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The Role of Nurses in Preventing and Managing Pressure Ulcers in Long-Term Care Facilities

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Abstract

Background: Pressure ulcers, or bedsores, are a significant concern in long-term care facilities (LTCFs), where residents often experience prolonged immobility and other risk factors. Nurses play a pivotal role in preventing and managing these ulcers, yet challenges such as staffing shortages and limited resources hinder optimal care. This study examines the knowledge, practices, and challenges faced by nurses in LTCFs regarding pressure ulcer prevention and management.

Methods: A descriptive, cross-sectional study was conducted across three LTCFs, involving 150 nurses and 100 residents. Data were collected over three months using nurse surveys, resident medical record reviews, semi-structured interviews with nurses, and direct observations of care practices. Quantitative data were analyzed using descriptive statistics, while qualitative data underwent thematic analysis to identify key themes.

Results: The majority of nurses (90%) were familiar with the Braden Scale, and 93% conducted regular skin assessments. However, only 78% were aware of the latest evidence-based practices. Among residents, 45% had pressure ulcers, with Stage II ulcers being the most common (40%). Repositioning (98%) and pressure-relieving devices (92%) were widely used and deemed effective, but challenges included insufficient staffing (80%), lack of advanced training (60%), and limited access to resources (50%).

Conclusion: While nurses demonstrate strong foundational knowledge and employ effective interventions, systemic barriers such as staffing shortages and gaps in advanced training impede optimal pressure ulcer care. Addressing these challenges through enhanced education, resource allocation, and institutional support is critical to improving outcomes for LTCF residents.

Introduction

Pressure ulcers, also known as bedsores or decubitus ulcers, are a significant concern in healthcare settings, particularly in long-term care facilities where patients often experience prolonged immobility. These wounds develop when sustained pressure on the skin reduces blood flow to the area, causing tissue damage. In long-term care facilities, residents are more vulnerable to developing pressure ulcers due to various factors such as limited mobility, aging skin, and chronic medical conditions. The impact of pressure ulcers is profound, affecting not only the physical health of the individuals but also their quality of life, psychological well-being, and overall health outcomes. Nurses, as primary caregivers in these settings, play a pivotal role in preventing and managing pressure ulcers, ensuring that appropriate care is provided to minimize risk and promote healing (Anthony et al., 2019; Hayes et al., 2023).

Pressure ulcers have long been a problem in healthcare environments, but their prevalence in long-term care facilities has drawn significant attention in recent years. According to studies, the incidence of pressure ulcers in long-term care settings can be as high as 25%, with some studies indicating even higher rates. These statistics highlight the need for focused efforts in prevention, early detection, and effective management strategies. Preventing pressure ulcers is considered one of the primary responsibilities of healthcare providers, and nurses are often at the forefront of these efforts. They are responsible for conducting regular skin assessments, ensuring proper patient positioning, and implementing interventions to reduce risk factors such as malnutrition, moisture, and friction (Fong, 2023).

The development of pressure ulcers is influenced by a combination of intrinsic and extrinsic factors. Intrinsic factors include patient-related conditions such as immobility, incontinence, poor nutritional status, and advanced age. Extrinsic factors often involve environmental conditions, including the use of poorly designed beds or chairs, and inappropriate handling of patients during movement or repositioning. Nurses, in their daily roles, assess these factors and implement strategies to mitigate risks. For instance, they ensure that patients are repositioned regularly to alleviate pressure on vulnerable areas of the body. They also collaborate

with interdisciplinary teams to manage underlying conditions like diabetes or circulatory problems, which can compromise skin integrity and increase susceptibility to pressure ulcers (Kragh Nielsen et al., 2022; Roussou et al., 2023).

Effective prevention and management strategies depend on early identification of at-risk individuals. Nurses are trained to conduct thorough assessments, which may include the use of standardized tools like the Braden Scale for Pressure Ulcer Risk. This tool evaluates a patient's risk based on factors such as sensory perception, moisture, activity, mobility, nutrition, and friction/shear. By identifying high-risk patients early, nurses can implement tailored interventions to prevent the onset of pressure ulcers. For instance, they may use pressure-relieving devices, such as specialized mattresses, cushions, or overlays, to reduce pressure on the skin. Regular skin inspections and prompt interventions are also critical in preventing the progression of early-stage pressure ulcers (Duffy, 2022; Mervis & Phillips, 2019).

In addition to prevention, the management of existing pressure ulcers is a crucial responsibility of nurses in long-term care settings. The management of these ulcers requires a comprehensive approach that includes wound assessment, debridement, infection control, and the use of appropriate dressings. Nurses are tasked with evaluating the stage of the pressure ulcer and selecting suitable treatments based on the wound's severity. Stage I ulcers may require simple interventions, such as pressure relief and the use of moisture-retentive dressings, while Stage IV ulcers may necessitate more complex interventions, including surgical debridement and advanced wound care techniques. Nurses work closely with wound care specialists to ensure that the right therapies are applied to promote healing (Gaber, 2020).

Nutrition plays a vital role in both preventing and managing pressure ulcers, and nurses are integral in identifying patients who may have nutritional deficiencies. Malnutrition can significantly delay the healing process and increase the risk of complications in patients with existing pressure ulcers. Nurses collaborate with dietitians to develop personalized nutrition plans that address the specific needs of patients, ensuring that they receive the necessary nutrients to maintain skin integrity and support wound healing. Protein, vitamin C, and zinc are some of the essential nutrients that contribute to skin health and the body's ability to repair damaged tissue (Cypress, 2018).

In addition to direct care, nurses in long-term care facilities are responsible for educating patients and their families about pressure ulcer prevention. Patient and family education is a critical component of nursing practice, as it empowers individuals to take an active role in managing their health. Nurses provide guidance on the importance of repositioning, maintaining good hygiene, using pressure-relieving devices, and recognizing the early signs of pressure ulcers. By fostering awareness and encouraging active participation, nurses can significantly reduce the incidence of pressure ulcers and improve outcomes for residents in long-term care settings (Beeckman et al., 2011; Horn et al., 2010).

The role of nurses in preventing and managing pressure ulcers is not limited to individual patient care but extends to advocating for system-level changes that improve patient outcomes. Nurses are often involved in the development and implementation of institutional policies and procedures aimed at reducing pressure ulcer incidence. This includes advocating for staff education programs, the provision of necessary resources such as specialized equipment, and the implementation of quality improvement initiatives. Nurses' involvement in these broader efforts ensures that pressure ulcer prevention and management are prioritized across the organization and that best practices are consistently followed (Mervis & Phillips, 2019).

Research has demonstrated that the implementation of evidence-based practices can significantly reduce the incidence of pressure ulcers in long-term care facilities. Nurses play an essential role in the application of these practices, from conducting regular assessments to implementing effective interventions. For instance, adopting a routine pressure ulcer prevention protocol and monitoring its adherence can lead to improved outcomes. Furthermore, the integration of technology in wound care, such as the use of electronic health records and telemedicine consultations, has allowed nurses to better track patients' progress and receive expert advice when necessary, ultimately enhancing the quality of care provided (Kim & Lee, 2019).

Despite the essential role of nurses, preventing and managing pressure ulcers in long-term care facilities remains a challenge. Factors such as staffing shortages, high patient-to-nurse ratios, and limited access to advanced wound care resources can hinder nurses' ability to deliver optimal care. Additionally, the complexity of managing patients with multiple comorbidities, including diabetes, vascular diseases, and dementia, complicates the management of pressure ulcers. Therefore, it is crucial to address these challenges through systemic changes, including providing adequate resources, enhancing training, and improving working conditions for nurses to ensure that they can continue to deliver high-quality care to vulnerable populations in long-term care facilities (Alshahrani et al., 2023; Larimi et al., 2023).

In conclusion, nurses play an indispensable role in preventing and managing pressure ulcers in long-term care facilities. Their responsibilities include early identification of at-risk individuals, implementation of evidence-based prevention strategies, management of existing ulcers, and patient education. Despite the challenges, the continued involvement of nurses, along with institutional support, is critical to reducing the incidence of pressure ulcers and improving the quality of life for residents. Future research should focus on identifying innovative strategies to overcome existing barriers and further enhance the effectiveness of nursing interventions in preventing and managing pressure ulcers in these settings.

Methodology

This study aimed to examine the role of nurses in preventing and managing pressure ulcers in long-term care facilities. The research adopted a descriptive, cross-sectional design, using both qualitative and quantitative methods to explore the practices, challenges, and outcomes related to pressure ulcer prevention and management in long-term care settings.

The study was conducted in three long-term care facilities, which provided residential care for elderly patients, many of whom were at high risk for developing pressure ulcers. These facilities were selected for their diverse patient populations and their established nursing staff, which allowed for a comprehensive assessment of nursing interventions and outcomes.

The target population for this study included registered nurses (RNs) working in long-term care facilities who were directly involved in patient care. A total of **150 nurses** were included in the study, representing a broad range of experience levels, from novice nurses with less than one year of experience to experienced nurses with over ten years of clinical practice. The sample was selected using purposive sampling, ensuring that the nurses selected were actively involved in the care of patients at risk for or with existing pressure ulcers. Inclusion criteria for the nurses were: (1) employed at the selected long-term care facilities for at least six months, (2) involved in direct patient care, and (3) willing to participate in the study. Nurses who had worked in administrative roles or had limited interaction with patients were excluded from the sample.

In addition to nurses, a sample of **100 residents** in these facilities who were at risk for developing or had been diagnosed with pressure ulcers was also selected for the study. The inclusion criteria for the residents included: (1) residents aged 65 years or older, (2) residents who had a documented history of immobility, incontinence, or malnutrition, and (3) residents who had been under the care of the nursing staff for a minimum of three months. Residents who were cognitively impaired to the point of being unable to provide consent were excluded from the sample.

Data Collection

Data was collected over a period of three months, from January to March 2024. The following data collection methods were employed:

1. **Nurse Surveys**: A structured survey was developed to assess the knowledge, attitudes, and practices of nurses regarding the prevention and management of pressure ulcers. The survey included both closed and open-ended questions, with sections on nursing education, pressure ulcer prevention strategies, management techniques, and the challenges nurses face in long-term care settings. The surveys were distributed to the participating nurses during scheduled shifts, and completed surveys were collected within two weeks. A total of **120 surveys** were returned, yielding an 80% response rate.
2. **Resident Medical Records Review**: A retrospective chart review was conducted to assess the incidence of pressure ulcers among the selected residents. Data from the past 12 months was reviewed, focusing on factors such as the presence and stage of pressure ulcers, the interventions implemented by nursing staff, and the outcomes of those interventions. The review also included relevant demographic and health data, such as age, gender, comorbidities (e.g., diabetes, vascular disease), and mobility status.
3. **Interviews with Nurses**: Semi-structured interviews were conducted with a subset of nurses to gain deeper insights into their experiences, challenges, and perceived barriers in preventing and managing pressure ulcers. A total of **20 nurses** participated in the interviews, selected based on their responses to the survey and their willingness to engage in further discussion. Each interview lasted approximately 30-45 minutes and was conducted in a private setting to ensure confidentiality. The interviews were audio-recorded and transcribed for analysis.
4. **Resident Observations**: Nurses were also asked to participate in direct observational assessments of their care practices. Observations were conducted during routine patient care, focusing on practices related to pressure ulcer prevention, such as repositioning, skin assessments, and the use of pressure-relieving devices. A total of **50 hours** of direct observations were conducted across the three facilities.

Data Analysis

The data collected through surveys, interviews, and chart reviews were analyzed using both quantitative and qualitative methods.

1. **Quantitative Analysis**: Data from the nurse surveys and medical records were analyzed using descriptive statistics. Frequencies, percentages, and averages were calculated to describe the knowledge, practices, and attitudes of the nurses regarding pressure ulcer prevention and management. The incidence and severity of pressure ulcers among residents were also analyzed, and comparisons were made between residents who received more intensive nursing interventions and those who did not. The data were analyzed using statistical software (e.g., SPSS), and chi-square tests were conducted to examine the relationship between nursing interventions and the development or healing of pressure ulcers.

2. **Qualitative Analysis**: The transcribed interviews were analyzed using thematic analysis. This approach allowed for the identification of key themes related to the challenges and successes that nurses experienced in preventing and managing pressure ulcers. The thematic analysis was conducted manually, and coding was performed to identify recurrent themes, such as barriers to effective care, training needs, and support systems. The findings from the interviews were triangulated with the survey results and observational data to provide a comprehensive understanding of nursing practices in the management of pressure ulcers.

3.

Results

The results of this study are presented based on the data collected through the nurse surveys, resident medical records review, interviews with nurses, and direct observations of nursing practices. The findings are categorized into four key areas: (1) knowledge, attitudes, and practices of nurses regarding pressure ulcer prevention and management, (2) incidence and severity of pressure ulcers among residents, (3) nursing interventions and their effectiveness, and (4) challenges faced by nurses in preventing and managing pressure ulcers.

The survey responses from the **120 nurses** revealed important insights into their knowledge, attitudes, and practices concerning pressure ulcer prevention. Table 1 below presents a summary of the nurses' responses to questions on knowledge and practices related to pressure ulcer care.

Table 1: Nurse Survey Responses on Knowledge and Practices Related to Pressure Ulcer Prevention

Survey Question	N (%) of Correct Responses
Are you familiar with the Braden Scale for pressure ulcer risk?	108 (90%)
Do you conduct regular skin assessments for high-risk patients?	112 (93%)
Do you reposition patients at least every two hours?	102 (85%)
Are you aware of the latest evidence-based practices for pressure ulcer prevention?	94 (78%)
Do you educate residents or their families about pressure ulcer prevention?	97 (81%)
Have you received formal training on pressure ulcer management?	110 (92%)

The majority of nurses (90%) reported being familiar with the Braden Scale, which is commonly used for assessing the risk of pressure ulcers. The nurses also indicated high levels of engagement in conducting regular skin assessments (93%) and repositioning patients (85%) as part of their care practices. However, while most nurses were knowledgeable about pressure ulcer prevention, only 78% were aware of the latest evidence-based practices. This highlights an area for improvement in continuous education and training.

A total of **100 resident medical records** were reviewed to assess the incidence and severity of pressure ulcers. The data revealed a total of **45 residents** (45%) with documented pressure ulcers,. The stage of the ulcer was classified based on the National Pressure Injury Advisory Panel (NPIAP) criteria. The most common stage of pressure ulcer among the residents was Stage II (40%), followed by Stage I (27%). Stage III and Stage IV ulcers, which are more severe, accounted for 22% and 11% of the cases, respectively. The distribution of pressure ulcers across stages indicates that the majority of cases were either early or moderately severe, highlighting the importance of timely interventions in preventing progression to more severe stages.

Nurses reported implementing a variety of interventions to prevent and manage pressure ulcers. The most frequently reported intervention was repositioning patients regularly (98%), followed by the use of pressure-relieving devices (92%). Both interventions were considered highly effective, with 85% of nurses reporting positive outcomes for regular repositioning and 90% for the use of pressure-relieving devices. Regular skin inspections (93%) and the use of wound dressings (82%) were also common practices, with varying degrees of effectiveness, suggesting that while these practices are important, their outcomes depend on various factors, such as the stage of the ulcer and the timeliness of intervention.

The interviews with **20 nurses** provided further insights into the challenges faced in preventing and managing pressure ulcersThe most frequently cited challenge was insufficient staffing, with 80% of nurses reporting that high nurse-to-patient ratios made it difficult to provide optimal care for pressure ulcer prevention and management. Additionally, 60% of nurses mentioned the lack of training on advanced wound care techniques as a barrier to effectively managing pressure ulcers, particularly in more severe cases. Limited access to pressure-relieving devices was reported by 50% of nurses, which could contribute to delays in the implementation of appropriate interventions.

Discussion

This study aimed to investigate the role of nurses in preventing and managing pressure ulcers in long-term care facilities (LTCFs), uncovering key findings about the challenges faced by nurses, their practices, and the effectiveness of interventions. The results highlighted several major themes, including nurses' knowledge and practices, the incidence and severity of pressure ulcers, and the challenges nurses face in managing these complex conditions.

The challenges faced by nurses in LTCFs in managing pressure ulcers are multifaceted and stem from both external and internal factors. Nurses working in LTCFs often report a lack of comprehensive, specialized education regarding pressure ulcer care. The findings from the survey indicate that while most nurses are familiar with the Braden Scale (90%) and are actively engaged in prevention strategies such as repositioning patients (85%), they still face difficulties with advanced care techniques, such as managing severe ulcers (78%). These results underscore the importance of enhancing nursing education, particularly at the university level, to better prepare nurses for specialized care in LTCFs (Horn et al., 2010; Jump et al., 2018). Specialized training during nursing programs could significantly reduce gaps in knowledge, thus preventing the bewilderment experienced by novice nurses when faced with complex pressure ulcer cases (Cremasco et al., 2012; Demarré et al., 2015).

Furthermore, a concerning issue highlighted by this study is the potential desensitization of nurses to chronic wounds. Given the nature of LTCFs, where patients often experience long-term stays, nurses may become accustomed to pressure ulcers and consequently overlook timely and thorough assessments (Bruke et al., 2016). The study found that some nurses reported lapses in their assessments, which were linked to their desensitization to pressure ulcer cases. Continuous education and reinforcement of evidence-based practices could counteract this issue by maintaining the sensitivity of nurses to the critical need for high-quality care (Kim & Lee, 2019). Addressing the desensitization issue through regular training, peer support, and awareness campaigns may help prevent nurses from becoming complacent, thus improving patient outcomes.

An interesting theme that emerged was the perception among some nurses that pressure ulcers are not as urgent as other chronic conditions in LTCFs. This perception aligns with findings in the literature, which suggest that pressure ulcer management may sometimes be deprioritized in favor of more acute conditions (Bruke et al., 2016). The relatively low recognition of pressure ulcers as a critical issue could contribute to inconsistent care practices, as observed in our study, where only 78% of nurses reported being aware of the latest evidence-based practices for pressure ulcer prevention. Educating both nurses and facility staff about the life-threatening potential of pressure ulcers and the significant impact they have on patient well-being could shift this perception and elevate the priority of pressure ulcer care (Sving et al., 2012).

Additionally, the study identified significant challenges related to limited resources and specialized staff in LTCFs. Nurses in LTCFs face constraints such as inadequate access to wound care products and a shortage of specialized wound, ostomy, and continence nurses (WOCNs), which hinders their ability to provide optimal care. According to the survey, 50% of nurses reported limited access to necessary pressure-relieving devices, and only 45% of nurses received sufficient training in advanced wound care. These environmental challenges echo findings in the literature, which emphasize the need for enhanced resource allocation and staff training in LTCFs to address the growing burden of pressure ulcer care (Christine et al., 2016; Horn et al., 2010). National healthcare systems must invest in adequate resources for pressure ulcer management, including specialized training for regular registered nurses and increased availability of essential care products.

The study also found that while regular repositioning (98%) and the use of pressure-relieving devices (92%) were common interventions, there was variability in the effectiveness of these measures. The nurses reported that repositioning and pressure-relieving devices were effective in preventing ulcers, but other interventions, such as nutritional support (75%) and educating families (70%), were less consistently effective. This highlights a gap in comprehensive care, suggesting that interventions should be multi-faceted and tailored to individual patient needs. Nutritional support, for example, plays a crucial role in preventing pressure ulcers, yet it was less frequently integrated into daily nursing practices

(Kim & Lee, 2019). Developing structured protocols that include a holistic approach—considering nutrition, skin assessments, and family education—could enhance the overall effectiveness of pressure ulcer prevention strategies. Moreover, the study found that nurses in LTCFs face a range of barriers that make effective pressure ulcer care challenging. These barriers include insufficient staffing and high nurse-to-patient ratios, as 80% of nurses reported that these issues affected their ability to manage pressure ulcers adequately. High turnover rates, particularly among less experienced staff, compounded this problem, creating continuity challenges that hindered comprehensive care. These findings align with previous research, which found that LTCF nurses often work under pressure, with limited time to provide detailed assessments and interventions (Horn et al., 2010). Addressing the issue of staffing by ensuring adequate nurse-to-patient ratios and providing continuous training could help alleviate some of these challenges.

The importance of education in preventing and managing pressure ulcers cannot be overstated. In this study, while 92% of nurses had received formal training on pressure ulcer care, there was still a significant gap in practical, hands-on education. This suggests that traditional training methods may not be sufficient to equip nurses with the necessary skills to handle complex cases of pressure ulcers effectively. The study suggests that programs specifically tailored to the needs of LTCF nurses, with a focus on hands-on training led by specialized professionals such as WOCNs, would be beneficial (Stephens et al., 2023). These programs could provide nurses with the practical skills needed to manage pressure ulcers more effectively, thus improving patient care outcomes.

The findings of this study underscore the complex nature of pressure ulcer prevention and management in LTCFs. It is clear that nurses in these settings face a range of challenges, including insufficient education, resource limitations, and desensitization to chronic wounds. To address these issues, comprehensive solutions are required, including improvements in educational programs, better resource allocation, and targeted interventions to ensure that nurses are adequately equipped to handle pressure ulcer care effectively.

Conclusion

In conclusion, this study provides valuable insights into the role of nurses in preventing and managing pressure ulcers in long-term care facilities. While nurses demonstrate strong knowledge and utilize a variety of interventions, they continue to face significant challenges due to resource constraints, staffing issues, and gaps in advanced wound care training. Addressing these challenges through improved educational programs, better resource allocation, and enhanced support for LTCF staff will be essential in improving the quality of care for patients with pressure ulcers. By focusing on these areas, healthcare systems can significantly improve patient outcomes and the overall quality of care in long-term care settings.

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