

Injuries to Elderly Women in the Home Environment: A Research Review

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Abstract

The occurrence of injuries in the home environment is common to older adults, especially elderly women, in most developed countries. The research literature on this subject is reviewed. This paper also identifies some of the situations that occur that lead to injury and that could also be responsive to preventive efforts.

Introduction

Several of the studies assessed fear of falling as impacting on quality of life. Lawrence et al. (1998) cited approximately one third of older persons report a fall in a given year. Many of these elderly people end up seeking care in emergency departments, where the focus is on the injury sustained, rather than on future prevention. A suggestion found in several articles is a need for a comprehensive and multidisciplinary approach to prevention of falls and injuries.

Brown and Mulley (1997) cite that informed caregivers of elderly patients sometimes suffer injuries when handling or lifting their relatives or patients at home. Injuries to both the caregiver and the patients have occurred during the transfer process. Most caregivers receive no training in lifting or handling heavy objects, including their loved ones. Many of these caregivers have health problems themselves.

This study was based on in-depth interviews of 41 caregivers of patients admitted to an inpatient setting for respite care. The injuries of the caregivers included musculoskeletal pain and hernias. Sixteen patients were injured whilst being handled by their caregivers, with 14 falling and two being knocked into equipment. These injuries ranged from dislodged teeth and fractured coccyx to non-serious injuries (Brown & Mulley, 1997).

Brown and Mulley (1997) go on to indicate that many caregivers also suffer from problems like fatigue and depression. This, plus other health-related problems, impacts the caregiver's ability to provide long term care. Toileting was found to be the single most difficult task since it involves numerous maneuvers and the timing on this is so unpredictable. Many injuries occur in the bathroom, where no padding is available for bathtubs, sinks, and other fixtures. This article suggests periodic reassessment of caregivers and patients, especially during respite admissions. Instruction in lifting and handling is especially effective.

Injuries from falls are a significant risk for the elderly, and it is estimated that between 30% and 50% of the elderly population in Australia fall in their homes each year (Smith & Widiatmoko, 1998). Those who fall may suffer severe non-fatal injuries like hip fractures, other fractures, and severe lacerations. Hip fracture is a significant fall-related event, especially for women. This severely limits function and many elderly suffering from this type injury never regain their pre-fall level of functioning.

With this number of elderly falling each year, many of which require treatment, the burden to the health care system is staggering. Common risk factors for falls appear to be nutritional status, environmental hazards, poly-pharmacy, lack of exercise, mental or physical changes associated with medical conditions, and aging (Smith & Widiatmoko, 1998). Finally, this study attempted to provide some indications concerning the cost effectiveness of an assessment and home modification program for independent elderly. They found that interventions might reduce the severity of the injuries received during a fall in the home.

Campbell, Robertson, Gardner, Norton, and Bucher (1999) assessed the effectiveness of a home-based exercise program in women over the age of 80. The focus was on strength and balance retraining in this population of women. After two years in the study, the rate of falls in the exercise group was significantly lower than in the control group. The exercises were prescribed for each individual by a physiotherapist during 4 home visits in the first two months of the study. The physiotherapist then maintained telephone contact to follow the individual and keep them motivated. Compliance and benefit may be greater if the program is offered through a general practice with reinforcement by the practice staff.

Braun (1998) assessed the perception of falling as a health problem and identified personal characteristics and attitudes associated with perceived importance of fall-related risk factors among community-dwelling elderly people. Risk factors for

falls among elderly people include environmental hazards, housing characteristics, and deterioration of the neuromuscular system. Individual factors that increase risk of falling include being female, older age, medications, co-morbidities, physical and mobility limitations, limited vision, dizziness, and cognitive impairments.

Braun (1998) found the vast majority of respondents in the sample considered falling to be a major preventable health problem for the elderly. Sidewalk and pavement maintenance are most likely to cause falls. Poor judgment, distraction, and mental impairment were least likely to be cited as increasing the likelihood of falling. A limitation noted in this study was the time of the year the study was done and also the location in the country. The elderly participants were surveyed during winter in an area that has subzero temperatures and extensive snowfalls. It was felt that results of the survey might differ if the data were collected in different geological areas or during different times of the year.

Over one-third of emergency room visits are due to injuries (Braus, 1995). Tripping and falling from stairs and ladders are the most common reason for injury-related trips to the emergency room. Adults over the age of 65 are most likely to seek emergency room care for treatment of a fall-related injury. Older people should be encouraged to modify their homes to make them safer and prevent injuries.

Mumford has found that elderly peoples' homes can be modified to improve safety. This article focused on the kitchen, bathroom, stairwells, and on alarms both in the homes of elderly people and their family members. It gave straightforward and adaptable suggestions for common trouble spots around the home.

Lawrence, Tennstedt, Kasten, and Smith (1998) assessed the intensity and correlates fear of falling and hurting oneself among community-dwelling older persons whom report a basic concern about falling. The findings support interventions aimed at learning ways to avoid falls and handle falls when falls are experienced. The findings of the study also provide additional support to the growing recognition that fear of falling may compromise quality of life through the restriction of one's activity. A multifaceted approach should include enhanced function and attention to the potential contribution of generalized fearfulness. Improvements included a significant reduction in fear of falling for the tai chi intervention group as opposed to the control group.

An interdisciplinary approach is beneficial in preventing falls in elderly people (Close, Ellis, Hooper, & Glucksman, 1999). The cost of falling is high to both the individual and to health services. Most of the current assessment focuses on the fall and the injuries received rather than on prevention. This article summarizes a randomized controlled study to

determine if a structured interdisciplinary assessment of people who have fallen is beneficial in terms of preventing further falls. A complete medical and occupational therapy assessment was performed on members of the intervention group. The most common environmental hazards include uneven outdoor surfaces, changes in surface levels, ramp, steps, inappropriate floor covering, and unsuitable footwear. The authors conclude that incorporating falls and injury prevention strategies into routine clinical service is beneficial.

Campbell, Robertson, Gardner, and Norton (1997) evaluated an individually tailored program of strength and balance retraining exercise that was implemented in a randomly selected group of women aged 80 and older. The trial assessed whether or not this program was effective in reducing the number of falls and injuries related to falls. The exercise group showed improvement in balance and Tai Chi had the most benefit in preventing several falls. This study suggests that an individual program of physical activity may reduce the risk of falls and also may improve the individual's health in other ways.

An article by Leslie and St. Pierre (1999) suggests the incorporation of an integrated risk assessment to examine the most common and influential factors that contribute to falls in the elderly population. A multidisciplinary approach can then offer strategies to reduce and prevent falls. The assessment must be inclusive of concurrent medical conditions, medications, and functional capacity. The assessment also should question any previous falls and causes related to these past falls. The majority of falls are due to complex problems. The most common environmental factors affecting the risk of falling include footwear, lighting, floor and walking surfaces, and tripping hazards such as pets, furniture, and stairs. Specific chronic conditions like Parkinson's disease, arthritis, osteoporosis, cardiovascular disease, stroke, depression, and sensory deficits affect falls. The fall assessment requires a team approach that involves all members of the health care profession. Preventing falls is one way to enhance the quality of life for the elderly population.

Gill, Williams, Robison, and Tinetti (1999) looked at environmental hazards present in the homes of older persons and determined that age-restricted housing appears to be less hazardous than community housing. Grab bars in the tub or shower were absent in most of the community housing compared with age-restricted housing. This was thought to be the first study to report population-based estimates of environmental hazards using a standardized assessment instrument rather than self-reported information or loosely structured home evaluations. Based on the findings of this study, it would be a mistake to presume that age-restricted housing is inherently safe and devoid of potential hazards.

Discussion

The readings suggest that health care workers incorporate a complete medical and physical assessment into their preventive approach. A number of factors have been found to influence individuals having falls, including co-morbidity, medications, and environmental factors. A home safety assessment is also required to gain the most knowledge in prevention and to identify and correct hazards known to promote falls.

Depending on their health status, elderly people live in a variety of settings outside of their personal homes. A skilled care facility, a board and care home, a special care facility, or even an alley may be considered "home" for some elderly people. Each setting has its own concern for the safety and well being of the elderly.

Falls seems to be the primary safety concern for older people. Factors that contribute to falls can be divided into two categories: internal and external. Internal factors include the aging process, certain disease processes, orientation status, side effects of medications, balance problems, and diminished vision. External factors, those over which we have more control, include obstacles, footwear, trip-hazards, condition of equipment, and type of floor coverings. Regardless of the reason for the fall, a fall is devastating to the elderly individual. A fall often produces psycho-social effects that last a lifetime, possibly contributing to more falls.

The numbers of homeless older people will continue to increase as the baby boomer generation ages. Although safety concerns for older people who live on the streets are unique, they may be remarkable similar to some of the safety concerns of older people living in facilities. Personal safety and security are basic human needs.

Also as the baby boomer generation ages, so will the age of the workforce. Older workers have special needs on the job. Worksite health promotion programs can provide an avenue for safety awareness for both the older worker and for management.

Safety and freedom are both very important factors in the autonomy of the elderly. Safety and freedom versus risk is often regulated by an outside source. Nursing homes are inspected by a variety of regulating bodies to ensure resident safety. Alternative care facilities strive to be free of restraints. Facilities use managed risk contracting in informed risk-taking. Personal decision, autonomy, safety, freedom, and who is responsible if an elderly person is injured, are all items that need to be addressed. Is this a quality of life issue?

Falls, a very interesting and costly public health concern, require more research to define the issues so that the best possible approach can be identified. A streamlined format is advisable because of the limited time that health care workers spend with the elderly

population and also because our elderly population is growing at a very fast rate.

Safety and injury prevention is a priority at any age. It is critical for the older person. We need to minimize the effects of internal factors that affect the safety of the elderly and to strive to eliminate external factors, balancing the person's right to autonomy and personal choice.

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