

Prevention of Falls in the Elderly in Home Care

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Abstract/Summary

Preventing falls is a central focus in gerontological nursing, as falls pose significant challenges to the healthcare system due to their potentially serious consequences, impacting patients directly and indirectly. Various interventions can help prevent falls, making it essential for nurses to be knowledgeable about fall prevention strategies in homecare. This understanding aids in reducing the frequency of falls that elderly individuals might encounter in daily life.

This thesis aims to describe what is the nurses' role to prevent elderly falls in home care.

The study includes a literature review of scientific articles chosen based on specific criteria and analysed using content analysis. The findings are organized into four main categories: physical exercise, medication management, technology and education. Furthermore, the role of nurses is highlighted to underscore the essential contributions of nursing in fall prevention efforts for elderly individuals relying on homecare services.

Language: English

Key words: fall prevention, elderly, falls, nurse's role, home care, gerontological nursing, aged, fall management

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1 Introduction

A fall is defined as an occurrence that results in an individual coming to rest accidentally on the ground or other lower level (WHO, 2021). According to WHO, approximately 28-35% of people aged 65 and above fall each year and 32-42% of those above 70 years of age fall each year. The frequency of falls increases with age and frailty level. This is a global health issue, and the impact is felt by everyone around the victims and the society. Older people who live in the nursing homes tend to fall more compared to those living in the society. Approximately 30%-50% of the population living in long term care communities fall each year and 40% of this experience recurrence of these falls (WHO, 2008).

Injuries from falls are major causes of pain, disability, loss of independence and premature death (WHO, 2008). These falls lead to broken bones, head injuries and even if some may not cause any injuries, the victim will be afraid to carry out normal tasks as usual. One out of five falls causes a serious injury such as head injury. These falls lead to people not being able to perform the daily activities and lack the ability to live independently. Every year at least 300,000 older people are hospitalized for hip fracture which 95% of these are caused by falling. Falls are the most common cause of traumatic brain injuries. Having fallen once doubles the chances of falling again (CDC, 2023).

Having done my clinical practice in the hospital under acute care and working in the elderly homes, I have witnessed firsthand these cases and their implications in the health of the patients. This experience has motivated me more to do this study.

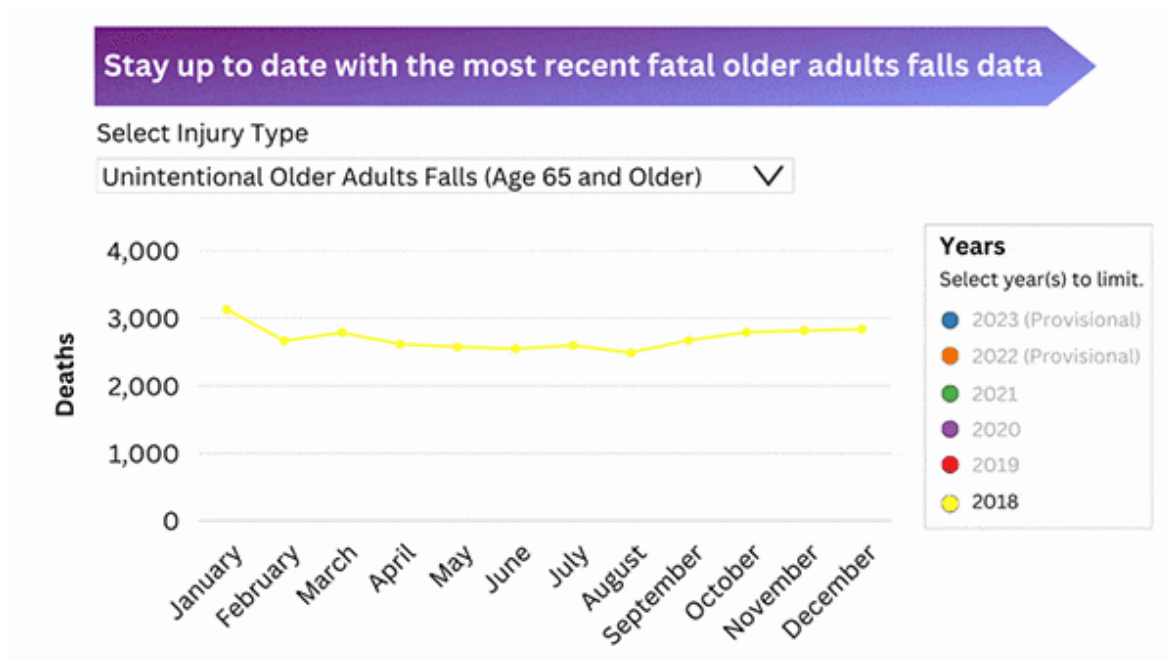
Despite the many studies done on this topic it remains to be a menace in the society with the numbers increasing every year. If effective measures are not taken in the near future, the number of fall related injuries is estimated to be 100% higher in the year 2030 especially in the developing countries where the ageing population is currently at 70% is growing rapidly (WHO, 2008).

2 Background

Fall injuries pose significant challenges for elderly individuals, communities, and society at large. Apart from negatively impacting the health of older adults and creating difficulties for both individuals and their families, falls impose substantial financial burdens on society. These expenses encompass hospitalization or admission to residential care facilities. Preventing falls is not only crucial from a clinical standpoint but also emerges as a significant public health concern due to the escalating frequency of falls and associated complications. Various approaches can be adopted to mitigate these incidents, such as educating individuals on fall prevention, assessing, and modifying environments, implementing interventions to enhance strength, balance, and endurance, as well as adjusting medication regimens. Emphasizing fall prevention in older adults is preferable to treating injuries resulting from falls. Addressing environmental hazards at home and utilizing assistive devices like canes or walkers can effectively reduce fall risks, particularly among individuals with limited mobility. A comprehensive approach combining environmental modifications, rehabilitation, and medical interventions can benefit those at risk (Vaishya, 2020).

The following chart shows the number of older adult fall-related deaths by month and year, including the most recent provisional data available in United States.

Figure 1: Unintentional older adult fall trends. (CDC, Older adult fall prevention, 2024)



2.1 Risk factors for falls

These are the chances that increases the persons chances of falling. These increases with the increase in age. Falls are typically symptomatic rather than indicative of a singular disease, often stemming from multiple interconnected factors. Therefore, a multidisciplinary approach is necessary to both prevent and treat injuries resulting from such falls. Falls commonly occur from seemingly minor incidents, such as falling from a standing position or from elevated surfaces like ladders. While a history of previous falls is a strong predictor among the elderly, these occurrences are seldom attributable to a single cause or risk factor, often being multifactorial due to the interaction of several elements, including:

- Extrinsic factors these are the environmental hazards.
- Intrinsic factors these include age-related declines in function, underlying disorders, and adverse effects of medication.
- Situational/behavioural factors these are linked to the activities being performed, such as hurrying to the bathroom.

Table 1 below shows the different factors that lead to falls in the elderly and the example of these factors. Environmental factors (as depicted in **Table 1**) independently heighten the risk of falls or interact with intrinsic factors to exacerbate this risk. Instances where greater postural control and mobility are demanded, such as walking on uneven or slippery surfaces, significantly escalate the likelihood of falls, particularly for elderly individuals encountering unfamiliar environments, such as relocating to a new residence. Furthermore, age-related changes can adversely affect the nervous system's role in maintaining balance and stability, further elevating fall risk. Vision deterioration, muscle power alterations, and reduced reaction velocity due to aging may compromise the ability to sustain or regain balance following disturbances, such as stepping onto uneven or slippery surfaces. Additionally, both chronic and acute medical conditions, as well as medication usage (as outlined in **Table 1**), contribute as significant risk factors for falls.

Table 1; Risk factors for falls in older adults

Extrinsic factors	Intrinsic factors	Situational factors
Poor lighting and glare from the lamps	A disease which alters the gait and mobility (e.g., Parkinson's disease, Knee and Hip arthritis, Feet problems, Neuromuscular and Vestibular disease)	Walking while talking
Poor or no personal aid equipment	Several medicines (e.g., sedatives and cardiac drugs)	Being distracted by multitasking
Unfavourable flooring	(loose carpets, uneven and slippery floors low lying objects)	Failing to notice an environmental hazard (e.g., a curb or step)
Visual impairment	(Cataract, Glaucoma, Mascular degeneration and Retinopathy)	

Obstacles	(electric cords, steps, hedge, low hypotension lying furniture, etc.)	Rushing to the bathroom (especially at night)
Slippery shoe wares	Increasing age	Rushing to answer the telephone

(Vaishya, 2020) . Falls in older people are serious

2.2 Scales

The Morse Fall Scale (MFS) offers a rapid and straightforward method for gauging a patient's likelihood of experiencing a fall. Originally designed for use in acute patient care, rehabilitation, and nursing home settings, this scale underwent computer testing within simulated populations before being applied to real-world scenarios in the aforementioned departments. Administering the Morse scale typically requires only a few minutes (approximately 2 min) and categorizes patients into three risk levels: low, medium, and high. While commonly utilized in hospital environments, it's worth noting that this tool does not delve into factors such as sensory impairments or the use of specific medications that can influence the underlying causes of falls. Consequently, certain studies have sought to refine the scope of inquiry by incorporating more precise assessments of these areas (Strini V, 2021).

The Falls Efficacy Scale—International (FES-I) is widely recognized as the primary assessment tool in scholarly research for evaluating "fear of falling," a factor closely

associated with the occurrence of falls. Specifically designed for frail elderly individuals or those with disabilities, this scale focuses on basic daily activities. Comprising 16 common tasks, the FES-I requires respondents to indicate their level of concern regarding their ability to perform each activity listed. It serves as an optimal instrument for investigating the fear of falling among older adults in their routine daily endeavours (Strini V, 2021)

The Downton Fall Risk Index (DFRI) is designed to identify the likelihood of falling. It has been employed in numerous studies for various objectives, such as assessing the efficacy of post-stroke rehabilitation programs focused on muscle strengthening in older adults or distinguishing between individuals in an elderly population who have previously fallen. While the tool has undergone thorough examination in settings excluding acute care, such as nursing homes, its predictive accuracy for falls diminishes notably when utilized in hospital environments (Strini V, 2021)

2.3 Implications of falls

These are the consequences that results from these falls. Approximately 30%–50% of these falls lead to minor injuries, while roughly 10% result in major injuries. Among the elderly, about 1% of all falls result in hip fractures, which pose a significant risk for post-fall morbidity and mortality. Approximately 20% of falls in the elderly result in serious injuries such as fractures or head injuries (Vaishya, 2020).

2.3.1 Implications to the elderly

Falls are estimated to be the primary cause of traumatic brain injury-related deaths in individuals aged 65 or older. However, fewer than half of older patients who experience falls report them to their doctors. Repeated falls not only elevate the risk of injury and hospitalization but can also be catastrophic for older individuals, particularly those who are frail and often suffer from osteoporosis. It's estimated that over 50% of these falls result in injury, with fractures and head injuries being the most common. Fractures, especially of the hip and spine, sustained from falls may require surgical intervention. Head injuries may manifest acutely or with delayed symptoms such as headaches, altered consciousness, seizures, and minimal focal neurological deficits (Vaishya, 2020).

Among adults aged 65 and above, falls stand out as the primary cause of injury-related fatalities, with the fall death rate witnessing an upward trend. Between 2012 and 2021, the age-adjusted fall death rate surged by 41%, rising from 55.3 to 78.0 per 100,000 older adults. To mitigate the escalating fatalities resulting from falls among older adults, proactive measures such as screening for fall risk and implementing interventions to tackle contributing factors like medication usage associated with increased fall risk or compromised strength and balance are essential (CDC, 2023).

Fractures are a prevalent complication of falls among older adults, with 10% of falls resulting in fractures, 2% of which involve the hip. An estimated 75% of all vertebral and nonvertebral fractures occur in individuals aged 65 years or older, and over 75% of hip fractures affect seniors aged 75 years or older. Fractures independently predict long-term mortality. After a hip fracture, there's a 27% chance of death within one year, and 50% of affected seniors experience functional decline within the same timeframe following a proximal femur fracture. Other common post-fall fracture sites in older individuals include the proximal humerus, pelvis, vertebrae, distal radius, and vertebral bodies. Periprosthetic fractures surrounding or involving a prosthesis have also become increasingly common among older patients. The lifetime risk for hip fractures after age 50 ranges from 6 to 17% in the elderly, with more than 95% of hip fractures caused by falls (Vaishya, 2020)

Following a fall, the quality of life can significantly decline, with many older individuals who were mobile before a fall-related hip fracture being unable to regain the same level of mobility. Fear of experiencing another fall, especially after previous incidents, may lead to reduced mobility due to lack of confidence, resulting in avoidance of daily activities such as shopping and cleaning. Reduced activity levels can ultimately lead to muscle weakness and joint stiffness, further exacerbating mobility issues. Therefore, the focus should be on maintaining elderly mobility and preventing falls and their associated injuries (Vaishya, 2020)

2.3.2 Implications to the Healthcare system

Economically speaking, falls are emerging as a significant public health concern due to the considerable costs associated with them among the elderly. Specifically, when considering the expenses related to emergency room visits, hospital stays, nursing facility care, and home assistance, the average total cost amounts to approximately \$19,440 per older adult following an injurious fall. Given the exorbitant costs associated with falls among the elderly, focusing on prevention rather than treatment is preferable. Preventive measures offer a more favourable approach, especially if they can target multiple risk factors simultaneously, as falls among the elderly typically result from a combination of factors (Hosseini, 2008).

2.4 Prevention of falls

Preventing falls is not only crucial from a clinical standpoint but also emerges as a significant public health concern due to the escalating frequency of falls and associated complications. Various approaches can be adopted to mitigate these incidents, such as educating individuals on fall prevention, assessing, and modifying environments, implementing interventions to enhance strength, balance, and endurance, as well as adjusting medication regimens. Emphasizing fall prevention in older adults is preferable to treating injuries resulting from falls. Addressing environmental hazards at home and utilizing assistive devices like canes or walkers can effectively reduce fall risks, particularly among individuals with limited mobility. A comprehensive approach combining environmental modifications, rehabilitation, and medical interventions can benefit those at risk. Additionally, the use of hip protectors, especially among high-risk individuals, can reduce the incidence of hip fractures. Choosing appropriate flooring is also vital; while firm rubber flooring can help absorb impact forces and prevent falls, excessively soft flooring like foam may pose balance issues for the elderly, increasing the risk of falls (Vaishya, 2020).

The nurse plays a crucial role in helping patients avoid fall risks. When discussing fall risks with patients, nurses should be mindful of how they present the information, as some patients may experience fear of falling. A gentle approach is essential to help patients understand potential changes. Additionally, nurses provide valuable information on

interventions that can enhance self-reliance, improve mobility, and encourage active participation in daily activities. However, nurses should be prepared for the possibility that patients may not agree with or follow the recommended measures. Patients have the right to make their own decisions regarding healthcare services and any conditions they may face. In creating a fall-prevention care plan for the elderly, nurses consider factors such as the patient's health status, risks, age, and physical condition. Nurses also need to guide the patient's family members and community social networks on how to take precautions to support the elderly (Registered Nurses' Association of Ontario, 2017).

2.5 Aim and Research question

The aim of this study is to describe what is the nurses' role to prevent elderly falls in home care and to describe the scales that nurses can use to identify fall risk patients.

According to the aim of this research the question is:

- What is the nurse's role in the prevention of falls in the elderly in home care?

3 Theoretical framework

This thesis is founded on Dorothea E. Orem self-care deficit theory of nursing which aims to guide the research, enhance the significance of the findings, and integrate the acquired knowledge into coherent systems, resulting in a comprehensive outcome.

3.1 Dorothea E Orem: Self-care deficit theory of nursing

Nursing theorist Dorothea Orem introduced the concepts of self-care, self-care deficit, and nursing agency as a framework to understand and interpret patient experiences. Utilizing Orem's theories and approaches can positively influence outcomes for patients with chronic renal failure. Integrating these theories into practice can create a sequence of actions that benefit those at risk (O'Shaughnessy, 2014)

Nurses assess the elderly patient's ability to perform self-care activities and identify deficits that may increase the risk of falls. Interventions are then designed to enhance self-care capacity, such as exercises to improve strength and balance or education on safe home environments.

3.1.1 Theory of self-care

This theory focuses on promoting patients' ability to perform self-care to maintain health and well-being. Orem's theory emphasizes the importance of promoting self-care abilities. Applying Orem's self-care theory to the elderly is expected to yield positive therapeutic outcomes. Allowing a patient to perform their own peritoneal dialysis promotes independence, utilizes lifelong judgment skills, and fosters accountability for actions, ultimately increasing self-esteem (O'Shaughnessy, 2014)

To sustain life, health, growth, and well-being, individuals must develop a sense of self-care and mindfulness. This self-regulated function involves actions taken to maintain one's health and well-being. When individuals recognize a need for self-care and can meet that

need, they are able to care for themselves, forming a system of actions (Polit & Beck, 2021, p. 117).

For the elderly, understanding and practicing self-care is essential for maintaining a healthy lifestyle, enhancing their quality of life, and preventing or reducing injuries from falls.

3.1.2 Theory of self-care deficit

Orem presents her perspective on nursing practice, education, and science based on extensive research and practical experience in nursing situations. She emphasizes that patients should be encouraged to do as much as they can independently. After receiving care from doctors and nurses, patients have the right to increased independence. According to Orem's theory, nurses are crucial in educating, providing care, and ensuring patient safety. Their primary role is to guide individuals in self-care and caregiving. The theory also supports patients and their families in maintaining health by encouraging greater self-care practices (Dorothea E. Orem).

3.1.3 Theory of nursing systems

This theory outlines three types of nursing systems. The first is wholly compensatory, where the nurse delivers complete care to the patient. The second is partially compensatory, used when the patient has limited mobility due to illness. The third involves the nurse offering supplemental healthcare to patients capable of learning and performing self-care.

In this nursing theory, the nurse-patient relationship is central, with the nurse acting as an agent who provides tailored self-care therapies to meet the patient's unique needs. The nursing systems theory highlights the interaction between the nurse and the patient receiving therapeutic self-care, viewing nursing as a human action.

Nursing systems are developed and executed by nurses to assist individuals, dependent care units, and groups with members who have therapeutic self-care needs or self-care limitations (Dorothea E. Orem). However, even though all these concepts are related to falls in the elderly, among all the three concepts this thesis will be more focused on the theory of nursing systems to answer the research question.

4 Research methodology

Research methodology refer to the principles and ideas on which researchers base their procedures and strategies. Qualitative researchers emphasize on understanding the human experience as it is lived through the collection and analysis of subjective, narrative materials using flexible procedures that evolve in the field (Polit and Beck, 2010)

Qualitative research involves constant analysis and interpretation of data while adapting to the ongoing discoveries (Wheeler, 2002)

4.1 Scoping review method

This thesis employs the scoping review is a research method which used to analyse studies by categorizing and organizing previous research into different themes. Specifically, it examines research articles based on their scope, the availability of existing studies, and the topic being explored. This approach is valuable not only for investigating under-researched areas but also for reviewing extensive, well-studied subjects like the one in this research. Additionally, a scoping review is a clear and systematic method that enhances the study's credibility and addresses concerns about methodological rigor. Furthermore, scoping reviews are conducted for various beneficial reasons. They help assess the necessity of a systematic review, highlight gaps in existing research, and provide an overview of specific topics. These advantages are particularly valuable in the healthcare field, where scoping reviews allow for a comprehensive summary of healthcare topics, identify areas requiring further study, and determine the need for additional research on specific health issues. (Pham, 2014)

4.2 Data collection

Articles used in this thesis were released within the last 10 years. The thesis uses these reputable databases EBSCOhost MEDLINE, CINAHL, EBSCOhost Academic Search Elite and PubMed. To access those databases, the thesis used FINNA, a search engine that provides access to the library of the Novia University of Applied Sciences. The most relevant

keywords and phrases were selected for use in the search. The following were the words and phrases fall prevention, elderly, nursing interventions, risk factors, gerontological nursing, aged, home care.

Additionally, key information for this thesis was sourced from several reputable national websites, including the World Health Organization (WHO). These sources were reviewed and carefully selected to gather preliminary documents that help clarify and support the thesis content.

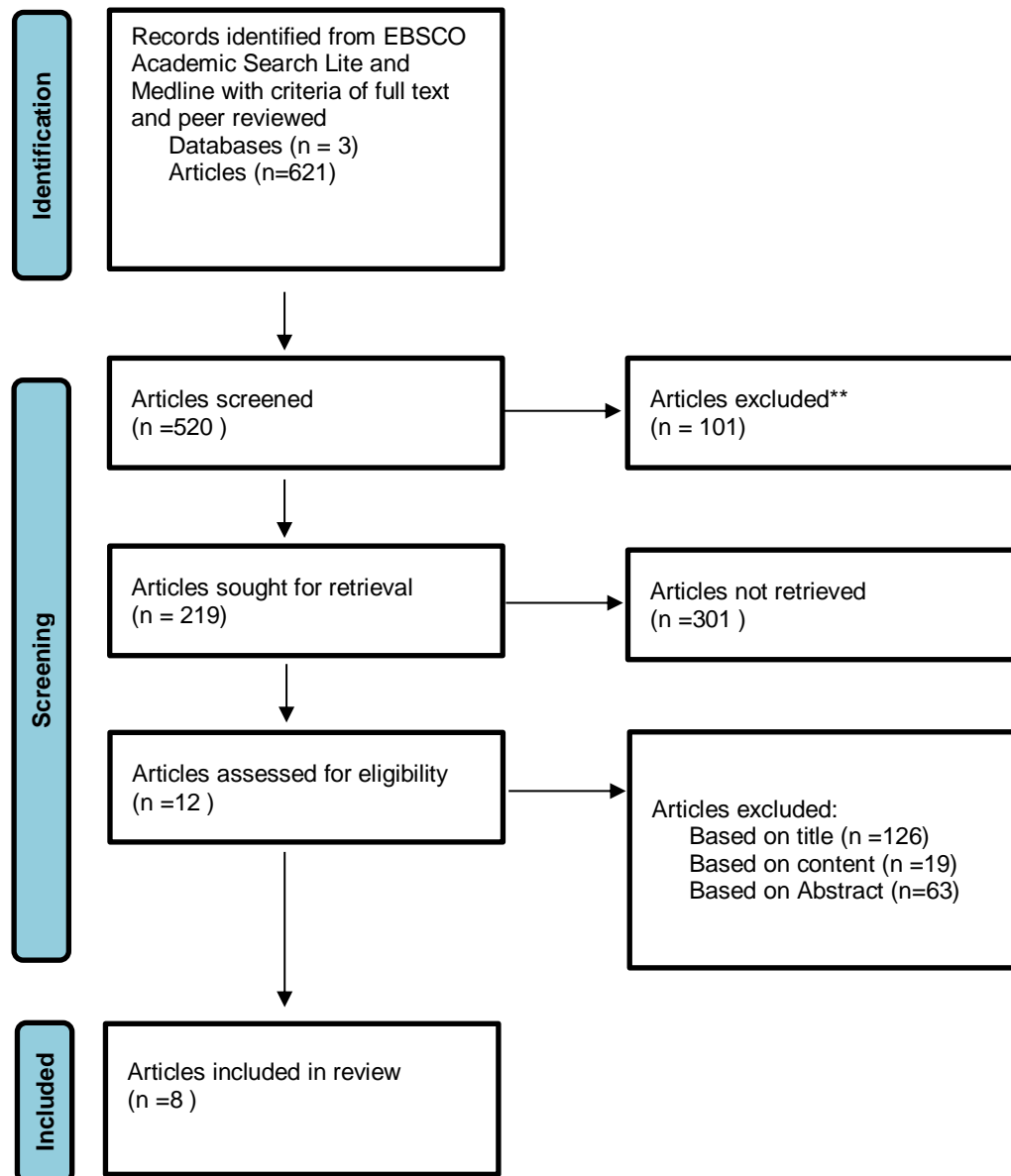
Based on those requirements, inclusion and exclusion criteria of the thesis data are established and illustrated in the table below

Table 2; inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
<ul style="list-style-type: none"> • Peer reviewed articles; qualitative, quantitative 	<ul style="list-style-type: none"> • Other non-scientific articles
<ul style="list-style-type: none"> • Language: English 	<ul style="list-style-type: none"> • Other languages
<ul style="list-style-type: none"> • Articles involving 65+ individuals 	<ul style="list-style-type: none"> • Articles involving younger individuals
<ul style="list-style-type: none"> • Articles from the last 10 years 	<ul style="list-style-type: none"> • Articles older than 10 years
<ul style="list-style-type: none"> • Full text articles 	<ul style="list-style-type: none"> • Articles without full text
<ul style="list-style-type: none"> • Relevance to nursing 	<ul style="list-style-type: none"> • Irrelevant to nursing

The data collect process is as illustrated in the Prisma chart in the figure below:

Figure 2: Prisma flow chart showing data collection process



Source: Page MJ, et al. BMJ 2021;372:n71. doi: 10.1136/bmj.n71

4.3 Data analysis

The data analysis process entails organizing similar narrative data into a cohesive structure. As researchers delve deeper into analysis and interpretation, they start recognizing recurring themes and categories, forming the basis for constructing a detailed description or theory of the phenomenon under study. The collected data gradually become more concentrated and targeted as the theoretical framework takes shape (Polit and Beck, 2010, p. 79).

In this thesis the author has used content analysis which is a type of data analysis. In the authors understanding content analysis typically involves the following phases: preparation, organizing, and reporting. These are the steps used in this thesis. In preparation phase involves defining the content of analysis, which can be words, phrases, sentences, paragraphs, or entire articles based on the research question. The organizing Phase is a crucial phase that includes several steps

Open Coding: Initial coding where researchers read the selected material, make notes, and highlight important headings.

Grouping and Categorizing: Codes are grouped into categories, which helps in reducing redundancy and making the analysis clearer.

Abstraction: Summarizes the research findings

Reporting phase is final phase, the author interprets the data based on the results and findings to draw meaningful conclusions. (Polit and Beck, 2021)

4.4 Ethical considerations

The ethical review scrutinizes both the data collection strategy and the planned research methodology to minimize risks and harm. These ethical review principles provide a foundational framework for evaluation. Ultimately, researchers bear the responsibility of ensuring the ethical conduct of their research. The data controller holds responsibility for decisions concerning data protection. Regardless of undergoing ethical review, research plans should address ethical risks and methods to prevent harm. In some cases, more detailed ethical guidelines specific to certain disciplines may be necessary (TENK, 2021).

The guidelines place particular emphasis on the significance of abstaining from plagiarism and ensuring precise citation of sources, as these actions contravene educational ethics. Ethics play a pivotal role in both broader research endeavours and nursing education, serving as a safeguard for societal well-being. Failure to address ethical considerations can lead to unethical research conduct. Ethical nursing research not only places paramount importance on safeguarding human and animal rights but also upholds principles of integrity, condemning misconduct such as plagiarism, fabrication, and falsification of data (Polit and Beck, 2021).

5 Results

The results section presents relevant findings and addresses the research objectives of this thesis by reviewing and identifying the key topics discussed in the analysed documents. The qualitative analysis in this thesis draws on the selected content from “n” previously identified and published studies, contributing valuable insights to the research.

The author started by carefully reading the “n” selected articles to identify relevant information. Eventually, through coding 3 main categories were concluded: medication, environment, education and physical exercises as illustrated in the table below.

Table 3; Recurring themes or codes and their categories

Codes or recurring themes	Categories
Polypharmacy Vitamin D High risk medications	Medication
Handrails Lighting	Environment
Footwear Good eye vision	Education and fear of falling
	Physical exercises

5.1 Medication

The use of various medications to treat or alleviate symptoms of certain diseases is common among the elderly. However, these medications can impact body systems, such as alpha-blockers causing orthostatic hypotension in the treatment of lower urinary tract issues, or benzodiazepines, which are used as antidepressants but can affect balance and gait, thereby increasing the risk of falls in the elderly (Poscia, et al., 2018). These medications should only be prescribed and at specific dosages when other interventions have proven ineffective (Luk, 2015) On the other hand, vitamin D supplementation has a positive effect on fall and fracture prevention in older adults. Using vitamin D alone or in combination with calcium can significantly reduce these risks. By improving bone strength, vitamin D can help decrease the incidence of falls, as well as hip and vertebral fractures, in the elderly(Poscia, et al., 2018).

“Health care professionals should implement tailored nutritional interventions with evidence of efficacy, such as supplementation with vitamin D for preventing falls and fractures, or oral supplements and protein-based formulas for improving the weight and reducing the risk for malnutrition in the older adults, according to their functional and cognitive status”. (Poscia, et al., 2018)

Polypharmacy, the simultaneous use of multiple medications, is common among the elderly due to the presence of multiple health conditions, which often accompanies aging. However, combining multiple drugs can heighten the risk of falls and should be approached with extreme caution. Adjustments in dosage or frequency, or even discontinuation, should be made carefully, following clinical guidelines and after thorough examination of the risks and benefits associated with medications that increase fall risk in the elderly (Luk, 2015)

Nurses can educate patients and their families about these high-risk medications. Without nurse-provided information, clients may be unaware of medication side effects that increase fall risk.

5.2 Environment

The living environment plays a crucial role in the quality of life for the elderly and is also a significant risk factor for falls. By assessing and improving the living environment, falls can be effectively prevented. Therefore, it is essential for nurses to educate the elderly on the importance of maintaining a safe home environment and suggest modifications to reduce fall risks, helping them feel more secure in their daily activities. (Luk, 2015) . For example, installing handrails in areas like bathrooms and stairways where mobility may be challenging, maintaining proper lighting tailored to the elderly's vision needs, and avoiding high-glare light bulbs that can cause discomfort. (Luk, 2015)

“Home modifications can effectively reduce risk of falls in the community, and include removal of floor mats, painting the edge of steps, reducing glare, installing handles, and improving lighting”. (Luk, 2015)

Additionally, the nurses can reduce the rate of falls through assessing potential hazards in the home and making necessary modifications, such as increasing illumination and adding night lights in dimly lit areas, using non-slip surfaces on slippery floors, securing or removing loose rugs, clearing obstructed walkways, and installing grab bars in the bathroom near the shower, bathtub, and toilet. Other modifications include adding a raised toilet seat if the toilet is low, installing handrails on stairs, and adjusting or adding ramps to steep or narrow staircases can. (Rimland, 2016)

“Environmental intervention consists in assessing home hazards and performing modifications (e.g., employing high levels of illumination and night lights for low and uneven lighting, using non-slip floor surfaces for slippery floors, removing or attaching loose rugs, clearing walkways for obstructed walkways, installing grab rails when absent in the bathroom (shower, bathtub, toilet), using a toilet seat raiser for low toilet seats, installing handrails when not present on stairs, modifying stairs or installing ramps on steep or narrow stairs)”. (Rimland, 2016)

5.3 Fear of falling and education

Many older adults, whether they have experienced falls or not, face a range of psychosocial challenges related to falling, including fear, anxiety, loss of confidence, and diminished self-efficacy which, in this context, refers to the individual's self-perception of their ability to walk safely without falling. These issues are collectively referred to as "fear of falling" and are present in about 50% of community-dwelling elders who have fallen, and up to 50% of those who have never fallen. It is crucial to accurately measure fear or concerns related to falls both in clinical settings and in research that explores this issue as a primary or secondary outcome measure. Fear of falling is a clinically significant issue for patients, their caregivers, and the broader healthcare system. Accurate measurement of this fear is crucial in both clinical settings and research evaluating the effectiveness of interventions aimed at improving related symptoms (Hill, 2014)

This fear also impacts caregivers, often leading to overprotective behaviours aimed at preventing falls. While well-intentioned, such actions can inadvertently diminish the independence and autonomy of the elderly in certain daily activities. Therefore, the nurse's role in offering expert information and guidance to both patients and caregivers on managing concerns about falling is crucial and should not be overlooked (Ang, 2018)

5.4 Physical exercises

Exercise has been shown to reduce several age-related health risks in older adults, including cardiovascular disease, diabetes, arthritis, dementia, and cancer. Strength and balance training are recommended to prevent or reduce the risk of falls and their serious consequences, which often lead some older adults to limit activities due to a fear of falling. Exercise approaches like Tai Chi, yoga, and aquatic therapy, along with educational and environmental adjustments, are utilized for fall prevention. (Thomas, et al., 2019) Through a systematic review study done, Pilates Exercise Training (PET) programs on physical

fitness, fall prevention, mood, quality of life, and independence in daily activities among older adults. The review's findings indicate that PET can serve as an effective exercise intervention to enhance muscle strength and improve both static and dynamic balance in elderly populations. Additionally, engaging in PET can lead to overall improvements in functional capacity for daily activities and in quality of life for older adults. (V. Bullo, 2015) Finally aquatic exercises have been effective in improving balance in the elderly. Studies suggest that water-based exercises provide a low-impact environment ideal for older adults with joint or weight issues, due to the buoyancy that reduces ground forces. Water's viscosity also slows movements, allowing more time for balance adjustments and neurological processing, which can build confidence and reduce fear of injury. Additionally, water immersion may enhance joint warmth, skin sensation, and proprioception, which further supports balance and movement range in older adults. (Thomas, et al., 2019)

“Regular physical activity including aerobic, anaerobic and proprioceptive components may be practiced in order to promote static balance in the elderly as a mean to reduce future risk of falling.”

(Thomas, et al., 2019)

6 Discussion

In recent years, falls have become a global concern, especially among the elderly, who are at greater risk due to factors like age, gender, poor balance, chronic illnesses, environmental hazards, and fear of falling. These risks often lead to both physical and psychological consequences, significantly affecting their quality of life.

Even falls without injury can instill a strong fear of falling again, particularly in those who have previously experienced one. This fear may cause older adults to avoid daily activities and social interaction, leading to physical decline, depression, and hopelessness. Rehabilitation after a fall can be especially difficult for older individuals due to increased risk of bone damage and lingering pain.

A content analysis of eight studies was conducted to explore the role of nurses in fall prevention for elderly people receiving home care. The analysis of eight selected articles in this thesis explored the research question: "What is the nurse's role in the prevention of falls in the elderly in home care?" The findings were organized into four key categories of fall prevention strategies. Nurses were shown to play a central role in these efforts, as their support is crucial for implementing effective prevention practices.

Creating a safe home environment and promoting physical activity are among the most cost efficient methods to reduce falls. However, to ensure these strategies are effective, nurses must provide tailored advice to both clients and their families based on individual health needs. Additionally, nurses are responsible for educating clients about medication side effects and offering guidance on proper footwear and vision care, both of which are important in minimizing fall risks.

Finally, medication management and client education are vital to fall prevention. Without nurse-provided information, clients may be unaware of medication side effects that increase fall risk. Nurses are also responsible for educating clients about proper footwear and visual aids.

7 Limitations.

Scoping reviews have several limitations, including a lack of depth, as they provide a broad overview without critically evaluating study quality. They also lack a standardized methodology, leading to inconsistencies in study selection and interpretation. The absence of a formal bias assessment increases the risk of including low-quality research.

Most of the analysed articles focused on identifying the causes of falls in the elderly, with limited attention given to the role of nurses in preventing and managing falls. To obtain more reliable insights into the role of nurses in fall prevention and management among the elderly, future studies should include more data on the outcomes achieved after implementing these methods.

8 Conclusions

This study aimed to examine and clarify the role of nurses in preventing fall risks among elderly individuals who depend on supportive services at home or in care facilities. Nurses play a critical role in encouraging and guiding older adults to maintain their independence, aiding in their recovery after a fall, and preventing future incidents. Their efforts focus on modifiable factors, such as promoting a balanced diet, ensuring proper nutrient intake (e.g., vitamin D), and carefully monitoring medications that could increase the likelihood of falls, particularly those prescribed for chronic conditions common in older adults.

Nurses also provide practical advice to improve safety within the home, including removing potential hazards, improving lighting, and recommending appropriate footwear for indoor and outdoor use. They emphasize the importance of regular physical activity, even for those who have a history of falls or a fear of falling. These measures are cost-effective, simple to implement, and yield significant benefits.

To address issues like unnecessary intensive interventions or inadequate attention to high-risk individuals, nurses can adhere to clinical guidelines. By emphasizing primary care practices, they can enhance outcomes through better screening, comprehensive assessments, and systematic interventions targeted at those most at risk of falling.

Future studies should focus on elderly individuals who live alone and lack the necessary support and education to minimize their risk of falling. Furthermore, increased attention should be given to multidisciplinary fall prevention programs in nursing, as these initiatives promote information sharing within elderly healthcare and are essential for effectively preventing and managing falls in older adults.

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Table of articles

Article	Bibliographical data and year	Method	Results
Falls prevention in the elderly: translating evidence into practice.	Luk, J. K. H., Chan, T. Y., & Chan, D. K. Y. (2015). <i>Hong Kong Medical Journal</i>	Systematic literature review	Effective fall prevention includes exercise programs, environmental modifications, medication reviews, and proper footwear. Vitamin D, cardiovascular care, and bone health support are also important. A multifactorial approach (MFI) is recommended, especially in hospitals and care homes. Physical restraints should be avoided. More research is needed on fall prevention for cognitively impaired seniors and the use of modern technology like movement alarms and sensors.
Physical activity programs for balance and fall prevention in elderly: A systematic review	Thomas, Ewan PhD*; Battaglia, Giuseppe PhD; Patti, Antonino MSc; Brusa, Jessica MSc; Leonardi, Vincenza MD; Palma, Antonio MD; Bellafiore, Marianna PhD. 2019	A systematic literature review	Balance is influenced by multiple factors and can be improved through various exercise programs. Encouraging physical activity in older adults is essential, as those who remain inactive tend to experience a decline in balance.

<p>Immediate effect of insoles on balance in older adults,</p>	<p>Joo-Hee Park, Hye-Seon Jeon, Ji-Hyun Kim, Hyeo-Bin Yoon, One-Bin Lim, Minjae Jeon,</p> <p>Immediate effect of insoles on balance in older adults,</p> <p>The Foot,2021</p>	<p>Meta-analysis</p>	<p>This suggests that insoles providing enhanced tactile and mechanical sensory input can improve postural control in older adults with age-related sensory decline. Their use may help reduce fall rates and improve quality of life.</p>
<p>The effects of Pilates exercise training on physical fitness and wellbeing in the elderly: A systematic review for future exercise prescription,</p>	<p>V. Bullo, M. Bergamin, S. Gobbo, J.C. Sieverdes, M. Zaccaria, D. Neunhaeuserer, A. Ermolao, 2015</p>	<p>Systematic literature review</p>	<p>PET can enhance the quality of life in older adults by aiding fall prevention, improving physical fitness, and boosting mood. Physicians may consider incorporating PET into exercise prescriptions for the elderly.</p>
<p>Effectiveness of Non-Pharmacological Interventions to Prevent Falls in Older People: A Systematic Overview.</p>	<p>Rimland, J. M., Abraha, I., Dell, A. G., Cruz-Jentoft, A., Soiza, R., Gudmusson, A., Petrovic, M., O, M. D., Todd, C., & Cherubini, A. (2016). Effectiveness of Non-Pharmacological Interventions to Prevent Falls in Older People: A Systematic Overview</p>	<p>Systematic literature review</p>	<p>Tailored multifactorial interventions were the most effective. Exercise programs, particularly those focused on balance and strength, reduced falls in community-dwelling seniors but showed inconsistent results in hospitals and were ineffective in care facilities. Tai Chi benefited individuals at low risk, while environmental modifications were helpful for high-risk individuals. Educational interventions alone had no significant impact.</p>
<p>Does the falls efficacy scale international version measure fear of falling: a reassessment of internal validity using a factor analytic approach.</p>	<p>Hill, H., McMeekin, P., & Parry, S. W. (2014). Does the falls efficacy scale international version measure fear of falling: a reassessment of</p>	<p>Quantitative</p>	<p>The FES-I is an effective tool for assessing fear or concern about falls in older adults, offering a more precise measurement than previous methods. Future research using the FES-I should</p>

	internal validity using a factor analytic approach.		take these findings into account, as the structure of the "concern with falling" factor differs from past validity assessments.
A falls prevention programme to improve quality of life, physical function and falls efficacy in older people receiving home help services: study protocol for a randomised controlled trial	Bjerk M, Brovold T, Skelton DA, Bergland A. (2017, 8 14).	A randomized control	
Carers' concerns about their older persons (Carees) at risk of falling - a mixed-methods study protocol. <i>BMC Health Services Research</i> ,	Ang, S. G. M., O'Brien, A. P., & Wilson, A. (2018).	Qualitative study	This study highlights caregivers' concerns, increases awareness of the psychological effects of caregiving for individuals at risk of falling, and may support the development of tailored interventions based on caregivers' CFC (carer's fall concerns) scores. In addition to assessing caregivers' concerns about falls, the CFC instrument may serve as an alternative tool for predicting fall risk in older adults, particularly those with cognitive impairments, addressing challenges in fall risk assessment.