Prevention of Pressure Ulcers: Literature Review

Tasnim Mustafiz

Lakeview College of Nursing

Dr. Ariel Wright

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Pressure ulcer injury (PUI) can be uncomfortable and detrimental to healthcare expenses. Pressure ulcers injury can happen to many residents in nursing homes. PUI risk is classified using the Braden Scale for pressure sore risk. The Braden Scale examines six elements associated with PUI risk: moisture, exercise, mobility, nutrition, friction/shear, and sensory perception; it ranges from 6-23. Residents with scores of 18 or higher (no risk) or less than 10 (severe risk) (Grešš Halász et al., 2021). Due to immobility, advancing age, and co-morbidities, many nursing home residents risk developing a pressure ulcer injury, a localized region of tissue injury to the skin and underlying tissue. Although there are recommendations for preventing pressure ulcer injury, they may not be well followed. Care bundles are a collection of techniques based on research that help practitioners put the findings into action. Also, adding psychological theory into their construction may make care bundles more effective. The purpose of this literature review is to teach the nurses how to prevent a pressure ulcer.

Nurses' Knowledge and Attitudes towards Prevention of Pressure Ulcers

For immobile patients, pressure ulcer injury (PUI) continues to be a major complication and a hassle for medical staff. The prevalence and incidence are still concerning. The skills and attitudes of nurses are crucial to prevention. The purpose of this study was to evaluate nurses' attitudes and knowledge regarding PUI prevention. Any localized damage to the skin and supporting soft tissue, typically over a bony prominence, tissue necrosis, and ultimately death, is referred to as a pressure injury. According to this study, US long-term care (LTC) facilities

ranged between 3.6% to 59%; the prevalence ranged from 8.2% to 32.2% (Grešš Halász et al., 2021). Damage can lead to consequences like amputation, septic infection, decreased quality of life in terms of one's health, and early death. The annual cost of treatment in the US is about $9.1 to $11.6 billion, which is significantly more than the cost of prevention (Grešš Halász et al., 2021). Prevention should be a top concern, given the population's growing share of senior citizens. High-density foam support surfaces, more regular electronic medical risk reports, and digital aural cues to aid on-time repositioning are just a few examples of the new technology utilized to avoid PUI.

Key Points

This study's design was a quantitative exploratory study to determine the knowledge and attitudes of nurses toward the prevention of pressure ulcer injury. In East Slovakian, nurses were presented with pressure ulcer damage to determine their treatment knowledge. This study shows registered nurses who provided direct care to patients with pressure ulcer injuries in an acute and long-term setting. The author invited four hundred sixty randomly chosen nurses to participate in this study. Grešš Halász et al. (2021) suggested the measurement instruments Pressure Ulcer Knowledge Assessment Tool (PUKAT) and Attitudes towards Pressure Ulcers Prevention Tool (APUPT) to determine the knowledge of the nurses of pressure injuries. The findings showed that nurses had poor attitudes (67.9%) and insufficient knowledge (45.5%) on pressure ulcer prevention. There was also a substantial knowledge gap between educational levels ($p = 0.031$) and work departments ($p = 0.048$) (Grešš Halász et al., 2021).

Assumptions

Pressure sores are still a significant problem everywhere. This descriptive study aimed to evaluate nurses' knowledge from four significant Eastern Slovak hospitals on preventing pressure ulcers. In this study, the author used five hypotheses to assess the degree of knowledge, attitudes, relationships, and differences between variables of the nurses working with patients with pressure ulcer injuries (Grešš Halász et al., 2021). The findings indicated a lack of attitudes and understanding regarding pressure ulcer prevention. Despite the rapid development of preventive techniques and new technologies, pressure ulcers are a leading source of severe health complications and high mortality rates. The prevalence of pressure sores is a vital sign of the high caliber of professional care. It appears that the Slovak healthcare system does not have it under enough control. The data collection and reporting burden fall on settings, which may work hard to maintain the standard of care. The findings of this study also highlight a lack of understanding and attitudes to pressure ulcer prevention. The goal should center on geographic regions where pressure ulcers, the application of preventive measures and their applicability, the knowledge and attitudes of healthcare professionals regarding pressure ulcers, and the education and its system in tissue viability and wound care on a national scale (Grešš Halász et al., 2021).

Deficit/Conclusion

According to the currently available information, Slovakia appears to have meager incidence rates of pressure ulcers compared to other nations. It is questionable whether pressure ulcers are monitored and controlled in Slovak healthcare facilities. In order to handle complex pressure ulcer care, the authors set out to assess the degree of knowledge and attitudes toward pressure ulcer prevention. They also compared their findings to previous studies to conclude future studies on education and practice. Addressing the research's findings could offer a clearer

picture of the current focus of nursing education on practice on pressure ulcers and could lay the groundwork for pedagogical and practical training and motivation of healthcare professionals in wound management. This student agrees with the author's reasons for preventing pressure ulcers.

Risk assessment for perioperative pressure injuries

Despite technological advancements, pressure injuries (PI) brought on by surgical placement continue to pose difficulties for clinical practice. Due to the multifaceted origin and status of complications, it is challenging to predict the likelihood in surgical patients, making it impossible to implement sufficient preventative measures for this population. This literature describes perioperative PI incidence rates ranging from 0.3% to 57.4% according to a systematic evaluation of 17 studies assessing these lesions' incidence (Peixoto et al., 2019). The length of the anesthetic-surgical operation is one of the most critical risk factors for developing PI because prolonged immobilization and exposure to pressure result in anoxia, tissue necrosis, and subsequent skin injury (Peixoto et al., 2019). Peixoto et al. (2019) claim that a patient's risk of suffering this kind of harm can rise just one hour after surgery. Surgery lasting longer than two hours may alter the oxygenation of compressed tissues, increasing the risk of PI (Peixoto et al., 2019).

Key Points

Pressure alleviation while the patient is lying on the surgical table on a regular mattress and immediately after are essential components of effective therapies to prevent skin lesions.

According to Peixoto et al. (2019), gel pads, dry polymer mattress covers, and air mattresses effectively avoid pressure ulcer injuries. About 56.5 percent of patients showed a high risk of perioperative pressure damage. A higher risk of pressure injuries was statistically significant ($p < 0.05$) for the female sex, the older group, and high body mass index (Peixoto et al., 2019). There were perioperative pressure injuries in 77% of the patients.

Assumption

Despite technological advancements, pressure injuries (PI) brought on by surgical placement continue to pose difficulties for clinical practice. Due to their multifaceted origin and status as complications, it is challenging to predict their likelihood in surgical patients, making it impossible to implement sufficient preventative measures for this population. According to Kim et al. (2018), white patients comprised most of the study's elective surgery subjects. The skin's structure differs depending on the color; the stratum corneum is more compact in the black race, giving the skin higher resistance to chemical irritations or injuries. In turn, white skin is more susceptible to pressure wounds. Studies have shown that changes in BMI, such as low weight, overweight, or obesity and nutritional status, as demonstrated by albumin levels below three g/dL, may also affect the likelihood of perioperative PI (Peixoto et al., 2019).

Deficit/Conclusion

This student agrees with the author's reasons for preventing pressure ulcers. Most individuals showed a high risk of perioperative decubitus ulcer formation. Age, female sex, and changing body mass index were all significant risk variables. The Risk Assessment Scale for Perioperative Pressure Injuries enables early risk assessment, facilitating the adoption of

preventative measures to guarantee the standard of perioperative treatment. Most patients displayed a high risk for the development of perioperative PI. The variables female sex, senior group, and altered BMI were statistically significant and indicated substantial risk factors for the incidence of perioperative PI in addition to the elements found in the ELPO scale. Last but not least, most participants provided perioperative PI regarding the occurrence of injuries. Given that these problems are preventable, the perioperative team members must perform competently to prevent these lesions.

Perioperative factors associated with pressure ulcer development after major surgery

Postoperative pressure ulcers are substantial and expensive problems during critical care that can cause unanticipated morbidity. They are also crucial indications of the quality of perioperative care. The treatment of six hospital-acquired illnesses, including severe pressure ulcers, costs Medicare around $146 million annually, according to research from the Centers for Medicare and Medicaid Services (Kim et al., 2018). Pressure ulcers are to have the second-highest cost per episode. Therefore, avoiding pressure ulcers can lower healthcare expenses and enhance patient outcomes. Anesthesiologists may not consider the risk of postoperative pressure ulcers since solely patient placement has been deemed their primary duty. Anesthesiologists may not have been able to play a more active role in preventing pressure ulcers due to their limited ability to manage several other factors linked to the development of postoperative pressure ulcers, such as the length of surgery (Kim et al., 2018). Furthermore, there is no perfect way to spot people susceptible to pressure ulcers after surgery.

Key Points

The pressure ulcer group exhibited lower hemoglobin and albumin levels at baseline than the control group. Additionally, lactate levels, blood loss, and the quantity of packed red blood cell (RBC) units were also higher in the pressure ulcer group. The model achieved an AUC of 0.88 (95% CI: 0.79-0.97; P 0.001) and could identify patients with pressure ulcers. The author suggests that combining preoperative and intraoperative data makes it possible to forecast a patient's likelihood of developing a pressure ulcer. Our nomogram's ability to identify patients at risk for developing pressure ulcers may help direct more suitable placement and the usage of a pressure-reducing surface for these patients.

Assumption

According to the patient's position during surgery, grade 1 pressure ulcers are frequently recorded at pressure sites during the immediate postoperative period. However, most pressure ulcer sites were on conspicuous bony areas that contact. At the same time, the patients are supine, and the present investigation only included pressure ulcers of grade 2 or above. Although no pressure ulcers formed on the pressure-bearing areas for this posture, seven patients who developed pressure ulcers received surgery in the lateral position (Kim et al., 2018). The sacral/coccygeal and buttock regions were the most frequently affected by pressure ulcers, according to a previous study by Kim et al. (2018), which also found that these areas were unrelated to the operative posture. No research has examined the risk of pressure ulcers based on the patient's surgical position, although studies have examined the pressure interface that comes from each posture (Kim et al., 2018).

Deficit/Conclusion

This student agrees with the author's reasons for preventing pressure ulcers after surgeries. In conclusion, Kim et al. (2018) assessed preoperative parameters that might predict the formation of pressure ulcers following surgery—created a specific clinical nomogram for anticipating the development of postoperative pressure ulcers among surgical patients using these newly discovered risk factors and previously known ones. This nomogram may lower the related morbidity and death rates by allowing doctors to plan the patient's postoperative ICU care and create measures to stop the formation of pressure ulcers. It is also required to validate the model and explore how preoperative nutritional supplementation affects the development of pressure ulcers.

References

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