Prevention of Pressure Ulcers: Literature Review

Mallorie Mason

Lakeview College of Nursing

Dr. Ariel Wright

12/3/2021

Prevention of Pressure Ulcers: Literature Review

Pressure injuries, also known as pressure ulcers, are broken down localized skin areas. Pressure injuries occur due to prolonged pressure and insufficient blood supply (Hinkle & Cheever, 2018). There are four stages to pressure injuries, and the stages determine how bad the broken down localized area is. Some people are susceptible and at risk to pressure injury ulcers than other people. Hospital-acquired pressure injuries lengthening the patient's stay at the hospital impacts the patient's psychosocial and physical wellbeing (Deakin et al., 2020). The nurse's responsibility is to educate and implement nursing interventions to help at-risk patients prevent pressure ulcers. Quantitative research is more of a traditional approach to scientific research. Quantitative approaches are well suited for answering questions about nursing actions or interventions that influence outcomes (Houser, 2018). A literature review will analyze a research study in-depth over a specific topic (Houser, 2018). This literature review will help enhance the body of knowledge on a particular issue, which is pressure ulcers.

An Education Intervention Care Bundle to Improve Hospitalized Patients' Pressure Injury Prevention Knowledge: A Before and After Study

The article explains a study that researches the use or implementation of a patient-centered pressure injury prevention care bundle (PPIPCB). The study by Deakin et al. (2020) tries to measure a patient's knowledge on preventing pressure injuries before and after implementation of PPIPCB's. The study tries to determine how well a patient's knowledge of pressure injuries before using a PPIPCB and how well a patient's knowledge of preventing a pressure injury after using a PPIPCB (Deakin et al., 2020). During the study, the researcher is

also trying to determine if patients are satisfied with using a PPIPCB. The PPIPCB intervention consists of a poster, brochure, and a video all over how to prevent a pressure injury. The main themes on preventing a pressure injury in the PPIPCB are keeping moving, eating a nutritious, well-balanced diet, and assessing skin (Deakin et al., 2020).

Key Points

The research method used in the study is a quantitative intervention before and after the study (Deakin et al., 2020). The participants for the study had to meet specific criteria. The criteria consisted of those over 18 years old who could sign their consent form and read the PPIPCB. Participants who did not meet the specific criteria and could not participate in the study were patients with hearing or visual impairments (Deakin et al., 2020). The patients were current inpatients in acute units, including respiratory, infectious disease, and medical. The researcher used two validated scales to measure the patient's satisfaction and participation. The scales are the patient participation in pressure injury (PPPIP) scale and the modified multi-dimensional treatment satisfaction measure (mMDTSM) scale (Deakin et al., 2020). Each scale used a four-point scale, one strongly disagreed, and four strongly agreed. The higher the score, the greater satisfaction and patient participation. A trained nurse researcher collected the surveys each day per week for four weeks (Deakin et al., 2020).

The results of the PPPIP increased significantly after the use of the PPIPCB. The mean before the intervention was 18.6, and the mean after the intervention was 22.5 (Deakin et al., 2020). The mMDTSM scale results consisted of improvement and concluded that 98.8 percent of the patients were satisfied with the PPIPCB. The data is significant because it proves what the researcher is trying to find. The researcher wants to see if the PPIPCB positively impacted

patients, and the data correlates to the aim of the study. Yes, there is a p-value in this study. The p-value represented the overall effect of the implementation of the PPIPCB (Deakin et al., 2020). The authors concluded that the PPIPCB overall increased patients' knowledge of preventing pressure injuries and satisfaction with the intervention. The authors concluded that PPIPCB's would assist nurses in educating patients in preventing pressure injuries (Deakin et al., 2020).

Assumptions

The authors focus a lot on the topic of preventing pressure injuries. The authors try and figure out ways to help prevent pressure injuries. The study focuses on one intervention in particular that a nurse can implement into their daily care to help educate patients on preventing pressure injuries. That one intervention is the PPIPCB. The author's primary assumption is that using the intervention PPIPCB will help educate the patient on preventing pressure injuries. The PPIPCB will help the patient learn about pressure injuries by learning about them independently and at their own pace besides just a nurse's education.

Deficit/Conclusion

The author reasons that using the PPIPCB as a nursing intervention helps prevent pressure injuries. The statistical data given in the study shows that the difference before and after the use of a PPIPCB is significantly increased (Deakin et al., 2020). Meaning that the survey scores after the use of PPIPCB the knowledge of the patient increased drastically compared to the before survey when there was no use of a PPIPCB. Statical evidence from the Deakin et al. (2020) study shows a growth of patient knowledge using a PPIPCB. The PPIPCB allows for a broader range of demographics for patients to gain or improve their knowledge of preventing pressure injuries

(Deakin et al., 2020). Using a PPIPCB as a nurse is another way to help prevent hospital-associated pressure injuries. If the nurse fails to accept the line of reasoning, one implication is that the patient may receive a pressure injury.

The Effect of Implementing Pressure Ulcer Prevention Educational Protocol on Nurses' Knowledge, Attitude, and Practices

The article explains a study that researches the implementation of educational training about preventing pressure ulcers in hospitals. The study's main aim in the article is to see the effect of implementing an educational protocol for preventing pressure injuries on healthcare staff. The researchers want to determine if it affects nurses' knowledge, practice, and attitude about preventing pressure ulcers (Awail et al., 2018). The study will assess nurses' knowledge, attitudes, and practices before and after implementing the pressure ulcer prevention educational protocol. The study will also try and determine the effectiveness of the preventing pressure ulcer educational protocol and determine if it is an effective tool to educate nurses.

Key Points

The research method used in the study was a quantitative quasi-experimental study. The participants in the study consisted of nurses. The nurses who participated were of both genders and, with the experience of at least six months, provided direct and daily care for immobilized or bedridden adults (Awail et al., 2018). The estimated participation size of the study was 200 nurses, but 100 nurses ended up participating in the study. During the study, the researchers used three tools to gather their information. The first tool is called a pressure ulcer knowledge test (PUKT). The PUKT has two parts, part one tested over socio-demographic and clinical data of

pressure ulcers, and part two assessed nurses' knowledge in prevention, staging, and wound description (Awail et al., 2018). Tool two was an attitude structure questionnaire. The attitude structure questionnaire assessed the nurse's attitudes when considering the prevention of pressure ulcers, and the scoring ranges were 11 to 55. A score of 55 meant a positive attitude, and 11 meant a negative attitude towards preventing pressure ulcers (Awail et al., 2018). The author developed tool three. Tool three is an observational checklist that observes the nurse's practice and interventions toward preventing pressure ulcers. Each three of these tools were a pre and post-test. The nurse took the three tools as a pre-test before the preventing pressure ulcer educational protocol. Then the nurses received the three tools as a post-test directly after the educational protocol, and then again two and four weeks after the protocol (Awail et al., 2018).

The study results include a significant increase from the pre-test score to the post-test scores (Awail et al., 2018), which means that the test scores significantly improved after implementing the preventing pressure ulcers educational protocol. The test scores indicate that the preventing pressure ulcers educational protocol positively impacted the nurse's knowledge, attitudes, and practices. Yes, the data is significant because it proves the aim of the study, which is that the implementation of the preventing ulcers educational protocol positively impacted nurses. Yes, there is a p-value in the study. The p-value indicates the effectiveness of the preventing pressure ulcer educational protocol (Awail et al., 2018). The authors concluded that the education protocol for preventing pressure ulcers is an effective tool to improve or keep nurses up to date on pressure ulcer prevention (Awail et al., 2018).

Assumptions

The author's primary focus is on ways to help educate or update nurses' knowledge, practices, and attitudes towards preventing pressure ulcers. The author focuses on one specific intervention to help nurses' knowledge, practice, and attitudes: preventing pressure injuries. The author's primary assumption is that implementing the educational protocol for preventing pressure injuries will positively affect or change nurses' attitudes, knowledge, and practice about preventing pressure ulcers. The educational protocol positively impacts nurses and will learn things about preventing pressure injuries that they can use at their bedside practices.

Deficit/Conclusion

The authors' reason that implementing the pressure ulcer prevention education protocol will help educate nurses' practice, knowledge, and attitudes to prevent pressure ulcers. This student agrees with the authors' line of reasoning because of the statistical data presented in the study. The statistical data shown in the study explains that after implementing the pressure ulcer prevention educational protocol, the post-test scores significantly increased from the pretest scores (Awail et al., 2018). The researchers mentioned that after implementing the educational protocol, nurses' practice improved inpatient assessment upon admission, the timeframe of turning the patient, and skin protection during transfer (Awail et al., 2018). If the nurse fails to accept the line of reasoning, an implication is that the patient may acquire a pressure injury. Nurses need continuous education and updating on pressure ulcer prevention, and lack of knowledge can lead to pressure ulcer development or worsen (Awail et al., 2018).

The Effect of Gel Foam Mattress Use During Total Hip Replacement Surgeries on the Development of Pressure Ulcers in the Recovery Unit: A Quasi-Experimental Study

The article introduces a study that researches gel foam mattresses during surgeries. The study conducted by Sahin and Cam (2018) tries to measure the effectiveness of implementing gel foam mattresses during surgery. The researchers are trying to determine the effectiveness of gel foam mattresses against pressure ulcers (Şahin & Çam, 2018). The study tries to determine if the gel foam mattress helps prevent or reduce the formation of pressure ulcers during or after surgery. The design of the gel positions helps reduce friction when used. The gel positioners have a supported gel layer base that has viscous foam filling (Şahin & Çam, 2018). The researchers compare gel foam mattresses versus standard operating room tables in the study.

Key Points

A quasi-experimental design was the research method used in the study. There were a total of 80 participants who participated in the study. Forty participants were in the experimental group, and the other 40 participants were in the control group. The sample for the participants was derived from patients over the age of 45, had a body mass index of between 18 and 45, and was undergoing a total hip replacement surgery (Şahin & Çam, 2018). All participants signed informed consent to participate in the study. The control group started before the experimental group since the gel foam mattresses order was late (Şahin & Çam, 2018), which means that the groups were not randomized. The experimental group received the gel foam mattresses over a standard operating table. The control group received a standard operating table with a polyurethane cushion top (Şahin & Çam, 2018). During the study, the researchers used two scales, perioperative and postoperative, to collect the data, the Braden Pressure Ulcer Risk

Assessment Scale (BPURAS) and the Pressure Areas Risk Assessment From (PARAF). The BPURAS determines the patient's risk for pressure ulcers, and the PARAF determines the patient's most at-risk area for a pressure ulcer to form. The Mann-Whitney U test, Chi-Square test, Kruskal Wallis test, and Wilcoxon test evaluated the research data collected (Şahin & Çam, 2018).

The data results showed that only 30 percent of the experimental group participants developed pressure ulcers in the recovery unit from surgery. The control group showed that 60 percent of the participants developed pressure ulcers in the recovery unit (Şahin & Çam, 2018). The patients who did develop pressure ulcers in both experimental and control groups were stage I pressure ulcers. Yes, there was a P-value in the study. The p-value represented the difference between patients who had developed pressure ulcers and those who had not (Şahin & Çam, 2018). The authors concluded that pressure ulcers developed a lot less in the experimental group than the control group, which indicates that the gel foam mattresses effectively decreased the development of pressure ulcers (Şahin & Çam, 2018).

Assumptions

The authors mainly focus on the gel foam mattress in the study. The whole study aims to determine if the gel foam mattress reduces the development of pressure ulcers after surgery. The authors' primary assumption is that implementing the gel foam mattress during surgery will help decrease the occurrence of pressure ulcers. Using gel foam mattresses on standard operating tables will apply cushion to bony prominences and help reduce friction (Şahin & Çam, 2018). The mechanism of the gel foam will reduce pressure ulcers.

Deficit/Conclusion

The authors' reasoning for using the gel foam mattress during surgeries is to reduce the development of pressure ulcers in the recovery unit. This student agrees with the authors' reasoning because of the student's knowledge about preventing pressure injuries and the statistical data presented after the study has ended. The gel foam mattress design is to help reduce friction and deliver gel layers filled with viscous foam for cushion (Şahin & Çam, 2018). This student understands that reducing friction and adding cushion to boney prominences are two ways to help reduce pressure injuries. The statical data in the study showed that the gel foam mattress decreased the development of pressure ulcers compared to a regular standard operating bed (Şahin & Çam, 2018). If a nurse fails to accept the line of reasoning, an implication is that their patients are at a high risk of developing pressure ulcers. When the nurse does not utilize the gel foam mattress for surgeries like a total hip replacement, the nurse runs the patient's risk of developing a pressure ulcer.

Conclusion

Pressure ulcers are a significant burden to the patient. Pressure ulcers impact the patient’s quality of life physically, psychologically, socially. Pressure ulcers bring pain to the patient and increase their hospital stay. Pressure ulcers are one of the most debilitating physical and finically complications (Awail et al., 2018). The use of patient-centered pressure injury prevention care bundles and gel foam mattresses as interventions will reduce the risk for patients developing pressure ulcers, improving patient outcomes. Implementing the pressure ulcer prevention educational protocol improves nursing practice. The educational protocol educates and updates nurses about preventing pressure ulcers. Nurses can then use the knowledge they gained during

the educational protocol and change their practice and attitudes about preventing ulcers. Nurses use evidence-based practice to gain more knowledge and learn more ways to help improve the quality of care that their patient receives. Pressure ulcers are a significant burden on the hospital as well. Pressure ulcers are not only financially debilitating for the patient; they are also finical debilitating to the hospital (Awail et al., 2018). More education about preventing pressure ulcers, keeping up to date with the latest technology, and implementing interventions that help reduce pressure ulcers are great ways to improve healthcare as a whole.

References

Awali, Z., Nagshabandi, E., Elgmail, A. (2018). The effect of implementing pressure ulcer prevention educational protocol on nurses' knowledge, attitude and practices. *Nursing and Primary Care*, *2*(4), 1-7.

Deakin, J., Gillespie, B., Chaboyer, W., Nieuwenhoven, P., Latimer, S. (2020). An education intervention care bundle to improve hospitalised patients' pressure injury prevention knowledge: A before and after study. *Wound Practice & Research,* 28(4), 154–162. https://doi.org/10.33235/wpr.28.4.154-162

Hinkle, J.L., & Cheever, K. H. (2018). *Brunner & Suddarth's textbook of medical-surgical nursing* (14th ed.). Wolters Kluwer Health Lippincott Williams & Wilkins.

Houser, J. (2018). N*ursing research: Reading, using and creating evidence* (4th ed.). Jones & Bartlett Learning.

Şahin, B., & Çam, R. (2018). The effect of gel foam mattress use during total hip replacement surgeries on the development of pressure ulcers in the recovery unit: A quasi-experimental study. *Medical Science and Discovery*, *5*(11), 361–367. https://doi.org/10.17546/msd.480751