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[Intervention Review]

Population-based interventions for the prevention of fall-related injuries in older people

Roderick J McClure[1], Cathy Turner[2], Nancye Peel[3], Anneliese Spinks[4], Elizabeth Eakin[5], Karen Hughes[6]

[1]Accident Research Centre, Monash University, Victoria, Australia. [2]School of Nursing, University of Queensland, Herston, Australia. [3]School of Population Health, University of Queensland, Herston, Australia. [4]School of Medicine, Griffith University, Meadowbrook, Australia. [5]Queensland Cancer Fund, Spring Hill, Australia. [6]Centre for Health Research, Public Health, Queensland University of Technology, Kelvin Grove, Australia

Contact address: Anneliese Spinks, School of Medicine, Griffith University, University Drive, Meadowbrook, Queensland, 4031, Australia. a.spinks@griffith.edu.au.

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ABSTRACT

Background

Fall-related injuries are a significant cause of morbidity and mortality in older populations. Summary information about countermeasures that successfully address the risk factors for fall-related injuries in research settings has been widely disseminated. However, less available is evidence-based information about successful roll out of these countermeasures in public health programmes in the wider community. Population-based interventions in the form of multi-strategy, multi-focused programmes are hypothesised to result in a reduction in population-wide injury rates. This review tests this hypothesis with regard to fall-related injuries among older people.

Objectives

To assess the effectiveness of population-based interventions, defined as coordinated, community-wide, multi-strategy initiatives, for reducing fall-related injuries among older people.

Search methods

We searched the Cochrane Injuries Group Specialised Register, CENTRAL (*The Cochrane Library*), MEDLINE, EMBASE, National Research Register, AgeInfo, PsycInfo and Web of Knowledge. We also searched the internet, carried out handsearches of selected journals and checked the reference lists of relevant papers to identify any further studies. The latest search was conducted in May 2007.

Selection criteria

Studies were independently screened for inclusion by two review authors. Included studies were those that reported changes in medically treated fall-related injuries among older people following the implementation of a controlled population-based intervention.

Data collection and analysis

Data were independently extracted by two review authors. Meta-analysis was not appropriate due to the heterogeneity of the included studies.

Main results

Out of 35 identified studies, six met the criteria for inclusion. There were no randomised controlled trials. Significant decreases or downward trends in fall-related injuries were reported in each of the included studies, with the relative reduction in fall-related injuries ranging from 6% to 33%.

Authors' conclusions

Despite methodological limitations of the evaluation studies reviewed, the consistency of reported reductions in fall-related injuries across all programmes support the preliminary claim that the population-based approach to the prevention of fall-related injury is effective and can form the basis of public health practice. Randomised, multiple community trials of population-based interventions are indicated to increase the level of evidence in support of the population-based approach. Research is also required to elucidate the barriers and facilitators in population-based interventions that influence the extent to which population programmes are effective.

PLAIN LANGUAGE SUMMARY

Population-based programmes for the prevention of fall-related injuries in older people

Injuries caused by falls are common in older people and can cause serious medical problems. Older people who live in institutions, such as assisted care facilities and nursing homes, and people over 80 years old are particularly likely to fall and injure themselves. Serious injuries include bone fracture, a head injury or tears to the skin (lacerations) that often require hospital treatment. Hip fractures almost always require hospitalisation and many community-dwelling individuals do not recover their ability to walk or carry out daily activities of living, which impacts greatly on their ability to live independently and their quality of life. Population (epidemiological) studies show that hip fractures are the most serious fall-related injury in older people, with 15% dying in hospital and a third not surviving beyond one year afterwards. A number of countries have prepared guidelines to prevent falls in the elderly. Effective interventions are available to prevent falls and include increased physical activity and hip protectors. Strategies targeted at fall prevention include regulation, education, environmental change and population or community-based coordinated programmes. A population-based intervention programme shares ownership of the injury problem with the whole community, experts and community members. Joint responsibility is taken for determining priorities and appropriate interventions are widely promoted.

The review authors could not find any randomised controlled trials on prevention of injuries from falls that involved whole communities. Six evaluation studies (prospective, controlled community trials) with well-matched control communities consistently reported reductions in fall-related injuries across the programmes used. This provides support for a population-based approach as a basis of public health practice. The relative reduction in fall-related injuries ranging from 6% to 75%, in studies conducted in Australia, Denmark, Norway, Taiwan and Sweden over up to eight years. Three of the studies were based on the World Health Organization Safe Communities model of safety and injury prevention.
Limitations were the exact nature of the population-based intervention used, how it could be generalised to other communities and trial methodologies.