

EffectivenessMatters

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Preventing falls in the community



- Falls can have a devastating effect on independence, confidence, and quality of life
- Multicomponent assessment of falls risk for individuals is essential to identify the appropriate targeted interventions
- Group and home-based exercise programmes, and home safety interventions reduce rate of falls and risk of falling
- To improve implementation, beliefs and behaviours at individual, organisational and societal levels need to be addressed
- Consultation with older people is essential to ascertain what changes they are prepared to make to reduce their fall risk
- Active training and support of health professionals is needed to implement falls prevention programmes in practice

This issue of *Effectiveness Matters* has been produced by CRD in collaboration with the Yorkshire and Humber AHSN Improvement Academy. The views expressed in this bulletin are those of the authors and not necessarily those of the AHSN or the University of York.

Background

Falls and fall-related injuries are a common and serious problem for older people. People aged 65 and older have the highest risk of falling, with 30% of people older than 65 and 50% of people older than 80 falling at least once a year.¹

Falls can have a devastating effect on independence, confidence, and quality of life and are associated with physical injuries, psychological trauma, functional impairments, and even death.

This issue of Effectiveness Matters summarises the evidence about the effectiveness and implementation of interventions programmes to prevent falls in the community and nursing care homes. The bulletin is based on existing sources of synthesised and quality-assessed evidence.

Falls assessment

NICE recommend that when older people visit healthcare professionals, they should be routinely asked about any history of falls.

Older people presenting for medical attention because of a fall, or who report recurrent falls in the past year, or demonstrate abnormalities of gait and/or balance should be offered a multicomponent falls risk assessment.

Falls assessments should be carried out by a healthcare professional with appropriate skills and experience, ideally in the setting of a specialist falls service. This assessment should be part of an individualised, multicomponent intervention.¹

Frailty is a complex clinical condition associated with adverse health outcomes, including increased risk of falling. Active management of the frail through the provision of preventative and individualised care can help avoid crisis events.²

Interventions in the community

There is good quality review evidence that multicomponent exercise programmes delivered to groups or individually at home significantly reduced the rate of falls and risk of falling. Tai Chi classes significantly reduced the risk of falling, though were less effective in those at higher risk of falling. Overall, exercise interventions significantly reduced the risk of fall-related fractures.³

Home safety assessment and modification interventions were effective in reducing rate of falls and risk of falling. These interventions were more effective in people at higher risk of falling, including those with severe visual impairment. Home safety interventions appear to be more effective when delivered by an occupational therapist.

Multifaceted podiatry including foot and ankle

exercises in people with disabling foot pain significantly reduced the rate of falls but not the risk of falling. An anti-slip shoe device reduced rate of falls in icy conditions.

When wearers of multifocal glasses were given single lens glasses, falls were significantly reduced in those who regularly took part in outside activities. However, there was a significant increase in falls outside in frailer participants.

First eye cataract surgery in women reduced rate of falls, but second eye surgery did not.

There is evidence of an association between falls in the elderly and the use of sedatives and hypnotics, antidepressants and benzodiazepines, in any setting. An increased likelihood of falling has been estimated for the use of sedatives and hypnotics, neuroleptics and antipsychotics, antidepressants, benzodiazepines, and nonsteroidal anti-inflammatory drugs.⁴ However there is limited evidence for the effectiveness of interventions targeting medications. The gradual withdrawal of psychotropic medication reduced rate of falls but not risk of falling. Intensive prescribing training for GPs, combined with self assessment of medication use by patients and medication review reduced risk of falling.³

Overall, vitamin D (with or without calcium) does not reduce rate of falls or risk of falling, but it may do in people with lower vitamin D levels.

Pacemakers reduced rate of falls in people with carotid sinus hypersensitivity but not risk of falling.

There is no evidence of effect for cognitive behavioural interventions on rate of falls or risk of falling.

Trials testing interventions to increase knowledge/educate about fall prevention alone did not significantly reduce the rate of falls or risk of falling.

Multicomponent interventions, which include individual risk assessment and individualised interventions, reduced the rate of falls but not risk of falling.

Interventions in care facilities

Single interventions

There is good review evidence that in care facilities overall, exercises delivered to all participants in a group were not found to change rate of falls or risk of falling. Only balance training using mechanical apparatus in intermediate care facilities showed some promise. Exercise reduced falls in people in intermediate nursing care level facilities, but increased falls in high level care facilities. Frail participants are less likely to benefit from exercise interventions.⁵

Vitamin D supplementation was effective in reducing the rate of falls but not risk of falling in people living in care facilities.⁵

There is inconsistent or no evidence of effect for medication review by pharmacists; the use of environment/assistive technology; service model change; lavender patches; sunlight exposure; or multisensory stimulation. Likewise staff training on fall and fracture prevention, guideline implementation and a risk assessment tool versus nurses' judgement were not found to reduce falls.⁵

Multiple interventions

There is inconclusive evidence that an intervention for incontinent residents in high level nursing care facilities that included exercise, offering regular fluids and toileting, reduced falls. Increased sunlight exposure plus calcium supplements failed to reduce falls.⁵

Multicomponent interventions

There may be benefits from the use of multicomponent interventions in care facilities, but the evidence is not conclusive.⁵

A systematic review and network meta-analysis to identify the most effective interventions and combinations of interventions that prevent falls in any setting is due for completion in September 2015.⁶

There is limited evidence that falls prevention strategies can be cost-saving. To obtain maximum value for money, effective strategies need to be targeted at particular subgroups of older people.³

Cost savings were found for home-based exercise in over 80-year-olds, home modification in those with a previous fall, and a multicomponent programme targeting ambulant, community dwelling over 70 year olds with at least one risk factor for falling. Cost-effectiveness was seen for: exercise; home modification for those with loss of vision and those recently in hospital; withdrawal of psychotropic medication; multicomponent programmes; and first eye cataract surgery.³

Implementation methods

There is good quality review evidence for active training and support of a range of healthcare professionals to implement falls prevention into clinical practice. Successful programmes incorporated training and dissemination of evidence based interventions, and used behaviour change strategies, opinion leaders, media awareness, outreach visits to older people and patient and provider materials. Increased use of falls prevention guidance, strategies,

Factors influencing the design and implementation of fall prevention programmes⁸

Healthcare professionals and older people view ability to cope differently.

Older people may not be experts on fall prevention but may feel they are experts in self-management.

Funding focusses on secondary rather than primary prevention interventions.

Choice in the type, pitch and delivery of exercise interventions is needed.

Older person perspective

Older people are reluctant to be viewed as old and disabled: an overriding need is to maintain independence.

Loss of identity through reliance on others, including health and social care professionals, is a fear.

The daily routines of older people are not always considered.

Access is influenced by cost, transport, distance, parking and weather conditions.

Social and cultural beliefs influence attitudes to risk and acceptability of interventions.

Health professional perspective

Lack of time and conflicting priorities are barriers.

Resources for staff, training, implementation and sustainability are needed.

Training for health professional staff may vary in depth and focus.

assessment and management by community based rehabilitation therapists and nurses was seen.⁷

The evidence around changing the way people who fall are managed within primary care practices was mixed, as was the use of community awareness programmes and peer or lay-delivered falls prevention programmes. However this evidence is likely to be out of date.

Barriers and facilitators

The following issues were identified in a well conducted review of qualitative studies.⁸ The key points are summarised in the table.

There are frequent mismatches between the views of healthcare professionals and the older person with regard to ability to cope at home.

Health professionals do not consider older people to be experts on fall prevention; but many older people feel they are experts in self-management.

Similarly there is uncertainty over the ability of family members to identify falls risks and the older person's willingness to listen to family members.

Currently funding focusses on secondary prevention interventions, i.e. for those who have already had a fall, rather than primary prevention i.e. those who have not yet fallen.

Choice could be offered in the type of exercise and whether it is delivered as an individual or group-based activity. Classes need to be pitched to suit participant abilities.

Older person perspective

Older people are reluctant to be viewed as old and disabled so falling or being labelled at risk of falling transforms a person's identity. Although aware of the risks, the overriding need is to maintain independence for fear of losing their home.

An even greater fear is loss of identity through reliance on others. Contact with health and social care professionals is not always seen as empowering for older people.

The daily routines of older people are generally not considered in the planning and provision of interventions. Even where specific needs have been identified, delivery may not take account of individual preferences or routines.

Not all can afford to pay for interventions that incur costs, though 'reasonable' costs are acceptable.

Access is influenced by ability to drive, availability and cost of transport, travelling distance, car parking facilities, and bad weather conditions.

Mobility aids may offer greater freedom, but can also symbolise loss of independence.

Social and cultural attitudes influence acknowledgement of the need for assistance and acceptability of interventions. Many cultures believe that the consequences of ageing are outside the control of the individual and are down to the will of God or Allah; luck; or inevitable wear and tear.

The environment, style and composition of exercise classes influence success or failure.

Health professional perspective

Lack of time and conflicting priorities are seen by primary care health professionals as barriers in already overloaded patient encounters in practices and in the home.

Resources for extra staff and improvements in training for all health professionals in fall prevention interventions and risk assessment are needed; as is funding for sustainability.

Training for health professional staff may vary in depth and focus: leading to treatment of individual problems rather than a holistic approach.

Irrespective of skills, knowledge or experience, the nurse-doctor hierarchy remains the same with the doctor making the final decisions about care despite not having undertaken a risk assessment themselves.

References

1. NICE. Falls: assessment and prevention of falls in older people. (CG161). London: NICE, 2013.
2. Clegg A, Young J, Iliffe S, Rikkert MO, Rockwood K. Frailty in elderly people. *The Lancet* 2013; 381(9868): 752-762. DOI: 10.1016/S0140-6736(12)62167-9
3. Gillespie LD, Robertson MC, Gillespie WJ, Sherrington C, Gates S, Clemson LM, Lamb SE. Interventions for preventing falls in older people living in the community. *Cochrane Database of Syst Rev* 2012, Issue 9. Art. No.: CD007146. DOI: 10.1002/14651858.CD007146.pub3.
4. Woolcott JC, Richardson KJ, Wiens MO, Patel B, Marin J, Khan KM, Marra CA. Meta-analysis of the impact of 9 medication classes on falls in elderly persons. *Archives of Internal Medicine* 2009; 169(21): 1952-1960
5. Cameron ID, Gillespie LD, Robertson MC, Murray GR, Hill KD, Cumming RG, Kerse N. Interventions for preventing falls in older people in care facilities and hospitals. *Cochrane Database of Syst Rev* 2012, Issue 12. Art. No.: CD005465. DOI: 10.1002/14651858.CD005465.pub3.
6. Tricco AC, Cogo E, Holroyd-Leduc J, Sibley KM, Feldman F, Kerr G, Majumdar SR, Jaglal S, Straus S. Efficacy of falls prevention interventions: protocol for a systematic review and network meta-analysis. *Syst Rev* 2013; 2:38
7. Goodwin V, Jones-Hughes T, Thompson-Coon J, Boddy K, Stein K. Implementing the evidence for preventing falls among community-dwelling older people: a systematic review. *J Saf Res* 2011, 42:443-451.
8. Child S, Goodwin V, Garside R, Jones-Hughes T, Boddy K, Stein K. Factors influencing the implementation of fall-prevention programmes: a systematic review and synthesis of qualitative studies. *Implement Sci*. 2012 Sep 14;7:91. doi: 10.1186/1748-5908-7-91.

About Effectiveness Matters

Effectiveness Matters is a summary of reliable research evidence about the effects of important interventions for practitioners and decision makers in the NHS and public health. This issue is produced by CRD in collaboration with the Yorkshire and Humber AHSN Improvement Academy. *Effectiveness Matters* is extensively peer reviewed.

