

The Effectiveness of Fall Prevention Strategies among Older Population

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INTRODUCTION

[1] defined a fall as “unintentionally coming to rest on the ground or at a lower level through whatever cause” Most falls among the older people occur while walking [2]. The consequences of fall have serious health implications and need to be prevented. [3] reports that about 20% of the people aged 60 years and above suffer from ailments such as dementia (5%), depression (7%), anxiety disorder (3.8%), and substance abuse disorder (1%), and other common conditions in the elderly population leading to disability [4] that can cause falls in older people. In some disorders such as cognitive impairment or dementia, the risk of falling could be doubled or tripled within this population [5].

As a Health Care Assistant that works in the acute ward for the elderly which provides a short stay for the acutely ill frail elderly patients, the researcher works closely with other practitioners such as doctors who diagnose the conditions and recommend medications to be applied after any incidence of a fall, The researcher often assist with making sure that the appropriate measures are provided to prevent falls, especially if the patient is at risk of falling, and also ensure that falls mats are attached to the patient’s beds.

It is against this background that the researcher that the researcher undertakes to investigate the effectiveness of prevention strategies in falling among the elderly population in developed countries.

Literature Search Strategy

To investigate the effectiveness of fall prevention strategies among older population, the researcher conducted search in CINHAI bibliography data base, Cochrane Data Base, and PubMed. PubMed includes literature from MEDLINE, life

science journals and online books [6]. The two selected articles were articles written in English language and published between January 2005 and February 2018. PubMed delivered only 15 possible abstracts while the Cochrane Library delivered many abstracts through PubMed. The researcher made effort to resolve this problem but the results produced remained the same. The researcher decided to accept the results.

During the search, different search terms including prevention, elderly, old people, aging population, falls, fall prevention strategies, falls in old adults, Frail adults, fall preventions strategies were used to source relevant articles. The search strategies were broad and diverse as possible in order to capture representative data [7]. The search yielded a wide range of literature many of which were not relevant to the study. To resolve this problem, the researcher used Boolean operators.

Boolean operators AND, OR and NOT narrows the search [8]. Articles excluded by the Boolean terms were excluded [9]. In addition, critical appraisal skill programme (CASP) was used in order to critique and assess both quantitative and qualitative studies for evidence based studies. The search techniques of truncation and phrase searching were also used [9]. Titles and abstracts were initially used to screen and identify studies relevant to the research, followed by full text screening of articles suggested by the abstracts and titles to meet the inclusion criteria [10].

Inclusion and Exclusion Criteria

In order to ensure quality and find representative data, the researcher included only published literature, peer-reviewed academic literature, systematic

reviews, master's dissertations, doctoral thesis and opinions.

In conducting the search, only articles published in English language and were either quantitative or qualitative studies with focus on fall prevention were included. Published articles used were restricted to 2005 to February 2018. The reason for this was to capture as many diverse strategies as possible and to include both previously published papers and recent literature.

All discussion papers, think piece articles, editorials and articles without full texts were excluded to ensure that only information from research studies were used to support the appraisal of the two selected articles.

Overall, results search in CINAHL, PubMed search yielded was 480,231 in both quantitative and qualitative studies, after which 110 studies were selected. Most of

the papers were not related to the study, in which case more studies were rejected since the articles were not related to the research [11].

After conducting search on strategies for preventing falls in older people, two studies were selected -one qualitative (study 1) and the other quantitative (study 2) that discussed the effectiveness of fall prevention strategies in older adults. The selected articles were a quantitative study by [12] in eleven health centres in Spain and the study by [13] carried out in the UK.

The two articles were selected because both studies focused on fall prevention strategies in older people and used robust research methods to arrive at the findings. They also met the requirement for inclusion in this study (see Table 1 for summary).

Table 1: Summary of Search

Search No.	Search Terms	Results CINAHL Plus
S1	Fall interventions, falls and mobility, , older adults and falls, falls	72, 241
S2	Fall perception and Consequences of falls, fear of falls, causes of falls	7, 118
S3	S1 and S2 (Published post 2005).	64
S4	Fall mgt* OR interven*	521,482
S5	fall prevention or strategies or interventions, fall preventions in older adults	1, 847, 263
S6	S3 AND 4 AND S5 Risk factors	53

Source: Self.

Critical Analysis of the Key Issues Arising from the Selected Papers

The Key issues raised in the two studies include fallings in the older people aged 60 years and above, prevention advice to reduce falls in the older people and measures to control fallings among the older adults. The two selected studies discussed the effectiveness of fall prevention strategies in preventing falls

in the older adults in developed countries. However, none of studies presented extensive literature review. This could be because both studies were exploratory in nature.

In the introduction of study one (qualitative study), [14] cited several literature that examined fall prevention in older people. However, many of the literature cited are too old to depend on

for evidence-based clinical practice. This is also the case in study two (quantitative study). Nevertheless, there are evidences of practical and feasible benefits nursing practitioners could gain from the work. Hence, the researcher while acknowledging this limitation believes that the outcomes of the study are still relevant to nurses and general practitioners (GP).

In the study carried out by [15], the authors note that falls in people aged 65 years and above is an issue which has serious consequences for health, besides social and economic costs. [16] agrees that around the world, injuries sustained from falls have been identified as a key public health issue caused by aging and these result to physical harms including fracture, head injury and negative effects on quality of life among older persons.

Older adults experience falls in many occasions and could develop fear of falling again. The study by [17] found that older people who have experienced fall once agreed that that they are afraid to fall again, and this reduces their regular activities and causes social isolation. First fall by a patient sends fear message to the frail individual. In support of this view, [18] state that older people are known to be associated with higher rate of falls and functional decline when they are discharged from hospital, and that patients are often not ready to manage their physical limitations following their recovery. The authors submit that although hospital readmissions could be reduced with such interventions like patient-centred care, the impact on health outcomes for the patients is uncertain.

Previous studies that used systematic review suggest that fall prevention interventions that have proved to be most effective include multifactorial interventions, particularly those involving exercises ((European Network for safety among Elderly [19]). The most effective exercise interventions identified were group-based programmes in which patients are encouraged to do two or more exercises; exercises designed for an individual to practice at home, and community-based Tai Chi programmes

[20]. However, meta analysis concludes that such interventions are not more effective than simple interventions [21]. It was noted in study 1 that randomised controlled trial has proved that the risk of falling can be greatly reduced by prevention programmes such as muscle strengthening and balance training exercise [22].

[23] note that fall in people aged 65 years and above is an issue which has serious consequences for health, besides social and economic costs. They argued that the rate of falls among the older people increases with age. This is supported by [24] who note that the physical changes that come with aging can reduce autonomy and functional independence, which may directly or indirectly lead to falls. A greater number of falls experienced by older adults are caused by the interplay between different personal and environmental risk and other factors [25]. In support, Chippendale, [26] state that fall is caused by complex factors which include impaired balance or strength, gait impairments, decreased reaction time, orthostatic hypotension, visual impairments, poor safety awareness and medication side effects

Previous studies that used systematic review suggest that fall prevention interventions that have proved to be most effective include multifactorial interventions, particularly those involving exercises ((European Network for safety among elderly, 2006 as cited in [26]. However, meta analysis concludes that such interventions are not more effective than simple interventions [27]. With regard to group programmes, the most successful are those that involve gait and balanced training alone or combined with resistance training components, individually tailored programmes delivered in the home and community-based Tai Chi programs [28].

In contrast, stand-alone resistance training programmes for home use or community based setting did not lead to fewer falls [29]. The author argued that interventions that involved general physical activity, such as walking programmes, also did not result in fewer

falls [5]. However, [23] submits that Tai chi helps prevent falls but not for adults with high risk; current synthesis from randomised evidence report such as exercise classes and exercises for adults to practice at home are among the interventions that work, the most successful is balance training, muscle strengthening, or walking. In contrast, the result of the study by [11] reveal that systematic review from different parts of the world concludes that exercise, used alone as intervention strategy, is effective in minimising risk of falling in elderly people living independently in the community.

With regards to prevention advice for reducing fallings in the older people, it was found in study one that there were many of the research participants that felt that the advice they were exposed to during the two studies were what they already know about and practice and that they are useful while some of the participants in the study said they never heard of such advice especially from the media. However, many of the participants were positive about the fall prevention advice but felt that the information was not current enough [15]. According to [3], advice about coping with fear of falling and taking measures with the help of a physician to overcome fear, stay active, and maintain physical balance prevent fallings in the older adults. The steps that should be taken to reduce falls were viewed by most participants as well known to everybody while awareness of falling risk was seen as an unavoidable result of aging that reduces physical capabilities [14].

Study two (Quantitative) used randomised controlled trial to evaluate the risk of falls in older adults, the causes and consequences. [16] explained that falls have serious consequences such as physical injuries, fractures and is the major cause of death by accident for those aged 65 years and above. In support, Church, [23] agreed that falls have traumatic consequences such as reduced independence, injury or death. This view is further supported by [17] who notes that falls in older adults

usually results in bad injuries like hip fracture and traumatic brain injuries that reduce mobility, ability to take care of oneself, and general life expectancy.

The study identified falls in older people as a problem which has serious consequences [25]. The consequences of falls were identified as both social and psychological. These consequences make many of the older adults that have fallen before to be scared of falling again [12]. This finding is supported by [10] when the state that previous history of falls is a risk factor because the persons who have experience fall before are twice likely to be afraid of another fall.

[3] (study 2) identified the causes of falling in the old as the result of the interplay of personal and environmental risk factors. The researchers reported the results from a systematic review which indicated that majority of the interventions that work are those including multifactorial programmes, particularly those involving exercises. Causes of falls in among older adults are many and varied. The results of the randomised control trial show that the presence of carpet at home, slippery bathroom floor cause falls in older people. This finding agrees with the view of [15] that there is a general agreement that most falls occur when patient take 'risk activities' such as going to the bathroom at night or stand up from a chair. The author opined that nurses are well placed to check patient's performance of such activities and being more aware of such risk factors will help nurses make other members know of the multidisciplinary team of an individual experiencing such difficulties

The procedures employed in the investigation of the two studies were different. In study 1, (Qualitative), the researcher used focus group and interviews involving 66 people between the age of 61 and 94 to gather data. Study 2 which is a quantitative study by [21] used randomised control trial to study of 404 participants over 70 years old. Randomised controlled trial is considered as the most rigorous [18], and is currently accepted as the cornerstone of evidence-

based medicine in health related issues [23]. The participants were selected from eleven health centres in Spain. The study was conducted to determine the effect of multifactorial intervention programmes in older population in Cordoba, Spain. This study design was appropriate because the researchers design provided a step-by-step procedure which was scientific and sufficient to lead to vital findings that could improve healthcare delivery in the UK.

The use of focus group in study 1 can introduce bias because the researcher is also involved in the discussions and influences participants [11]. The researchers in study 1 did not indicate how they avoided bias. The researchers also did not state the number of focus group discussions while reporting result. This is as a serious gap in reporting methodological details [12].

Data collection was followed by the process of data analysis. The researchers in both studies explained clearly how they handled the raw data and the method of data analysis. In support, [16] stated that researcher should always specify how they handled the raw data in readiness for analysis. Results and findings in study 1 were presented under key themes with full description of the analysis but did not state the number of themes identified and the coding and categorisation process.

Applicability and Potential Implementation of Research findings to Clinical Practice Area.

After summarising the strengths and limitation of the study, the researcher discovered that the findings could be applicable in the workplace workplace. Since the researcher is a care assistant

working with older people, being equipped with enough knowledge of the risk factors that cause falls in the elderly is important because those with this knowledge can dictate potential fallers before fall occurs and inform the wider multidisciplinary team [3].

As a care assistant who takes care of older patients, the guidelines and strategies based on evidence sometimes fail or are unacceptable to the care receiver. However, the evidence based findings in the selected articles and the wider literature provide the researcher with best practices which the researcher integrate with professional experience and judgement when taking decision on preventing fallings in the elderly people.

However, there are times when service users could reject the guidelines provided by evidence based research, thus putting the care giver in a difficult situation when deciding the treatment or the best strategy to follow to prevent fallings in the aged patients. Findings from the studies provide the researcher with alternative choices of treatment or ways of preventing fallings in the older adults. It follows that in deciding the right type of care for service users, health care workers need to search for and use the available evidence in their practice [21].

As a care assistant that takes care of older adults, the findings from the studies can be applied in the researcher's work place to reduce the rate of fallings. However, the strategies the researcher discovered from the two studies needs to be supplemented with the knowledge the researcher acquired in practice to prevent fallings in the older adults.

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