fractures.

Ringe JD.


Abstract

Vitamin D (cholecalciferol) is important for normal development and maintenance of the skeleton. The metabolites 25(OH)D and 1,25(OH)(2)D are not only important for treating rickets and osteomalacia but also for all types and clinical stages of osteoporosis. Patients with low calcium intake and a low vitamin D status are at risk to develop secondary hyperparathyroidism, increased bone resorption, osteopenia and fractures. This can be counteracted by a lifelong sufficient vitamin D supply plus dietary or supplementary calcium. The effects of vitamin D on muscle, balance and cognitive functions may be an added value in fracture prevention. Today it is generally accepted that a supplementation with vitamin D and calcium should be added to every specific medical treatment of osteoporosis. In contrast to this general recommendation the potency of vitamin D alone with or without calcium to reduce the incidence of falls and/or fractures is still a debated controversy. Studies and meta-analyses during the last two decades on the effect of vitamin D and calcium supplements have not resolved the controversy on the risk of falls and fractures in healthy or osteopenic elderly populations. A thorough analysis of these trials supports our clinical experience that the efficacy of vitamin D-calcium supplementation depends on factors related to patient selection, medical intervention and study design, e.g. age, mobility, preventing falls and fractures, co-morbidity, initial vitamin D status and renal function. We conclude that plain vitamin D (cholecalciferol) with sufficient calcium intake is able to reduce the risk of falls and fractures only when adopting optimal selection criteria for patients and study conditions.

Exercise to Enhance Mobility and Prevent Falls After Stroke: The Community Stroke Club Randomized Trial.

Dean CM, Rissel C, Sherrington C, Sharkey M, Cumming RG, Lord SR, Barker RN, Kirkham C, O’Rourke S.


Abstract

BACKGROUND: Exercise interventions can enhance mobility after stroke as well as prevent falls in elderly persons.

OBJECTIVE: Investigate whether an exercise intervention can enhance mobility, prevent falls, and increase
METHOD: A randomized trial with blinding of physical outcome assessment was conducted through local stroke clubs. Both groups, on average 5.9 years poststroke, received exercise classes, advice, and a home program for 12 months. The experimental group (EG) program (n = 76) aimed to improve walking, prevent falls and increase physical activity. The control group (CG) program (n = 75) aimed to improve upper-limb and cognitive functions. The primary outcomes were walking capacity, walking speed measured before and after the intervention, and fall rates monitored monthly.

RESULTS: At 12 months, the EG walked 34 m further in 6 minutes (95% confidence interval [CI] = 19-50; P < .001) and 0.07 m/s faster over 10 m (95% CI = 0.01-0.14; P = .03) than the CG. The EG had 129 falls, and the CG had 133. There were no differences in proportion of fallers (relative risk = 1.22; 95% CI = 0.91-1.62; P = .19) or the rate of falls between groups (incidence rate ratio = 0.96; 95% CI = 0.59-1.51; P = .88).

CONCLUSION: The experimental intervention delivered through stroke clubs enhanced aspects of mobility but had no effect on falls.

Improvements in Balance in Older Adults Engaged in a Specialized Home Care Falls Prevention Program.


Abstract

BACKGROUND AND PURPOSE: To determine if persons older than 65 years receiving a combination of physical therapy, occupational therapy, speech, or nursing interventions in their home demonstrated changes in gait/balance function after an episode of home care services.

METHODS: Charts from 11 667 persons who were at risk for falling and who were participating in an exercise program in the home were included. STUDY DESIGN: Data were retrieved from the Outcome and Assessment Information Set, Version B, and the computerized database of physical therapist-collected outcome data. Recorded physical therapist-data may have included a neuropathic pain rating, the Berg Balance Scale (BBS), the Performance Oriented Measurement Assessment (POMA), the Dynamic Gait Index (DGI), and the modified Clinical Test of Sensory Integration and Balance (mCTSIB).

DATA ANALYSIS: Data were extracted by an honest broker and were analyzed. Mean (SD) change in each performance test and the percentage of participants in the total sample and in the 9 age/health condition strata that exceeded the minimum detectable change (MDC) for each gait/balance measure were described. The value of MDC95 describes the amount of true change in participant status beyond measurement error with 95% certainty.

RESULTS: The gait/balance measures demonstrated MDCs ranging between 68% and 91% for the study sample. Mean (SD) of improvement on the BBS was 12 (8) points, with 88% of all participants exceeding the BBS MDC95 value of 5 points. Mean (SD) of improvement in gait/balance performance as measured by the POMA was 8 (4) points, with 91% of all participants exceeding the POMA MDC95 value of 3 points. Among all patients, mean (SD) of improvement on the DGI was 7 (4) points with 91% of all participants exceeding the DGI MDC95 value of 2 points by discharge. At admission, the median number of mCTSIB conditions that could be completed was 1 and the median number of completed conditions on the mCTSIB increased to 3 at discharge, with 81% of all participants demonstrating improvement.

CONCLUSION: On the basis of established criteria, participants seemed to make clinically meaningful gains after the home care episode of care.

Effectiveness of tai chi as a community-based falls prevention intervention: a randomized controlled trial.

Abstract

OBJECTIVES: To compare the effectiveness of tai chi and low-level exercise in reducing falls in older adults; to determine whether mobility, balance, and lower limb strength improved and whether higher doses of tai chi resulted in greater effect.

DESIGN: Randomized controlled trial.

SETTING: Eleven sites throughout New Zealand.

PARTICIPANTS: Six hundred eighty-four community-residing older adults (mean age 74.5; 73% female) with at least one falls risk factor.

INTERVENTION: Tai chi once a week (TC1) (n = 233); tai chi twice a week (TC2) (n = 220), or a low-level exercise program control group (LLE) (n = 231) for 20 wks. MEASUREMENTS: Number of falls was ascertained according to monthly falls calendars. Mobility (Timed-Up-and-Go Test), balance (step test), and lower limb strength (chair stand test) were assessed. RESULTS: The adjusted incident rate ratio (IRR) for falls was not significantly different between the TC1 and LLE groups (IRR = 1.05, 95% confidence interval (CI) = 0.83-1.33, P = .70) or between the TC2 and LLE groups (IRR = 0.88, 95% CI = 0.68-1.16, P = .37). Adjusted multilevel mixed-effects Poisson regression showed a significant reduction in logarithmic mean fall rate of -0.050 (95% CI = -0.064 to -0.037, P < .001) per month for all groups. Multilevel fixed-effects analyses indicated improvements in balance (P < .001 right and left leg) and lower limb strength (P < .001) but not mobility (P = .54) in all groups over time, with no differences between the groups (P = .37 (right leg), P = .66 (left leg), P = .21, and P = .44, respectively).

CONCLUSION: There was no difference in falls rates between the groups, with falls reducing similarly (mean falls rate reduction of 58%) over the 17-month follow-up period. Strength and balance improved similarly in all groups over time.

Thinking falls - taking action: a falls prevention tool for care homes.


Abstract

Falls in older people resident within care home settings are common and serious, often resulting in injury and mortality. Yet there is no standardised approach within UK care homes to assessing the risk of falls for individuals or identifying risk factors relevant for that person. The Guide to Action for Falls Prevention Tool - Care Homes (GtACH) was developed with local care homes in Nottinghamshire. Ten care homes were selected to participate in the study, four withdrawing before data collection commenced. Fourteen care home staff across six care homes tested the tool for usability and found it quick (20 minutes) and easy to use, yet only 53% of the recommended interventions highlighted were completed. The GtACH needs further evaluation to test whether its use prompts actions which reduce the number of falls, and the barriers to these actions being taken.

Effectiveness of a Multifactorial Intervention Program to Reduce Falls Incidence Among Community-Living Elderly People: A Randomised Clinical Trial (The EPICA Study).


Abstract

OBJECTIVE: To determine the effectiveness of a multifactorial intervention program to prevent falls among the elderly as compared to a brief intervention.

DESIGN: Randomized controlled trial.
SETTING: 11 Health Centers located in Córdoba (Spain).

PARTICIPANTS: People over 69 years old, residents in the community.

INTERVENTIONS: The centers were randomized to either one of the 2 groups: Intervention Group (IG), of a multifactorial nature (individual advice, information leaflet, physical exercise workshop and home visits) or Control Group (CG) (brief individual advice and information leaflet).

MAIN OUTCOME MEASURES: Fall rates and time until the fall. Estimates of the relative and absolute risk of falls. Survival analysis and Cox regression.

RESULTS: 414 patients were recruited, 133 in the IG and 271 in the CG. 33.1% in the IG and 30.25% in the CG had some fall the previous year (p = 0.56). After 12 months, the fall incidence rate was 17.29% in the IG and 23.61% in the CG (RR=0.73; 95%CI:0.48-1.12; (p=0.146). 60.1% of the IG patients said they had increased the time spent on physical activity. In the IG, the incidence of falls at homes was 27.5% compared to 49.3% in the CG (p=0.04). Being a woman (OR=1.62; 95%CI:1.03-2.54), having a history of falls (OR=1.15; 95%CI:1.05-1.26), suffering acute health problems (OR=2.19; 95%CI:1.09-4.40), and doing moderate exercise (OR=1.91; 95%CI:1.08-3.38), were found as factors associated with a higher risk of falls.

CONCLUSIONS: Although the reduction of falls in the IG was nearly halved, and after the intervention there was a significant reduction in the number of falls at these patients’ homes, the multifactorial intervention program is no more effective than the brief intervention to reduce the overall risk of falls.

How Much Are We Willing to Pay to Prevent A Fall? Cost-Effectiveness of a Multifactorial Falls Prevention Program for Community-Dwelling Older Adults.

Jenkyn KB, Hoch JS, Speechley M.

Can. J. Aging 2012; ePub(ePub); ePub. Affiliation: Lawson Health Research Institute, St. Joseph’s Health Care. DOI: 10.1017/S0714980812000074 PMID: 22621837 (Copyright © 2012, University of Toronto Press).

Abstract

This study examined the cost-effectiveness of a multifactorial falls prevention program and estimated the trade-off between the extra costs of such a program and the additional reduction of unintentional falls. Cost-effectiveness was evaluated using the traditional incremental cost-effectiveness ratio (ICER) and the net benefit regression framework (NBRF). Using the NBRF, decision making was formalized by incorporating values of willingness to pay (WTP) a priori. The results failed to provide evidence that a multifactorial falls prevention program was cost-effective. Participant adherence to recommendations ranged from low (41.3%), to moderate (21.1%), to high (37.6%). A future challenge is to understand more clearly the relationship between the community-dwelling older adult, potentially modifiable risks for falls, adherence to multifactorial risk factor recommendations, costs, and resulting effects of falls prevention practices. Future economic evaluations of falls prevention interventions remain necessary and should consider the NBRF so that regression tools can facilitate cost-effectiveness analysis.

Prevention of Falls in Community-Dwelling Older Adults: U.S. Preventive Services Task Force Recommendation Statement.

Moyer VA.


Abstract

Description: Update of the 1996 U.S. Preventive Services Task Force (USPSTF) recommendation statement on counseling to prevent household and recreational injuries, including falls.

Methods: The USPSTF reviewed new evidence on the effectiveness and harms of primary care-relevant interventions to prevent falls in community-dwelling older adults. The interventions were grouped into 5 main categories: multifactorial clinical assessment (with or without direct intervention), clinical management (with or without screening), clinical education or behavioral counseling, home hazard modification, and exercise or physical therapy.
Recommendations: The USPSTF recommends exercise or physical therapy and vitamin D supplementation to prevent falls in community-dwelling adults aged 65 years or older who are at increased risk for falls. (Grade B recommendation) The USPSTF does not recommend automatically performing an in-depth multifactorial risk assessment in conjunction with comprehensive management of identified risks to prevent falls in community-dwelling adults aged 65 years or older because the likelihood of benefit is small. In determining whether this service is appropriate in individual cases, patients and clinicians should consider the balance of benefits and harms on the basis of the circumstances of prior falls, comorbid medical conditions, and patient values. (Grade C recommendation).

Beyond the ‘tick and flick’: facilitating best practice falls prevention through an action research approach


Abstract

Aims and objectives: To examine residential aged care facility staff views on using falls risk assessment tools and the implications for developing falls prevention practices in the context of an action research project.

Background: Falls risk assessments play an important role in care planning by identifying and monitoring aged care facility residents most at risk of falls. Yet while such assessments are recommended in falls prevention best practice guidelines, there is little published research that examines staff procedures and views related to conducting falls risk assessments. Design. Falls risk assessments were undertaken in the context of an action research project.

Method: Twelve staff members from two residential aged care facilities (RACFs) in Tasmania formed a single Falls Action Research Group, which met 22 times over a year, providing the study’s qualitative data. During this time, key group members assessed 178 residents using a new falls risk assessment tool (FROP-Resi).

Results: According to group members, facilities evolved from a ‘tick-and-flick’ approach to falls risk assessment to a more individualised, face-to-face assessment process. Group members perceived the process to be more meaningful and enjoyable for staff involved in the assessment process resulting in higher quality of assessments and leading to improved levels of falls awareness among staff, residents and family caregivers.

Conclusions: An action research process is useful for facilitating a new approach to falls risk assessments, engaging aged care facility staff with falls prevention and prompting improvements in falls prevention practices.

Relevance to clinical practice: RACFs need to provide opportunities for staff to meet regularly to discuss practice, identify issues and take action. By doing so, staff can engage meaningfully with best practice activities such as optimising falls risk assessment processes.

Staying Safe at Home. Home environmental audit recommendations and uptake in an older population at high risk of falling
Curran ML, Comans TA, Heathcote K, Haines TP.

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Abstract

Aim: To identify the level of uptake of occupational therapists’ home environmental audit recommendations by older community dwellers and the factors that contribute to adherence. Methods: Design and setting: Cohort nested within an RCT that compared two models of care for fall prevention located in Brisbane, Australia. Participants: Community-dwelling older people >60 at risk of falls (n = 80).

Interventions: An environmental audit and recommendations by an occupational therapist.

Results: Of the recommendations made, 55% were completed by 6 months. Increasing number of comorbidities
Abstracts Continued
Recent abstracts from the research literature

was a significant predictor of adherence with recommendations. Recommendations requiring external providers were more likely to be completed than those relying on the client or family member.

Conclusion: Occupational therapists need to consider a wide range of intrinsic and extrinsic factors, which may contribute to adherence with home modifications.

The cost-effectiveness of falls prevention interventions for older community-dwelling Australians

Church J, Goodall S, Norman R, Haas M.


**Abstract**

Objective: To evaluate the cost-effectiveness of strategies designed to prevent falls among older people.

Methods: A decision analytic Markov model of interventions designed to prevent falls was developed. Incremental cost-effectiveness ratios (ICERs) using quality adjusted life year (QALYs) as the measure, were calculated for those interventions aimed at the general population (home exercise, group exercise, tai chi, multiple and multi-factorial interventions); high-risk populations (group exercise, home hazard assessment/modification and multi-factorial interventions); and specific populations (cardiac pacing, expedited cataract surgery and psychotropic medication withdrawal). Uncertainty was explored using univariate and probabilistic sensitivity analysis.

Conclusion: In the general population, compared with no intervention the ICERs were tai chi ($44,205), group-based exercise ($70,834), multiple interventions ($72,306), home exercise ($93,432), multifactorial interventions with only referral ($125,868) and multifactorial interventions with an active component ($165,841). The interventions were ranked by cost in order to exclude dominated interventions (more costly, less effective) and extendedly dominated interventions (where an intervention is more costly and less effective than a combination of two other interventions). Tai chi remained the only cost-effective intervention for the general population.

Implications: Interventions designed to prevent falls in older adults living in the community can be cost-effective. However, there is uncertainty around some of the model parameters which require further investigation.

The Enhanced Primary Care program and falls prevention: Perceptions of private occupational therapists and physiotherapists

Middlebrook S, Mackenzie L.


**Abstract**

Aim: To investigate the processes involved for private occupational therapists (OTs) and physiotherapists (PTs) to implement Medicare items from the Enhanced Primary Care (EPC) program within their practice, for the purpose of falls prevention interventions for older people.

Methods: Qualitative study using a grounded theory approach employing semistructured interviews with five private occupational therapists and five private physiotherapists from across the Sydney area and the Hunter region.

Results: The following key themes emerged in relation to the potential for the EPC to be used to access falls prevention: (i) interdisciplinary communication and communication with consumers; (ii) best practice in community-based falls prevention using the EPC program; and (iii) administrative and organisational challenges of the EPC program.

Conclusion: Participants supported the EPC program, and saw its potential for delivering falls prevention interventions in the community. However, findings suggest that the EPC program needs to be further refined to be more effective.
NSW Falls Prevention Network Background
The NSW Falls Prevention Network was established in 1993. The role of this network has grown since its inception and now includes:

- Meetings for discussion of falls related issues;
- Dissemination of research findings both local and international;
- Sharing resources developed and exploration of opportunities to combine resources in joint initiatives;
- Encouragement of collaborative projects and research;
- To act as a group to influence policy;
- To liaise with NSW Ministry of Health to provide information on current State/Commonwealth issues in relation to falls and
- Maintenance of resources pertinent to the field.

The main purpose of the network is to share knowledge, expertise and resources on falls prevention for older people.

The NSW Falls Prevention Network activities are part of the implementation of the NSW Falls Prevention Policy funded by the NSW Ministry of Health.

“Falls Prevention is Everyone’s Business”