



Metropolia

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Nurses' Competencies in Managing Pressure Ulcers Among Elderly Home Residents

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<p>Purpose:</p> <p>In elder care institutions, approximately 60% of elderly patients develop pressure ulcers annually. There is a lack of comprehensive understanding regarding the causes and prevention of these ulcers, with most information only becoming available after an incident is reported by staff or observers. The purpose of this study was to describe the primary causes of pressure ulcers and explore effective prevention strategies within nursing homes. It aimed to provide new insights that nurses can use to enhance their practices and reduce the risk of pressure ulcers among elderly residents.</p> <p>Methods:</p> <p>A qualitative research approach was utilized in this study. The method involved a descriptive literature review. Articles were sourced from databases such as CINAHL and PubMed. A total of twelve (12) studies met the inclusion and exclusion criteria. To analyze the data, an inductive content analysis technique was utilized.</p> <p>Results:</p> <p>Preventive measures for pressure ulcers in elderly residents of nursing homes include standardized prevention programs, safety protocols, educational initiatives, collaborative efforts, and effective leadership and management practices.</p> <p>The originality of this study was checked using Turnitin Originality Check service.</p>	
Keywords	nurse competencies, pressure ulcer prevention, geriatric, elderly, nursing home, long-term facilities

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1 Introduction

Pressure ulcers (PU), also known as bedsores, are a common problem among elderly people living in nursing homes. These wounds form when the skin is under pressure for too long, reducing blood flow and causing damage to the tissue (EPUAP 2019).

As researchers working in elderly care, we have come across many cases of pressure ulcers among older adults, and these experiences have made us want to dig deeper into the topic. Pressure ulcers are becoming an increasing concern in long-term care facilities, especially for older adults who have limited mobility. These situations have motivated us to study this topic further, as we believe that studying it can help raise awareness about pressure ulcer prevention and management, helping to reduce how often they happen by improving the knowledge of effective care strategies. In addition, this study will give useful insights into the causes of pressure ulcers, what leads to them, and the best ways to prevent them. By looking into the skills and knowledge of nurses in managing pressure ulcers, we want to find areas where nursing care can be improved. The results from this study can be useful in long-term care facilities to create better policies, training, and strategies that can help to reduce the risk of pressure ulcers, improving patient care and the quality of life for elderly residents. If bedsores are not treated, they can become very dangerous. People may develop serious infections like cellulitis, bone infections, or blood infections—and in some cases, this can even lead to death (Gefen et al., 2020). On top of that, treating pressure ulcers is very expensive. In the U.S., it costs between 9.1 and 11.6 billion dollars every year, partly because patients often need to stay in the hospital longer (Padula & Delarmente, 2019).

Nurses are very important in preventing and treating bedsores. They check patients for risks, give the right kind of care, and help patients understand how to avoid pressure ulcers (EPUAP, 2019). But sometimes, nurses do not all have the same level of knowledge or support. Staff shortages and a lack of training can lead to uneven care (Dalvand et al., 2018). That's why it's important to help nurses build the skills they need to care for patients properly.

Pressure ulcers, also known as pressure injuries or bedsores, are localized damage to the skin and underlying tissue that occur as a result of prolonged pressure, often over bony areas such as the sacrum, hips, and heels. They are a major concern in healthcare, particularly among individuals with limited mobility, including older adults and people with chronic illnesses. The World Health Organization (WHO, 2018) recognizes pressure ulcers as a significant indicator of the quality and safety of care provided in health systems. Despite being largely preventable, they continue to contribute to patient suffering, longer hospital stays, and increased healthcare costs worldwide.

According to WHO, pressure ulcers are associated with considerable physical discomfort, social isolation, and psychological distress. They can also lead to serious complications, such as infection, sepsis, or even death in severe cases. The burden of pressure ulcers is especially evident in long-term care facilities and nursing homes, where many residents have limited mobility, poor nutrition, and multiple comorbidities that increase their vulnerability. WHO emphasizes that preventing such injuries is not only a clinical responsibility but also an ethical imperative to ensure patient dignity and safety in all care settings.

Effective prevention requires early identification of risk factors, including immobility, poor nutrition, incontinence, and decreased sensation. Evidence-based strategies recommended by WHO and other international guidelines include regular repositioning, the use of pressure-relieving devices, maintaining skin hygiene, and ensuring adequate hydration and nutrition. However, prevention is often challenged by barriers such as limited staffing, inadequate training, poor communication, and a lack of resources in healthcare institutions.

In nursing homes, these challenges are even more pronounced due to the complex needs of residents and the high workload of nursing staff. Therefore, understanding the

barriers that prevent nurses from providing optimal pressure ulcer prevention is essential. Exploring these issues can guide interventions that strengthen nursing practice, improve patient outcomes, and align with WHO's global framework for quality and safe long-term care.

2 Background and key terms

Pressure ulcers are a major problem in healthcare, especially in intensive care units, where patients are often seriously ill and bedridden for long periods. These ulcers develop due to constant pressure, friction, or shear forces that harm the skin and underlying tissues. They are painful, can extend hospital stays, and increase the risk of infections that could be life-threatening. They create a huge financial problem for healthcare systems due to the cost of extra treatments and complications (Baron et al 2016).

The presence of pressure ulcers is often used as a sign of how good the care is at a hospital or healthcare facility. If a lot of patients get them, it usually means there are problems with how care is being provided, particularly when it comes to preventing them. In the intensive care units, where patients are often sedated, unconscious, or connected to machines, the risk of developing pressure ulcers is even greater because these patients cannot move on their own. Studies from places like Brazil and the United States show that pressure ulcers are common in the intensive care units with rates ranging from 25% to 41% highlighting the need for better prevention and management strategies (Baron et al; 2016)

Nurses' skills in managing pressure ulcers (PUs) cover various areas, including risk assessment, early detection, evidence-based wound care, patient repositioning, nutrition, and the use of pressure-relieving devices (Beeckman et al., 2019). Research shows that ongoing education and professional development programs greatly improve nurses' ability to follow best practices, leading to a decrease in PU cases and better patient outcomes (Saha et al., 2022). However, issues like staff shortages, heavy workloads, limited access to preventive equipment, and insufficient institutional support often prevent effective PU prevention in nursing homes (Gunningberg et al., 2020).

Additionally, factors like institutional policies, leadership involvement, teamwork, and access to clinical guidelines play a significant role in how well PU management strategies work (Schols et al., 2021). A strong organizational culture that focuses on continuous training, following protocols, and proactive care is crucial for improving nurses' skills and preventing PUs (Tayyib & Coyer, 2019). The integration of technology, such as electronic health records for monitoring PU risks and advanced wound care methods, can greatly enhance early detection and treatment (Worsley et al., 2021).

This research aims to contribute to improved patient safety and enhanced quality of life by examining the factors that lead to pressure ulcer development and identifying practical measures for their prevention. Future studies are recommended to establish well-supported prevention and intervention guidelines specifically designed for nursing practice within nursing home environments.

The following key terms were used in this study: nurse competencies, nurse skills, pressure ulcer prevention, elderly, nursing home, and long-term care facilities.

3 Purpose aims and research questions

The purpose of this study is to explore the nurses' competencies in managing pressure ulcers among elderly residents in the nursing homes.

The study aims to establish recommendations that can be used educational materials or interventions to advance nurses' competencies and strengthen the quality of pressure ulcer management in nursing home settings.

The study will answer the following research questions:

1. What are the current competencies of nurses in managing pressure ulcers among elderly residents in nursing home?
2. What are the perceived barriers that nurses face in providing optimal pressure ulcer care?

4 Methodology and Methods

A descriptive qualitative literature review was conducted for this study. Its primary aim is to offer an objective overview of existing knowledge on the subject, while highlighting the significance of continued research in this area. (Paré and Kitsiou 2017: 160). This study is suitable in healthcare research as it provides an overview of existing knowledge on nurses' competencies in managing pressure ulcers among elderly home residents. It identifies essential skills, best practices and gaps in current nursing care and shows theoretical concepts of nursing competencies are applied into home care practice. By summarizing evidence, the review reports the aim of the study and contributes to improving patient safety and quality of care in managing pressure ulcers in elderly patients.

4.1 Data collection method

We conducted a systematic search using the CINAHL, and PubMed databases, both accessed through Metropolia's LibGuides. These databases were chosen because as these are well-known and trusted sources for articles related to nursing, healthcare, and medical sciences. To narrow and combine our search results, we used Boolean operators "AND" and "OR." The search terms included "pressure ulcer prevention," "nurse competencies," "elderly," "nursing homes," and "long-term facilities." Each article retrieved was carefully reviewed, and only those that met the study's relevance criteria were included for analysis.

4.2 Data search and selection

We used the PICO (Population, Interest, and Context) framework to guide our data search and selection process. The search was carried out based on specific inclusion and exclusion criteria to ensure that only relevant studies published between 2016 and 2025 were included. Setting these criteria is a common and important step in creating a solid and reliable research process. (Patino and Ferreira 2018: 83).

Table 1. PICO Framework

P	Population	Elderly
I	Interest	Pressure ulcers

Co	Context	Elderly home
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To ensure the relevance and quality of the literature included in this study, specific inclusion and exclusion criteria were applied. Studies were included if they were primary, peer-reviewed research articles written in English within the past ten (10) years, focused on nurses' competencies in managing pressure ulcers among elderly home residents, adopted a nursing perspectives, and included an abstract. Studies were excluded if they were not peer-reviewed not written in English, published more than ten (10) years ago, focused on other healthcare professionals conducted outside the home care settings, or were secondary sources such as reviews, commentaries and conference abstract. The inclusion and exclusion criteria were summarized in Table 2.

Table 2. Inclusion and exclusion criteria

INCLUSION CRITERIA	EXCLUSION CRITERIA
The studies examine the causes of pressure ulcers and methods to prevent them in elderly people living in nursing homes	Studies that examine the causes and prevention of pressure ulcers in elderly patients outside of nursing home settings
Only studies published in English were included in this review	Studies published in languages other than English were excluded from this review
Studies published within the last 10 years were considered for this review	Studies published over ten (10) years ago were excluded from this review
Peer-reviewed, primary studies	Newspaper articles, conference reports, dissertations and studies from databases not listed in this research were excluded

Table 3. Data search and table findings using Boolean operators

Database	Search keywords	Number of results obtained following the applied limitations	Selected through title review	Selected following the abstract review	Selected through a full-text review
CINAHL	"pressure ulcer* prevention" AND (geriatric or elderly) AND ("nursing homes" or "long-term facilities")	110	14	10	8
Medline	("pressure ulcer* prevention" AND (geriatric OR elderly) AND ("nursing homes" OR "long-term facilities"))	40	10	9	8
PubMed	("pressure ulcer* prevention" AND (geriatric OR elderly) AND ("nursing homes" OR "long-term facilities"))	40	10	9	9
Total number of records					
Total records after removing duplicates	7 duplicates				18
Number of records after excluding non-relevant articles					7
Total number of included articles					11

In this study, the criteria used to determine that articles were not relevant included whether the study focused on nurses' competencies in managing pressure ulcers, whether the population studied consisted of elderly home residents, whether the article was written in English, whether it was published within the last ten (10) years, and whether it was a primary research articles rather a secondary source such as a review, commentary or conference abstract.

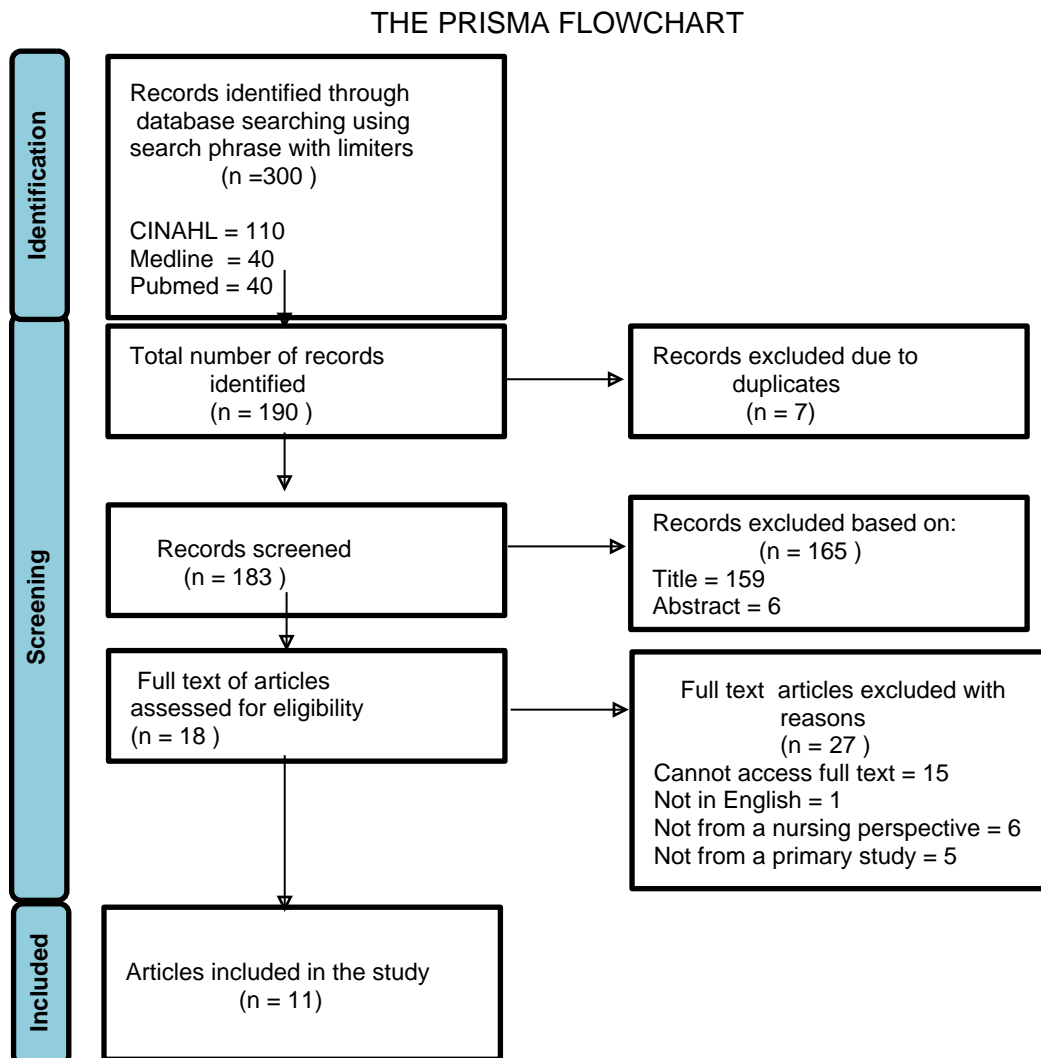


Figure 1. The PRISMA flowchart, illustrates the number of records that were included and excluded based on the predetermined inclusion and exclusion criteria.

4.3 Data analysis method

The Inductive Content Analysis method is commonly used to analyze text-based data. It helps organize and summarize information from multiple sources into a simpler and more manageable form. After grouping similar content, the method looks for patterns and shared meanings to gain a deeper understanding of the collected data. ICA is especially useful in research areas where limited prior studies are available. (Vears & Gillam 2022: 112 and 116.)

Table 4. A sample of data analysis from the selected research articles was used to answer study question 1.

	Meaning units	Coding	Sub- category	Generic category	Main category
Effects of pressure ulcer prevention training among nurses in long-term care hospitals (N1) Seo, Y. and Roh Y. (2020)	Prior to the training, it is evident that many nurses demonstrated lacked adequate training. After participating the training, nurses demonstrated a significant improvement in knowledge. Training led to positive shifts in nurses' attitudes towards PU prevention. Both team-based and lecture-based training increased behavior scores. Nurses found the TBL model particularly beneficial for applying knowledge to case scenarios	Clinical assessment and intervention skills	Practical skills	Clinical skills	Nurses' competencies in managing pressure ulcer
Bridging the Knowledge Gap for Pressure Injury Management in Nursing Homes (N4) Lee, Y., Kwon, D., Chang, S. (2022)	Nurses reported improvements in knowledge, clinical judgment, and stage discrimination after tailored education. Nurses often act independently due to lack of wound care specialists. Nurses must adapt guidelines to each resident's unique condition. Nurses feel uncertain when healing does not follow textbook examples.	Autonomy in clinical judgment	Context-based decision-making	Nurses as primary decision-makers	Nurses' competencies in managing pressure ulcer

Table 5 A sample of data analysis from the selected research articles was used to answer study question 2.

	Meaning units	Coding	Sub-category	Generic category	Main category
<p>Barriers and facilitators to preventing pressure ulcers in nursing home residents: A qualitative analysis informed by the Theoretical Domains Framework (3) Lavalley, J., Gray, T., Dumville, J., Cullum, N. (2018)</p>	<p>"It seems that people are managed based on their individual risk factors. Everyone appears to receive the same care, such as turning every two hours."</p> <p>"Staff should be treated with respect as trained nurses, rather than being regarded as incompetent."</p> <p>"There are individuals who believe they know better and therefore do not comply with guidelines."</p>	<p>Routine based-care</p> <p>Lack of professional recognition</p> <p>Non-compliance with care protocols</p>	<p>Lack of individualized assessment and care planning Negative professional dynamics</p> <p>Low morale and professional disrespect</p> <p>Resistance to guidelines and inconsistency in practice</p>	<p>Inadequate clinical decision-making</p> <p>Poor interprofessional relationships and culture</p> <p>Resistance to standardized preventive measures</p>	<p>Barriers that nurses face in providing optimal pressure ulcer care.</p>
<p>An Evaluation of Barriers and Facilitators for a Pressure Injury Prevention Link Nurse Role (7) Moir, C., Taylor, P., Seaton, P., Snell, H. (2022)</p>	<p>"Not enough time to do assignments"</p> <p>"Role not clear"</p> <p>Nurses are bombarded with information and questioned the relevance of QI information.</p>	<p>Lack of time for PIP (Pressure Injury Prevention) tasks</p> <p>Unclear role expectations</p> <p>Information overload</p>	<p>Limited time to complete additional responsibilities</p> <p>Ambiguity surrounding the scope and expectations of the link nurse role</p> <p>Difficulty filtering and applying relevant quality improvement information</p>	<p>Time and workload constraints</p> <p>Ambiguity in role definition and accountability</p> <p>Educational and informational challenges</p>	<p>Barriers that nurses face in providing optimal pressure ulcer care.</p>

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This section displays the findings associated to nurses' competencies in managing pressure ulcer among elderly residents in nursing homes. The results are formulated into Themes/ Categories: Knowledge and training, Assessment skills, Preventive measures, Use of guidelines and protocols, Teamwork and communications.

Sub Category	Generic category	Main category
<ul style="list-style-type: none"> • Implementation Factor • Intervention Components • Knowledge and Skills Gaps • Motivational Drivers • Etiology and Progression • Individual Factors • Educational Factors • Educational Needs • Study weakness • Professional Mindset 	Education/ Learning requirement	Knowledge and training

Sub category	Generic category	Main category
<ul style="list-style-type: none"> • Clinical Outcome • Patient Characteristics • Patient-Related Barriers • Prevalence and Variability • Risk Factors • Patient Vulnerability • Practice gaps 	Result/Impact	Assessment skills

Sub category	Generic category	Main category
<ul style="list-style-type: none"> • Prevention Methods • Workloads and Resources • Prevention Practices • Clinical Management • Health Care Utilization • Resource Factors • Environmental Factors • Program Efficacy 	Strategy/ Care process	Preventive measures

Sub category	Generic category	Main category
<ul style="list-style-type: none"> • Clinical Recommendations • Organizational Challenges • Organization Influence • Implementation Challenges • Organisational Factors • Implementation Issues • Quality Improvement Initiatives 	Standard/Structural	Use of guidelines and protocols

Sub category	Generic category	Main category
<ul style="list-style-type: none"> • Team Dynamics • External Support System • Staff Confidence • Cultural Factors • Support system • Professional Mindset • Organisational Support 	Interpersonal process/ Structural enabler/ psychological factor	Teamwork and communications

5 Results

Research question 1: What are the current competencies of nurses in managing pressure ulcers among elderly residents in nursing home?

The study explored the current competencies of nurses in managing pressure ulcers among elderly residents in nursing home. The results are categorized into the following key competencies areas: Knowledge of Pressure Ulcer Prevention and Management, Skills assessment and Intervention, Documentation and Monitoring Practices, and Variation by experience or Training.

5.1 Knowledge of Pressure Ulcer Prevention and Management

There are 4 key competency domains of a nursing home practice. Firstly, Integrated Thinking. Nurses reported that they have difficulties in reconciling textbook knowledge into real pressure ulcer healing process and resulted to confusion. Nurse participants statement is included below:

“I tried the sample products we got during the training, but they did not really work. When I asked about it, they explained that it is hard to see good results with residents who are not in good condition.”

“Sometimes, things do not go as planned especially when I become too focused on using a product recommended by the hospital, assuming it is the only solution. But when something does not feel right, it is important to take a step back, reassess the situation, and seek advice if needed. I believe it is crucial to re-evaluate everything based on the specific pressure injury and the resident’s condition at that time.” Seo, Y. and Roh Y. (2020).

Secondly, Understanding in Environmental Contexts. Nurses emphasized that they need to adapt intervention limitations in managing pressure ulcers and interventions based on nursing home residents skin integrity, mobility and available resources. Nurse participants statement is listed below:

“While most nurses in the facility possess adequate knowledge, there are situations where unusual cases emerge. These often depend on factors such as the resident’s level of mobility and the extent of their contractures.”

“I received training on pressure injury management, but not all the products covered during the education are available at the facility.”

“Residents have varying financial backgrounds, and in cases where a resident is nearing the end of life, more affordable products may be chosen over expensive ones. Therefore, it is important to know about different alternatives that can be used.”

“Residents with dementia may show behavioural challenges, and their medications can cause them to spend more time in bed. Even though they might not be classified as high risk for pressure injuries, these factors can still lead to the development of such injuries.” (Lindhardt et al, 2020: 3)

Thirdly, Interpersonal Relationships for Efficient Decision-Making (IREDM). Communication barriers between staff and other health care staff prevented coordinated care, highlighting the importance of understanding each other’s role and

establishing team-based system that promote exchange and collaboration. Nurse participants statement is listed below:

“Even when we clearly explain the resident’s pressure injuries to a caregiver, continuity of care may breakdown if another caregiver takes over later. Without effective communication, it becomes difficult to manage pressure injuries appropriately.”

“I had requested that no pressure be placed on the affected areas during physical therapy, but this was communicated effectively, and in some instances, pressure was still applied.”

“When residents require hospital treatment for pressure injuries, written documentation is usually provided. However, it is up to the caregiver to accurately convey this information, and if this does not happen, it can hinder proper treatment.”

“A weekly meeting is held with nurses, social workers, physical therapists, and nutritionists to discuss pressure injury management. When each professional contributes such as adjusting physical therapy to avoid the injured area or preparing meals that support healing positive outcomes are often achieved.”

Finally, Professional Development. Frequent staff turnover and the absence of medical staff for wound healing causes the gap in knowledge. Moreover, nurses expressed the necessary to increase the ability to develop individual competency in managing pressure ulcer by participating in education or by searching for data. Nurse participants statement is included below:

“The level of competence among nurses at our facility varies significantly. Even when assessing the same pressure injury, differences in judgment can lead to inconsistencies, making it difficult to carry out appropriate interventions.”

“In the absence of a wound care specialist, nurses are often required to make clinical decisions on their own, which can lead to uncertainty and anxiety.”

“Given the interdisciplinary nature of our facility, it is essential to treat pressure injury management as a shared priority and to encourage active involvement from all team members. Success depends not only on knowledge but also on responsibility, attitude, and attention to detail.”

“I consulted with a wound care specialist at a nearby teaching hospital and maintained communication for guidance. However, due to differences in the care environment, their recommendations cannot always be applied directly. Despite this, we continue striving to build that connection by adapting the most suitable approaches for our setting and referring residents to the hospital when needed.” (Lavalley et al. 2018: 4.)

In terms of nurses' perspective on pressure ulcer prevention and management, the phrase "lift the duvet" symbolize the fundamental in nursing care- accentuate the importance of daily skin assessment and inspection.

"... you have to lift each patient's duvet, every day." – Nurse 3

5.2 Skills assessment and Intervention

A 12-month program led by Continence Care Nurse Practitioners (CCNPs) to evaluate the knowledge and practices of nurses regarding pressure ulcer prevention within an NHS Trust revealed the following knowledge gaps. 59% of staff incorrectly used soap and water to cleanse fragile skin. Whereas 53% lacked understanding of severe IAD management according to Trust guidelines. On the one hand, 82% demonstrated incomplete knowledge of correct incontinence pad use. Confusion was noted in identifying the difference between incontinence-associated dermatitis (IAD) and category 2 pressure ulcers, which resulted in the excessive use of barrier products. On the contrary, 92% of staff recognized that IAD increases PU risk and 100% understood the importance of repositioning in moisture-associated skin damage (MASD) management. Different training program was implemented. This includes bedside teaching using five custom training cards, updates to the Trust's IAD management pathway, standardisation of barrier product use, and introduction of an educational video and ongoing support via intranet resources.

Post intervention outcome

Knowledge area	Pre (%)	Post (%)	Change
IAD increases PU risk	92%	100%	↑8%
Avoiding soap on fragile skin	59%	88%	↑29%
Correct cleansing product use	62%	85%	↑23%
Referral triggers to tissue viability	78%	90%	↑12%

However, a significant declined in two key areas includes: understanding the correct use of incontinence pad decrease by 6% and severe IAD management by 16% due to unfamiliarity of new products and protocols.

The use of preventive measure and practices varied by Braden risk level. It showed that the average number of preventive measures increase with risk. From 1.8 for low risk to 3.4 for high risk while the correct use of all preventive measures was rare. Only

3.1% for moderate to high-risk patients. There were gaps also found out in repositioning frequency specially for high-risk patient that is below the recommended level. Most of the patients received pressure-relieving mattresses and seating surfaces, frequent repositioning and nutrition supplement are underutilized.

5.3 Documentation and Monitoring Practices

One of the challenges identified is disintegrated communication which includes the lack of standardized terminology and documentation such as reliance on tick-box electronic system thus hindered the effectiveness of pressure ulcer management. It is recommended the integration of technology like using of electronic health record to flag down residents who are higher risk and to standardize the documentation.

5.4 Variation by experience and Training

In terms of variation by experience and training, two educational strategies- team-based learning (TBL) and lecture base learning were conducted to examined on nurses' knowledge, behaviour and attitudes related to pressure ulcer prevention in long term care facilities. In comparison, while two groups showed an improvement on three variables: Knowledge improvement: $p = 0.269$, Behavior improvement: $p = 0.362$ Attitude improvement: $p = 0.496$, there is no statistical difference were observed between team-based learning and lecture-based learning.

It recommends that both training methods are uniformly effective in improving nurses' competencies in pressure ulcer prevention and management.

Research Question 2

What are the perceived barriers that nurses face in providing pressure ulcer care?

5.5 Organizational Barriers

One of the most commonly reported barriers is related to organizational issues. Staffing shortages result in nurses being overburdened, leaving limited time for detailed pressure ulcer care. Time constraints due to a high patient-to-nurse ratio often cause essential preventive measures like regular repositioning or skin assessment to be delayed or omitted. In addition, the lack of appropriate equipment—such as pressure-relieving mattresses or repositioning aids—and unclear institutional protocols can

significantly hinder effective care. Some studies also highlight the absence of formal guidelines or their poor implementation at the unit level.

5.6 Knowledge and Training Gaps

Several nurses report a lack of updated knowledge and inadequate training in pressure ulcer prevention and treatment. In some cases, continuing education opportunities are limited, especially in long-term care settings. This leads to outdated practices or uncertainty in clinical decision-making. New or less experienced nurses may also feel underprepared to handle complex cases involving skin breakdown or wound care.

5.7 Communication and Teamwork Issues

Effective pressure ulcer management often requires collaboration across disciplines. However, interdisciplinary communication challenges—such as unclear delegation of responsibilities between nurses, physiotherapists, and doctors—can lead to inconsistent care. Nurses have also reported unclear roles and lack of shared documentation systems, which create delays in implementing preventive interventions or responding to early signs of pressure damage.

5.8 Attitudinal and Motivation-Related Barriers

Some studies reveal that pressure ulcer prevention is perceived as a low priority compared to other clinical tasks, especially in fast-paced or understaffed environments. Additionally, a lack of motivation among staff—possibly due to burnout, fatigue, or perceived ineffectiveness of prevention efforts—can result in neglect of skin checks and repositioning routines. In some cases, staff may also feel that residents are non-compliant or uncooperative, further discouraging preventive efforts.

6 Discussion

This study highlights the multifaceted nature of pressure ulcer prevention and management in nursing homes, emphasizing the role of nurses' competencies, environmental factors, and institutional support. Through the analysis of current literature, it became evident that pressure ulcer development is rarely the result of a single cause, but rather the interaction of intrinsic (e.g., immobility, poor nutrition), extrinsic (e.g., inadequate use of pressure-relieving devices), and situational factors

(e.g., low staffing, insufficient training). Therefore, a holistic approach is essential in developing effective strategies for prevention and care. (Zhang et al. 2019 :23).

Findings from this review underscore the importance of tailored, evidence-based nursing interventions. Standardized guidelines alone may not suffice in addressing the specific needs of elderly residents, especially in diverse long-term care environments. The variability in staff knowledge, experience, and institutional resources poses a significant barrier to consistent and effective care. Additionally, communication gaps, lack of interdisciplinary collaboration, and limited ongoing education further contribute to suboptimal outcomes. (Paré et al. 2017: 31).

The literature also suggests that nursing competence in pressure ulcer care is closely linked to the availability of structured training programs and supportive leadership. When nurses are equipped with up-to-date knowledge and are supported by their institutions, they are more likely to implement preventive measures effectively. Moreover, teamwork among nursing staff, physicians, and physiotherapists enhances early risk detection and promotes prompt interventions. (Albasha et al. 2024:15.)

Despite the advances in clinical guidelines, the implementation gap remains a concern. This gap can be attributed to insufficient resources, time constraints, and the underutilization of evidence-based tools. Bridging this gap requires not only the development of protocols but also the integration of those practices into daily workflows and a commitment from organizational leadership to prioritize pressure ulcer prevention as a quality care indicator. (Paré et Al 2017: 25).

This study also brings attention to the need for further research aimed at developing validated nursing protocols that are both practical and adaptable to different care settings. Research should also investigate how various institutional factors such as staffing models, workload, and leadership styles influence adherence to pressure ulcer prevention guidelines. (Albasha et al: 2024: 24).

6.1 Analysis of collected data

During the data analysis, we followed the three (3) steps of inductive content analysis (ICA) : open grouping, and abstraction. The findings from each selected article that addressed the first research question were treated as meaning units. These meaning units were then assigned specific codes. The data were organized by creating categories to identify similarities and differences, with similar codes grouped together. Cooperation, which included staff communication, teamwork, and a multidisciplinary

approach, was identified as a sub-category. Leadership and management formed the fifth generic category, which included staffing levels, appropriate skill mix, and supportive leadership as sub-categories. These generic categories addressed the main category related to the second research question. The second main category focused on practices that can be implemented to prevent pressure ulcers in elderly patients in nursing homes.

6.2 Summary of the data used

A total of 11 research articles were used in this study, all published between 2016 and 2025 across 7 countries. The studies took place in nursing homes located in South Korea, the United Kingdom, Switzerland, New Zealand, Sweden, Denmark, and the Netherlands. The participants included elderly residents aged 60 and above, nursing staff, family members, and other long-term care healthcare providers. The selected articles applied various research approaches, including quantitative, qualitative, and mixed methods. Data collection techniques included interviews, randomized clinical trials, cross-sectional surveys, quasi-experimental designs, case studies, direct observations, and content analysis. Several studies also followed a pre-test and post-test design format.

6.3 Ethics and validity

Research ethics serves as a framework that guides the proper conduct of studies involving human participants. These principles ensure the quality and integrity of the research by promoting practices that prevent harm and protect participants' confidentiality, as well as the ethical use of related literature. (De Poli and Oyeboode 2023: 1-27.)

In this study, ethical principles were applied by using only publicly available, peer-reviewed research articles. All sources were properly cited to respect intellectual property and avoid plagiarism. Since the study did not involve direct interaction with human participants, there was no risk of causing harm, but careful attention was given to representing the findings accurately and responsibly.

Validity was ensured through systematic selection of articles based on clear inclusion criteria, including publication date (2016-2025), relevance to nursing homes, and research quality.

To uphold these standards, this study carefully reviewed all ethical guidelines. All twelve (11) selected articles were thoroughly read and reviewed in consultation with a designated research adviser. Database searches were conducted with the support of the university librarian, and all sources were correctly cited and referenced. Proper referencing and citation of all sources are fundamental aspects of responsible research. Materials like journal articles and publications sourced from recognized databases are protected by copyright and intellectual property laws. (Arene, 2019:13.)

In addition, ethical responsibility in research does not only protect participants and intellectual property, but also strengthens the overall quality, credibility, and societal value of the study.

6.4 Conclusion

In conclusion, understanding the intrinsic (patient-related), extrinsic (environmental), and situational factors contributing to pressure ulcer development is essential for effective nursing practice. For example, intrinsic factors include residents mobility and nutritional status, while extrinsic factors include bedding, pressure-relieving devices and the overall care environment. Improving patient outcomes requires a combination of evidence-based interventions, including standardized prevention and management protocols, continuous staff education, teamwork, and strong leadership are key components in improving patient outcomes. It is important to recognize that no single intervention is sufficient on its own interventions must work together to address the complex needs of elderly residents.

A significant challenge in nursing homes is the lack of specific, evidence-based protocols tailored for clinical nursing practice in pressure ulcer management. Many institutions rely on generic guidelines that do not fully consider residents intrinsic, extrinsic and situational factors such as mobility, nutrition, skin care, bedding, staffing levels or workflow. Future research should focus on developing and validating nursing protocols that comprehensively address these factors. Continuous professional development is crucial to enhance nurses' competencies, confidence, and adherence to best practices. Nursing home management can use findings from studies like this to review policies, optimize staff training, and make environmental adjustments aimed at reducing pressure ulcer incidence. Nurses can apply evidence-based strategies to better assess and manage individual residents' risk factors.

Finally, this study serves as a valuable reference for future research and contributes to the broader goal of improving the quality of life for elderly nursing home residents by minimizing pressure ulcer risks and promoting effective prevention and management.

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Appendix 2. Summary of reviewed articles Appendix 1: Summary of reviewed articles

Author (s), Year, Country	Topic/Title	Methodology/Methods	Participants	Main outcome
Yuk Yeong Seo and Young Sook Roh 2020 Republic of South Korea	Effects of pressure ulcer prevention training among nurses in long-term care Hospitals	"Pre-post differences in pressure ulcer prevention knowledge, behaviors, and attitudes within each group were examined using the paired t-test. Additionally, differences between the two groups were compared using the independent samples t-test."	N=30	Both groups exhibited significant increases in scores for pressure ulcer prevention knowledge, behaviors, and attitudes after the intervention as compared before it. However, we found no significant differences in the pre-post difference scores for any of the variables between the two groups.
Jacqueline F. Lavallée, Trish A. Gray, Jo Dumville, and Nicky Cullum 2018 United Kingdom	Barriers and facilitators to preventing pressure ulcers in nursing home residents: A qualitative analysis informed by the Theoretical Domains Framework	Semi-structured interviews were conducted with nursing home nurses, healthcare assistants, managers, National Health Service community-based wound specialist nurses (known in the UK as tissue viability nurses), and a nurse manager in the Northwest of England. The interview guide was developed using the Theoretical Domains Framework to explore the barriers and facilitators to pressure ulcer prevention in nursing home residents. Data were analysed using a framework analysis and domains were identified as salient based on their frequency and the potential strength of their impact.	N= 25	Identified seven domains as relevant in the prevention of pressure ulcers in nursing home residents mapping to four "barrier" domains and six "facilitator" domains. The four "barrier" domains were knowledge, physical skills, social influences and environmental context and resources and the six "facilitator" domains were interpersonal skills, environmental context and resources, social influences, beliefs about capabilities, beliefs about consequences and social/professional role and identity).
Delphine S. Courvoisier, Lorenzo Righi, Nadine Béné, Anne-Claire Rae, and Pierre Chopard 2018 Switzerland	Variation in pressure ulcer prevalence and prevention in nursing homes: A multicentre study	"Assessments were conducted on a single day in November 2015 across nursing homes in Geneva, Switzerland. Of the 51 eligible institutions (comprising 3,824 patients), 33 nursing homes agreed to participate,	N= 2671	Patients were on average 85.6 years old, with a median length of stay of 2.1 years. The overall prevalence was 5.7% but varied considerably, from 0% to 19.6%.

		<p>representing 2,671 patients (69.8%). One designated nurse from each nursing home received training on pressure ulcer detection. To estimate residual variability in prevalence and the number of prevention measures, adjusted multilevel logistic regression analyses were performed.”</p>		<p>The variability across nursing homes decreased slightly when considering patient-level and institute level characteristics. In the adjusted models, pressure ulcers prevalence was significantly associated with Braden risk, number of preventive measures were significantly associated with nursing home size, and Braden risk, and marginally associated with length of stay.</p>
Chris Moir, Peta Taylor, Philippa Seaton, and Helen Snell 2022 New Zealand	An Evaluation of Barriers and Facilitators for a Pressure Injury Prevention Link Nurse Role	<p>“Participants were invited to take part in focus groups aimed at identifying perceived facilitators and barriers related to their roles. These focus groups were organized according to care settings: aged care, community visiting, and hospital. Using a nominal group technique, participants were asked to identify specific barriers and facilitators affecting their roles.”</p>	N= 52	<p>Focus group data indicated facilitating priorities included PIP link nurses’ commitment to the role, the support they received from their managers and colleagues, and time release to complete the role. Barriers included lack of time—when other work pressures took priority, and PIP link nurses felt the focus on applying quality improvement theory was more challenging than they had anticipated.</p>
Joanna Peart 2023 United Kingdom	Improving knowledge of continence care to prevent skin damage associated with incontinence	<p>Following the appointment of four CCNPs, a project plan was developed by the lead tissue viability nurse, covering a 1-year period (July 2021-July 2022). A Plan, Do, Study, Act (PDSA) cycle was used to shape the four stages of the project (NHS England/NHS Improvement, 2022a).</p>	N=58	<p>The improvement project demonstrated a decrease in the incidence of IAD from January 2022 onwards. Prior to September 2021, two wards had not historically reported IAD, therefore, a peak in the incidence data is apparent around this time. The group concluded that the continued decrease in IAD</p>

				incidence after December 2021 was largely due to the increase in staff knowledge demonstrated during the project.
Tracey L. Yap, Susan D. Horn, Phoebe D. Sharkey, Tianyu Zheng, Nancy Bergstrom, Cathleen Colon-Emeric, Valerie K. Sabol, Jenny Alderden, Winston Yap, and Susan M. Kennerly 2022	Effect of Varying Repositioning Frequency on Pressure Injury Prevention in Nursing Home Residents: TEAM-UP Trial Results	An embedded pragmatic cluster randomized controlled trial was conducted in nine nursing homes (NHs) that were randomly assigned to one of three repositioning intervals.	N=473	The Pressure ulcer incidence during the intervention was 0.0% compared with 5.24% at baseline, even though intervention resident clinical risk scores were significantly higher ($P < .001$). Repositioning compliance for the 4-hour repositioning interval (95%) was significantly better than for the 2-hour (80%) or 3-hour (90%) intervals ($P < .001$).
Jung Y. Kim and Yun J. Lee 2018 Republic of South Korea	A study on the nursing knowledge, attitude, and performance towards pressure ulcer prevention among nurses in Korea long-term care facilities	A descriptive study was performed.	N=282	This study reported that 68.4% of respondents showed positive attitudes, especially in PU prevention practice. They found that 81% of them exhibited a positive attitude towards PU prevention, but unlike the results of this study, they thought that the prevention of PU should be a priority.
Lisa Hultin, Lena Gunningberg, Susanne Coleman and Ann-- Christin Karlsson 2021 Sweden	Pressure ulcer risk assessment— registered nurses' experiences of using PURPOSE T: A focus group study	A total of six focus group interviews involving 29 registered nurses were conducted. Participants were recruited between May and November 2018 from a university hospital and two nursing homes in Sweden. Data analysis was performed following the method described by Krueger. The study adhered to the COREQ guidelines.	N=29	Four categories were identified: "An efficient risk assessment instrument performed at the bedside," "Deeper understanding and awareness of risk factors," "Benefits compared to the Modified Norton Scale" and "Necessity of integration of PURPOSE T in the electronic health record and team collaboration."

Tracey L. Yap, Jenny Alderden, Kais Gadhomi, Susan D. Horn, Sharon Eve Sonenblum, Judith C., and Susan M. Kennerly 2024	Movement and Pressure Injury Prevention Care for Nursing Home Residents: Addressing the Nescience	The authors conducted a descriptive exploratory study using secondary data (N = 934) from the Turn Everyone and Move for Ulcer Prevention (TEAM-UP) clinical trial to examine transient movements (<60 seconds) within prolonged periods of 2 to 5 hours without repositioning.	N=934	Nursing home residents exhibit significantly more episodic transient movements when upright than lying. Residents with obesity or dementia exhibited similar frequencies of episodic transient movements compared with residents with neither obesity nor dementia.
Christina Louise Lindhardt, Sanne Have Beck, and Jesper Ryg 2020 Denmark	Nursing care for older patients with pressure ulcers: A qualitative study	A qualitative approach was applied using thematic analysis influenced by Braun and Clarke.	N=6	The findings comprised one main theme "Prevention of pressure ulcers is important" and four sub-themes "Nursing resources on the ward," "Basic nursing skills—lift the duvet," "Introduction of new nurses on the ward—bedside teaching" and "Missing articulation of pressure ulcers." Bedside teaching and experienced nurses may create a culture on the ward where basic nursing skills and observations are articulated.
Martin van Leen, Ruud Halfens, and Jos Schols 2018 Netherlands	Preventive Effect of a Microclimate-Regulating System on Pressure Ulcer Development: A Prospective, Randomized Controlled Trial in Dutch Nursing Homes	This study was set up as a multicentre, prospective, randomized controlled trial in 21 voluntarily participating Dutch nursing homes. The total study period was 12 weeks.	N=206	Both groups had comparable demographics (e.g., age, Braden score, care dependency, incontinence). In the control group, 5% of the residents developed a category 2, 3, or 4 PrU, and 9% in the intervention