

The Effectiveness of Nursing Theories in Fall Prevention and Healthy Aging: An integrative literature review

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Abstract

Aims and objectives: The Review aimed to evaluate the effectiveness of nursing theories in fall prevention and promoting healthy aging among older adults.

Background: Promoting patient safety and healthy aging are two areas where nursing theories have a significant impact on practice, teaching, and research. Due to the hazards associated with an aging population, there has been a surge in interest in applying these ideas to fall prevention techniques.

Design: PubMed and CINAHL databases were searched, and research meeting criteria were included. Data were identified from all included articles, and themes were developed based on these data.

Results: Several important discoveries on the function of nursing theories in improving patient outcomes were disclosed by the review's major conclusions. First, interventions to promote healthy aging and reduce the risk of falls among the elderly may be better evaluated, planned, and executed with the help of nursing theories.

Conclusions: By using evidence-based interventions and nursing theories, such as Orem's Self-Care Deficit Theory, Watson's Theory of Transpersonal Caring, Roy's Adaptation Model, and the Neuman Systems Model, this study emphasizes the critical role of nurses in preventing falls among older persons.

KEYWORDS: Aging, Effectiveness, Fall, Healthy, Nursing, Prevention, Theories

1 | INTRODUCTION

An increasing number of people have fallen as they become older, which hurts their quality of life. The healthcare system and family economies continue to bear a heavy weight due to the escalating direct and indirect expenses of treatment caused by harmful falls (Thiamwong, 2020). Fear of falling, mobility issues, and handicaps all increase the likelihood of falls. Assessing and preventing falls is an important part of public health, but it can be difficult to determine which elderly people need treatments to lower their risk of falling (Montero-Odasso et al., 2022). It has been found that older persons are more likely to fall if they have certain physiological, psychological, and environmental risk factors. Those seniors who are emotionally and physically well are less likely to acknowledge the danger of falling (Giovannini et al., 2022). It has been found that older persons are more likely to fall if they have certain physiological, psychological, and environmental risk factors. Elderly people who are emotionally and physically well are less likely to admit they fell (Vincenzo, and Patton, 2021).

One beneficial strategy for lowering the occurrence of falls is fall prevention education (FPE), which is low-cost, requires minimal active engagement, and has a track record of success. Furthermore, education is the starting point for awareness-raising efforts. To emphasize early prevention of falls, it will increase older individuals' awareness and understanding of fall hazards (Ong et al., 2021). Furthermore, the first step in adopting tailored and suitable education for older adults is to assess their knowledge gaps. The provision of FPE also improves healthcare outcomes for the elderly (Abdelkhalik, 2023). Worldwide, hospitals and healthcare systems bear the financial burden of inpatient falls. There are an estimated three to eight patient falls for every thousand patient days in hospitals across the world (Dolan, 2021). In the United States, up to one million patients have a hospital fall each year.

Medicare data shows that inpatient fall rates have not diminished substantially despite study efforts over the past decade(Dolan, Slebodnik, and Taylor-Piliae, 2022).

2 | BACKGROUND

Promoting patient safety and healthy aging are two areas where nursing theories have a significant impact on practice, teaching, and research. Due to the hazards associated with an aging population, there has been a surge in interest in applying these ideas to fall prevention techniques. Knowing how nursing ideas have developed and been used in the past will help you grasp how they affect patient outcomes. By delving into the efficacy of nursing theories in preventing falls, we can improve evidence-based practice and shape future studies and educational initiatives that promote healthy aging and lessen the number of injuries caused by falls in the elderly.

2.1 | Theoretical Developments in Healthy Aging and Fall Prevention in Nursing

Recent theoretical advances in the fields of healthy aging and fall prevention have provided nursing with much-needed frameworks for organized care, greatly enhancing the field. Promoting older individuals' holistic well-being may be understood through nursing theories such as Neuman's Systems Model, Orem's Self-Care Theory, and Rogers' Science of Unitary Human Beings(Gözüm, and Ilgaz, 2022; Lawless et al., 2021; Butcher, 2023). These ideas highlight the significance of environmental and psychological elements in preserving mobility and safety, as well as the value of patient-centered treatments and preventative care. Nurses may help with the mental, emotional, and physical parts of aging by incorporating theoretical concepts into fall prevention programs(Zhang, Gu, and Li, 2024). A better knowledge of how theoretical applications may promote healthy aging and decrease fall risks has resulted from these advancements, which not only direct clinical treatments but also influence education and research (Pettersson et al., 2021).

The old has a long history of being considered "irrelevant" and a burden on public funds, particularly in Western countries. There is a lot more support for healthy aging and high levels of well-being among the elderly, and recent research has demonstrated that many of these people are still reasonably active, independent, and in generally good health. There is a rising population of strong seniors, and active members of their families and communities(Bar-Tur, 2021). The identification of modifiable variables of healthy aging is an essential initial step in achieving the worldwide goal of healthy aging. Some examples of modifiable factors include changes to the healthcare system or the physical environment, while others relate to changes in individual behavior that might have an impact on healthy aging outcomes (Klusmann, Gow, Robert, and Oettingen, 2021).

However, to help individuals age properly, it is necessary to take action based on the understanding that a certain behavioral modification is vital for healthy aging. Theoretical frameworks proposed in the research on intrinsic motivation and self-regulation can aid in the creation of efficient treatments for healthy aging(Kooij et al., 2020).It is recognized that these experts must evaluate potential dangers to elderly patients upon admission, develop and execute plans to mitigate those dangers and ensure the safety of these patients while they are in the hospital. Effective and timely nursing care is essential for preventing falls among the elderly (Canuto et al., 2020). When a person's weight drops to the floor involuntarily, it is called a fall. Notably, hospitalization is associated with an increased risk of falls due to the unfamiliarity of the surroundings, the presence of certain disorders, and the use of various therapeutic procedures (Sena et al., 2021).

2.2 | The Role of Nursing Theories in Promoting Healthy Aging and Preventing Falls

Through their systematic approach to patient care that prioritizes holistic well-being, nursing theories significantly contribute to the promotion of healthy aging and the prevention of falls. Nursing theories like Orem's Self-Care Theory stress the need to enable older individuals to take an active role in their care to increase their autonomy and quality of life (Aburayyan, 2023). Similarly, adjustments to one's surroundings and one's way of life are emphasized in the Health Promotion Model as a means to reduce the likelihood of falls (Lawless et al., 2021).

Using these theoretical frameworks, nurses may create personalized care plans for older persons, taking into account their unique ailments and requirements. This will help create environments that prioritize safety and mobility (Kabadayi et al., 2020). Strength and balance training, medication management, and home safety education are all evidence-based therapies that can significantly reduce the occurrence of falls. These programs are guided by nursing ideas(Ezenwa, 2020). At the end of the day, putting nursing ideas into practice helps older individuals age well and improves their quality of life by letting them keep their independence and dignity(Menassa et al., 2023).

The US healthcare system loses \$50 billion a year due to the disproportionate number of injuries and deaths caused by falls among the elderly. Falls account for almost 60% of emergency room visits and 50% of injury-related deaths in the elderly population annually(Merchant et al., 2023). Four out of five seniors use at least one prescription medicine every day, and more than one-third use five or more. As a result, drug-related falls are a big problem for the elderly. Lowering patients' risk of falls is a team effort, and RNs are essential in this effort because they know which medications are most commonly associated with falls, can educate patients, and work with other experts to control the side effects of prescription drugs (Lopez et al., 2023).

Those who engage in vigorous performance or activity are at a higher risk of falling, which is known to increase the likelihood of both poor physical performance and premature frailty. Information on the frequency of falls, the correlation between falls, functional capacity, and body composition, and the distribution of good and bad physical performance is lacking. It may be helpful to identify risk factors for falls to conduct case discovery and targeted intervention (Ghanim et al., 2024).

2.3 | Conceptual Frameworks in Fall Prevention and Healthy Aging

The relationship between nursing theory and practice can be better understood with the help of conceptual frameworks in the fields of healthy aging and fall prevention. These models provide a comprehensive perspective on how to assist the elderly in preserving their autonomy and health by integrating important ideas about patient safety, mobility, and health promotion. Theories that stress the importance of self-efficacy, changes to the environment, and proactive health management are fundamental to these frameworks (Hamann et al., 2024). Promoting safe habits among older persons can be aided by theories such as the Social Cognitive Theory, which emphasizes the significance of human agency and contextual effects on behavior change (Bandura, 2023).

In addition, interventions may be customized to suit individuals with varying degrees of desire and capacity by referring to the phases of preparation outlined in the Transtheoretical Model of Behavior Change (Jiménez-Zazo et al., 2020). Nursing practice that incorporates these frameworks allows for the implementation of evidence-based treatments that address the complex nature of fall hazards. This, in turn, promotes healthy aging and improves the quality of life for older persons (Ahmadpour, Farokhi, and NajafianRazavi, 2024). The purpose of this review is to find out what works and what doesn't when it comes to healthy aging and fall prevention by looking at various theoretical frameworks through the lens of nursing theory.

3 | AIM

This integrative literature review aims to evaluate the effectiveness of nursing theories in fall prevention and promoting healthy aging among older adults. The purpose of this study is to help nurses improve the quality of life for their older patients by reducing the risk of falls, increasing patient safety, and identifying the best practices and treatments by combining previous research and theoretical frameworks. This review also hopes to fill in some of the blanks in our understanding of how nursing theory may be applied to healthy aging and fall prevention by pointing out where we don't know enough and where we need more study.

4 | METHOD

To determine which nursing theories are most useful for preventing falls and encouraging healthy aging in the elderly, researchers performed an extensive integrative literature study. To minimize bias in the data given, the review used strict inclusion and exclusion criteria to guarantee a representative sample of papers (Benzaghta et al., 2021). Using predetermined criteria, we methodically searched many databases for articles about nursing theory, healthy aging, and fall prevention (Benzaghta et al., 2021). Critical to nursing practice in this setting are the elements and processes found in the literature, which were synthesized and summarized using thematic analysis. For this, we read and reviewed all of the included articles many times to spot patterns, check for inconsistencies in the results, and make sure nothing important was missed (Benzaghta et al., 2021). Using this technique, the review hopes to add to the body of nursing knowledge by shedding light on how nursing theories may improve patient care reduce the occurrence of falls and promote healthy aging.

4.1 | Search strategy

To evaluate nursing theories' efficacy in fall prevention and healthy aging in mind, the writers of this integrated literature review defined keywords. The search keywords were intentionally wide to acquire all relevant data relevant to the review's aims. A librarian facilitated the search across multiple relevant databases. The PubMed database was searched using the terms: "Nursing Theories," "Fall Prevention," and "Healthy Aging." The Cumulative Index to Nursing and Allied Health (CINAHL) database was explored using the terms: "Nursing Theories" and "Elderly Care." The goal of this search was to find studies that discussed the use of nursing theories to encourage safe behaviors in the elderly. The search was carried out in 2024 without any limitations on publishing dates. From 2018 to 2024, a total of 377 articles were retrieved by this systematic search.

4.2 | Search outcome

A total of 377 studies underwent screening utilizing full-text approaches. Subsequently, 362 studies were eliminated for a variety of reasons: A total of 150 studies did not fulfill the intended research objective, 112 studies did not satisfy the criteria for study design, 82 reviews did not meet the criterion for results, and 4 pieces of research examined the same data. Following the complete examination of the texts, 18 studies were eliminated due to the author's failure to reply to the request for an essential table that was not included in the publication. Ultimately, the research incorporated a total of fifteen papers (as seen in Figure 1) that satisfied the criteria for inclusion.

4.3 | Quality appraisal

The included papers were evaluated for rigor and trustworthiness via a quality evaluation process for this integrated literature review. Various research types, including quantitative, qualitative, and mixed-methods studies, are evaluated using checklists developed by organizations like the Joanna Briggs Institute (JBI) and the Critical Appraisal Skills Program (CASP). These checklists were used as part of the appraisal process (Long, French, and Brooks, 2020). Important factors that were taken into consideration when assessing each article were the following: the adequacy of the research questions, the soundness of the study's methodology, the size and selection of the sample, the techniques used to gather and analyze data, and the practical implications of the results for fall prevention and healthy aging nursing practice (Long, French, and Brooks, 2020).

The quality evaluation was carried out by two separate reviewers to increase dependability and decrease bias. We discussed and reached a resolution to settle any rating discrepancies. The final analysis did not include studies that did not fulfill the minimal quality standards, such as not having well-defined study topics or having serious methodological errors (Long, French, and Brooks, 2020). The review's high-quality evidence synthesis was made possible by its rigorous quality evaluation approach, which added to our understanding of how nursing theories promote healthy aging and reduce falls among older persons (Long, French, and Brooks, 2020)

4.4 | Data abstraction and synthesis

Throughout this evaluation, matrices were created to help with organization, data analysis, and topic development (Nibbelink, and Brewer, 2018). The papers were initially categorized according to the databases they were discovered in. Samples, settings, techniques, and outcomes were all detailed in the matrices used at this point. To compare certain aspects like settings, samples, and methodologies, these matrices were created to synthesize the literature that was included (Nibbelink, and Brewer, 2018). Matrixes including the main sources, structured according to data similarities and patterns, were part of the second step (Nibbelink, and Brewer, 2018). For theme development, the second matrix served as the starting point (Nibbelink, and Brewer, 2018). The articles' recurring themes were captured in a final matrix, which also included details from the research papers that helped set the stage for the themes and the review's conclusions. The last table helped in finding commonalities and bolstering the development of themes among writers (Nibbelink, and Brewer, 2018). Synthesizing the topics from the contained material into a fresh data representation was the final stage (Nibbelink, and Brewer, 2018).

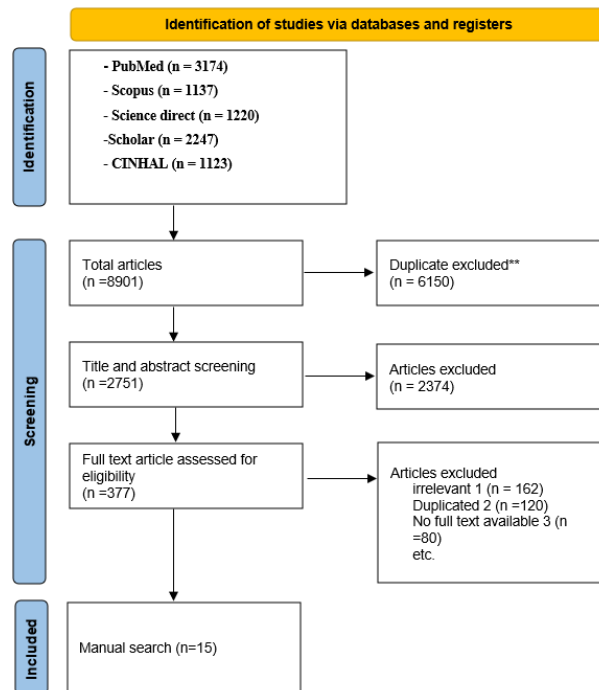


FIGURE 1 PRISMA flow diagram (PRISMA, 2020).

5 | RESULTS

5.1 | Samples, settings and methods

The number of participants in the included studies ranged from 20– 3928. Research in this review included two qualitative studies, ten quantitative studies, and three systematic literature reviews (Tables 1–3 provide specific information on methods and other details of the included studies). The countries associated with the articles in this review were the USA (2), UK (1), China (2), Netherlands (1), Iran (2), Spain (1), Poland (2), Japan (2), Italy (1), and Germany (1).

5.1.1 | Key findings

The review shed light on the function of nursing theories in improving health outcomes for patients in several important ways. One important finding is that nursing theories may be used to create a framework for evaluating, planning, and executing treatments to help older persons avoid falls and age healthily. The evaluation emphasized the usefulness of many theories in directing the creation of all-encompassing fall prevention programs, including the Health Belief Model, Orem's Self-Care Theory, and Neuman's Systems Model. Theorizing in this way allowed nurses to personalize treatments based on the patient's unique requirements, which increased the care's relevance and effectiveness.

In addition, the review found that treatments grounded in theory enhanced results in several critical domains. The review found that older individuals' fall rates decreased significantly and that their physical function and quality of life were both improved (Papalia et al., 2020). Patients were given more agency in their healthcare management when nursing theories were used in practice, leading to improved risk assessment and personalized care plans (Morris et al., 2022). As a whole, the results highlight the necessity for more studies into the linkages between nursing theories and the development of effective treatments to avoid falls and promote healthy aging (Tenison et al., 2020).

TABLE 1 Quantitative articles

Publication/date/ authors	Aims/purpose	Design/methods	Context/setting/ sample	Findings
Gayanilo, 2024	examined the effects of structural empowerment on the links between nurses' knowledge and self-efficacy in reducing falls in acute care settings.	Mixed method study	75 nurses Setting: USA	In a supportive work environment, nurses' knowledge and self-efficacy in fall prevention can lead to the greatest results. Reducing the likelihood of falling is possible via the use of both knowledge and self-efficacy in a practical setting.
Montano, 2021	assess the efficacy of a community-based intervention that promotes interprofessional collaboration in the care of older individuals.	Mixed method study	100 Setting: USA	Care for older individuals living in the community may be better organized with the use of a new model developed from this research: the Neuman Systems Model Perspective of Nurse-Led Interprofessional Collaborative Practice.
Montejano-Lozoya et al., 2020	to determine if a hospital nurse education program (systematic risk of fall assessment) was successful in lowering the fall rate	a quasi-experimental study	581 patients Setting: Spain	one effective technique to decrease the occurrence of falls is the thorough evaluation of the risk of a patient falling during hospital procedures.
Zahedian-Nasab et	the study aimed to	randomized	60 elderly	Nursing home residents'

al., 2021	show how older individuals' balance and fear of falling are affected by VR activities that utilize Xbox Kinect.	controlled trial	individuals Setting: Iran	balance and fear of falling might be improved with six weeks of virtual reality balancing exercises, according to the current study.
Okayama et al., 2022	shed light on the frequency of sarcopenia and the clinical variables associated with it.	Cross-sectional study	61 postmenopausal osteoporosis patients Setting: Japan	A rather high frequency of sarcopenia was observed among female osteoporosis patients in an outpatient clinic after menopause.
Iolascon et al., 2020	The purpose of this study is to evaluate a group of postmenopausal women based on their risk of falling their physical performance, fall frequency, history of fragility fractures, and current medication regimen.	Cross-sectional study	753 women Setting: Italy	Postmenopausal women should undergo research into their physical performance, the frequency of falls and fragility fractures, and the evaluation of pharmaceutical treatment due to the strong association between these variables and the risk of falling.
Warzecha et al., 2020	To identify individuals with sarcopenia and find out how postmenopausal women's risk of falls correlates with skeletal muscle evaluation factors.	cross-sectional study	122 women over 60 years of age Setting: Poland	In postmenopausal women, the likelihood of falling in the last year is substantially associated with a decline in muscle mass. Fall risk as a result of sarcopenia is diagnostic criterion dependent.
Sadeghi et al., 2021	to determine whether balance and functional mobility independently predict bone mineral density (BMD) in postmenopausal women	cross-sectional study	20 patients Setting: Iran	Approximately one-third of postmenopausal women develop osteoporosis. Osteoporosis has been characterized by a deterioration of bone structure, low bone mineral density (BMD), increased fragility, and a greater likelihood of fracture.
Correa et al., 2023	To analyze and compare intrinsic and extrinsic factors that cause falls among women receiving treatment for osteoporosis	A cross-sectional study	144 participants Setting: Spain	Patients receiving treatment for osteoporosis are influenced by intrinsic and extrinsic factors that cause falls.
Asahi et al., 2022	investigate the association between sagittal	A cross-sectional study	313 participants Setting: Japan	The baseline sagittal vertical axis (SVA) and pelvic tilt (PT) are

	alignment and future osteoporosis-related fractures.			independent risk factors of osteoporosis-related fractures in women with osteoporosis.
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TABLE 2 Systematic review articles

Publication/date/authors	Aims/purpose	Design/methods	Context/setting/sample	Findings
Babalola, 2023	improve the elderly's quality of life by raising awareness of nurses' responsibilities in identifying, avoiding, and managing falls.	Systematic review	N/A Setting: Germany	To help older adults maintain their independence and get back on their feet quickly following a fall, nurses proactively prevent falls via individualized evaluations and treatments.
Sadaqa et al., 2023	The purpose of this study is to provide a comprehensive analysis of the literature on the effects of resistance, balance, and multi-component exercise programs on functional capacity measures in community-based settings.	Systematic review	N/A Setting: China	Improve your balance, strength in your lower extremities, and mobility with regular exercise. Lessen your risk of falls and injuries caused by them.
Zhao et al., 2020	to establish what variables put postmenopausal women at risk for falling and to back up claims that primary preventive measures are effective in reducing this risk.	Systematic review	1582 relevant documents Setting: China	a few pointers for healthcare providers and postmenopausal women on how to avoid falls

TABLE 3 Qualitative articles

Publication/date/authors	Aims/purpose	Design/methods	Context/setting/sample	Findings
Tiago Horta, 2024	delves into the significance of preventing falls in the elderly and the critical role played by nurses in this area	Qualitative	85 Nurses Setting: London	A major public health concern worldwide is falling among the elderly affecting healthcare systems as well as individuals' health.
Meekes et al., 2022	This study aims to determine what	Qualitative	32 Nurses Setting: Netherlands	Challenges and opportunities in

	helps and what hinders the process of conducting fall risk assessments in general practitioners' offices and among community nurses, as well as the delivery of evidence-based fall prevention treatments to frail older adults living independently.			primary care fall prevention and intervention implementation about providers, setting, patients, and innovation (strategy)
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5.2 | Synthesis of findings

5.2.1 | The Role of Nursing Theories in Preventing Falls Among Older Adults

Orem's Self-Care Deficit Theory and Jean Watson's transpersonal caring theory outline the nurse's role in preventing and treating falls in older adults. Nursing can reduce falls by recognizing and treating these variables. Nurses monitor medication side effects to avoid falls. To keep elderly patients safe, they regularly check and change prescriptions. Information on side effects and drug combinations was stressed for the elderly. This thesis also shows how nurses do more than observe for falls. They initiate. They analyze each person, establish individualized programs, and use proven methods to avoid falls. Keeping seniors independent and in charge is vital. Nurses are proactive and respond to falls. They intervene immediately and use rehabilitation to help the person recover (Babalola, 2023). To provide a framework for representing nursing clients as complex systems with various interconnected pieces, engaging in continual energy exchange with their environs, the Neuman Systems Model was developed. Its applications in administration, teaching, research, and practice are many. Based on Meleis' methodologies, the theory was examined. Despite the theory's abstractness, lack of teleology, and complexity, it has a vast circle of contagiousness and great usefulness. The results of this study informed the development of a novel paradigm for the care of older individuals residing in the community: the Neuman Systems Model Perspective of Nurse-Led Interprofessional Collaborative Practice (Montano, 2021). As an illustration of Roy's Adaptation Model in action, lower extremity strengthening exercises improved mobility, balance, and overall strength. In addition to enhancing mobility, strength in the lower extremities, and balance (static, dynamic, and reactive), balancing exercises lessen the frequency of harmful falls. Improved mobility, stability, and strength in the lower extremities are some of the benefits of multi-component exercise training, which also decreases the number of falls, the number of people injured in falls, and the number of trips to the emergency room due to falls. Improve your balance, strength in your lower extremities, and mobility with regular exercise. Lessen your risk of falls and injuries caused by them (Sadaqa et al., 2023).

5.2.2 | The Relationship between Osteoporosis After Menopause and Falls Among Older Women

Research shows that among older women with osteoporosis who visit an outpatient clinic after menopause, 39.6% have sarcopenia and all of these patients with malnutrition also have osteoporosis. There was a strong correlation between the presence of sarcopenia and worse quality of life scores as well as increased postural instability. Even though age is an established risk factor for postural instability, the association with postural instability persisted regardless of age. Falling patients with osteoporosis are more likely to get fragility fractures. One of the most important causes of falls among the elderly is postural instability. Postmenopausal women with osteoporosis can enhance their quality of life and reduce the risk of fragility fractures and falls by having their sarcopenia evaluated and treated appropriately (Okayama et al., 2022). Healthcare providers and postmenopausal women can use the study's recommendations to reduce the risk of falls. Fall risk factors in postmenopausal women were identified in this meta-analysis to include sociodemographic factors (such as age, body weight, BMI, lack of exercise, and FES-I scores) as well as medical risk factors (such as dietary calcium intake, previous fracture history, previous falls, number of diseases (~ 2), and number of reported chronic health disorders) (Zhao et al., 2020). Results indicated that postmenopausal women living in the community who were at high risk of falling had lower physical performance, greater medication use, and a higher incidence of both prior falls and osteoporotic fractures. Consequently, a targeted interdisciplinary community program to reduce the occurrence of falls among the elderly must be developed. Primary care and rehabilitation facilities should both regularly provide functional outcome tests

to their patients to determine their fall risk and to develop individualized, multimodal treatment plans (Iolascon et al., 2020; Sadeghi et al., 2021; Asahi et al., 2022). A more comprehensive analysis of the problem is recommended because of the small research sample and variability of the existing publications; nonetheless, there is a strong correlation between decreased muscle mass and the risk of falls in postmenopausal women in the previous year. Even among those whose skeletal muscle quality metrics had declined during the past five years, the risk of falling was not much higher. Due to patients' inability to recall details from long ago, particularly those unrelated to trauma, this finding lacks practical relevance because patients frequently do not disclose falls. Research has shown that diagnostic criteria determine how sarcopenia affects the likelihood of falls. Neither the EWGSOP1 nor the EWGSOP2 studies found that sarcopenic women were more likely to fall. There has to be a meta-analysis utilizing standardized diagnostic criteria as well as research with bigger group samples to determine whether sarcopenia is associated with an increased risk of falls (Warzecha et al., 2020).

5.2.3 | Nursing Interventions to Promote Healthy Aging Through Fall Prevention Programs

For patients who are at risk, hospital falls are frequent yet preventable. No patient is exempt from the need to take fall precautions; these procedures are designed to lower the risk of falls for everyone. Because they spend so much time with patients and are responsible for providing direct care, nurses are well-positioned to help reduce the risk of falls. We may conclude that patients' falls will likely be an ongoing issue. The results of the pilot research confirmed what many suspected: nurses' knowledge and confidence in their own abilities work hand in hand to keep them motivated to use fall prevention measures. Leadership nurses have a special responsibility to ensure that their colleagues get the supplementary training they need to cultivate a safety culture mindset, as this will ensure that their profession continues to thrive in a safe atmosphere, empowering, and rewarding (Gayanilo, 2024; Correa et al., 2023). Statistics show that falls are common among the elderly, and they have a major effect on healthcare expenditures, morbidity, and death. It goes on to say that fall risk factors are complex and include things like aging, chronic health issues, drug usage, limited mobility, sensory impairments, and environmental dangers. Personalized care plans, patient education, thorough evaluations, and advocacy activities are all part of the nursing treatments that attempt to improve safety and decrease the risk of falls. To improve the quality of life for older persons and reduce the economic burden associated with fall-related injuries, nurses play a crucial role in addressing both the intrinsic and extrinsic variables that lead to falls (Tiago Horta, 2024). Patients benefit from nurses who have received specialized training in fall prevention techniques. Patients of any age or duration of stay who received the intervention had a reduced risk of falling in our research. It has been found that systematically assessing the risk of a patient falling throughout hospital processes can effectively minimize the occurrence of falls, particularly among the elderly, who experience the highest number of falls. Therefore, advanced practice nursing education must be mandated for all nurses, not offered as an elective. Clinical strategies that affect patient safety, such as those that reduce the likelihood of falls, require more robust evidence-based research, particularly in the experimental realm (Montejano-Lozoya et al., 2020). Research showed that older people with balance disorders might benefit from simulated balancing workouts, which improved their balance, TUG test, and Falling Efficacy Scale (FES). Virtual balancing exercises have several advantages and are effective in helping the elderly maintain their balance, making them a potential tool for use in nursing homes. A few of these advantages include being less expensive than other treatment procedures and being easy to utilize. However, more research into the effects of various virtual activities on various physiological and psychological variables in comparison to more conventional forms of exercise is necessary (Zahedian-Nasab et al., 2021). provide a chance to try out different approaches to primary care daily practice and see what works better in the real world. Considerations such as healthcare provider-to-provider collaboration, intervention reimbursement, resource availability (time, people), patient motivation, and health problems should all figure prominently in such an implementation approach. Fall prevention has the potential to be more systematically applied if these facilitators and barriers are included during implementation plan development. This would help reduce the serious danger to the quality of life of older adults living independently (Meekes et al., 2022).

5.3 | Strengths and limitations

This integrated review contributed to a complete study of nursing theories in fall prevention and healthy aging by using broad search criteria to guarantee full coverage of pertinent articles. Included evidence was more reliable and legitimate as a result of the thorough quality evaluation procedure. In addition, the results are reflective of current trends and advancements in the industry as they are based on research published between 2018 and 2024.

The results may not be applicable to a broader population because of the limited number of papers included in the analysis (12 total). It is possible that important insights were lost due to the exclusion of studies done in non-clinical settings, papers written in languages other than English, and research including advanced practice nurses or students. Even though the search keywords were extensive, it's possible that studies using other terminology were overlooked due to the use of wide search terms.

5.4 | Implications for practice, education, and research

The findings of the review have important consequences for the fields of nursing education, practice, and research. To promote healthy aging among older persons, the study emphasizes the significance of incorporating nursing ideas into fall prevention measures in clinical practice. Theoretical frameworks like Pender's Health Promotion Model and Orem's Self-Care Deficit Nursing Theory allow nurses to create individualized treatments that tackle the psychological, physiological, and ecological elements that lead to falls.

Fall prevention training programs should include nursing ideas, according to the study. This has important implications for nursing education. In order to provide nurses with the knowledge and skills to identify risks, implement interventions based on evidence, and promote holistic care for older individuals, educators might stress the practical application of theories. Future nurses will be better equipped to deal with the issues posed by aging populations if nursing programs integrate theory and practice.

6 | CONCLUSION AND RECOMMENDATIONS

By combining evidence-based treatments with nursing theories—such as the Neuman Systems Model, Roy's Adaptation Model, Orem's Self-Care Deficit Theory, and Watson's Theory of Transpersonal Caring—this study emphasizes the critical role of nurses in preventing falls among older persons. Medications, mobility issues, osteoporosis, sarcopenia, and other extrinsic and intrinsic risk factors for falls are identified and addressed by nurses who also encourage independence and holistic treatment. Patients' mobility, strength, and postural stability are greatly enhanced by individualized treatments including balancing exercises, strengthening their lower extremities, and providing them with knowledge, which in turn reduces the likelihood of falls and injuries caused by them.

Results can be improved with more advanced nurse education in areas such as drug safety, patient-centered care, and fall risk assessment, according to the research. The development of interdisciplinary programs to address osteoporosis, sarcopenia, and physical function in women after menopause should promote interprofessional collaboration. Virtual balancing exercises and other innovative ways can offer primary and community care facilities cost-effective options. The availability of resources, patient motivation, and reimbursement are all obstacles that must be addressed for the program to be implemented successfully. Validating these findings and optimizing fall prevention measures requires more study with bigger populations. Nurses may improve patient safety, decrease fall-related injuries, and increase older individuals' quality of life by encouraging proactive treatments that are motivated by theory.

CONFLICTS OF INTEREST

The authors declare that they have no conflict of interest associated with this article

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