

Effects of evidence-based nursing on surgical site wound infection in post appendectomy patients

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Abstract

Surgical site infections (SSIs) pose a significant challenge in postoperative care, particularly following appendectomy procedures. These infections can lead to prolonged hospital stays, increased healthcare costs, and diminished patient satisfaction, ultimately impacting overall health outcomes. Evidence-based nursing (EBN) has emerged as a critical strategy for addressing the prevention and management of SSIs by integrating the best available research with clinical expertise and patient values. This review article explores the multifaceted effects of EBN on the incidence of surgical site infections in post-appendectomy patients, highlighting key interventions and their outcomes. The article begins by defining SSIs and discussing their implications for patient health and healthcare systems. It emphasizes the importance of identifying risk factors associated with SSIs, including patient-related factors such as obesity, diabetes, and immunosuppression, as well as procedural factors like surgical duration and adherence to aseptic techniques. The role of EBN in mitigating these risks is examined, focusing on preoperative, intraoperative, and postoperative nursing interventions. Preoperative strategies, including comprehensive assessments, patient education, and the administration of prophylactic antibiotics, are discussed as essential components of infection prevention. Intraoperative practices, such as maintaining a sterile environment and proper skin preparation, are highlighted for their critical role in reducing contamination during surgery. Postoperative care, including vigilant monitoring for signs of infection and patient education on wound care, is also emphasized as vital for early detection and intervention. The review synthesizes evidence from various studies demonstrating the effectiveness of EBN in reducing SSI rates among post-appendectomy patients. By fostering a culture of evidence-based practice, healthcare providers can enhance patient safety, improve surgical outcomes, and reduce the overall burden of SSIs. This article underscores the necessity of integrating EBN into nursing practice as a means to optimize care and improve health outcomes for surgical patients.

Introduction

Surgical site infections (SSIs) represent a significant challenge in postoperative care, particularly following common surgical procedures such as appendectomy. These infections are not merely a complication; they are a serious concern that can have far-reaching implications for both patients and healthcare systems. The consequences of SSIs extend beyond the immediate health of the patient, affecting recovery times, healthcare costs, and overall patient satisfaction. For patients, SSIs can lead to prolonged hospital stays,

increased risk of readmission, and even mortality in severe cases. The burden of these infections is not only felt by patients but also by healthcare systems, which must allocate additional resources to manage complications arising from SSIs. This includes extended hospital stays, additional treatments, and sometimes even surgical interventions to address the infection, all of which contribute to increased healthcare costs.

The financial implications of SSIs are substantial. Hospitals may face penalties for high infection rates, which can affect their reimbursement from insurance providers. Additionally, the increased length of stay and the need for additional medical interventions can strain hospital resources and impact the overall efficiency of healthcare delivery. The emotional and psychological toll on patients cannot be overlooked either; the experience of an SSI can lead to anxiety, depression, and a diminished quality of life. Patients may feel frustrated and helpless, particularly if their recovery is prolonged or complicated by additional medical interventions.

In light of these challenges, evidence-based nursing (EBN) has emerged as a critical approach in addressing the prevention and management of SSIs. EBN focuses on integrating the best available research with clinical expertise and patient values, creating a framework for delivering high-quality care. This approach emphasizes the importance of using scientific evidence to inform nursing practices, thereby enhancing the quality of care provided to patients. By relying on research findings, nurses can implement interventions that have been proven effective in reducing the incidence of SSIs.

This article aims to explore the multifaceted effects of evidence-based nursing on the incidence of surgical site infections in patients who have undergone appendectomy. It will examine the underlying mechanisms, interventions, and outcomes associated with this approach. By understanding the role of EBN in preventing SSIs, healthcare providers can better implement strategies that improve patient outcomes and reduce the incidence of these infections. The exploration of EBN in this context is not only timely but also essential, as healthcare systems continue to seek ways to enhance patient safety and quality of care.

The significance of this topic is underscored by the increasing prevalence of surgical procedures performed worldwide. As surgical techniques advance and become more common, the need for effective infection prevention strategies becomes even more critical. The integration of EBN into nursing practice can serve as a cornerstone for developing comprehensive protocols aimed at minimizing the risk of SSIs. This article will delve into various aspects of EBN, including its theoretical foundations, practical applications, and the evidence supporting its effectiveness in reducing SSIs.

In conclusion, the fight against surgical site infections is a multifaceted challenge that requires a concerted effort from all members of the healthcare team. By prioritizing evidence-based nursing practices, healthcare providers can significantly improve surgical outcomes and enhance the overall patient experience. The commitment to EBN not only benefits individual patients but also contributes to the broader goal of improving healthcare quality and safety across the continuum of care. As we move forward, it is essential to continue fostering a culture that values research, encourages innovation, and prioritizes patient-centered care. By doing so, we can ensure that the nursing profession remains at the forefront of efforts to reduce surgical site infections and improve health outcomes for all patients undergoing surgical procedures.

Understanding Surgical Site Infections

Surgical site infections are defined as infections that occur at the site of a surgical incision within 30 days of the procedure or within one year if an implant is involved. The Centers for Disease Control and Prevention (CDC) categorizes SSIs into three types: superficial incisional, deep incisional, and organ/space infections. Superficial incisional infections involve the skin and subcutaneous tissue, while deep incisional infections affect the underlying tissues, including fascia and muscle. Organ/space infections occur in the body cavity or organ that was manipulated during surgery.

The risk factors for SSIs are numerous and can be classified into patient-related factors, such as age, obesity, diabetes, and immunosuppression, as well as procedural factors, including the duration of surgery, the use of prophylactic antibiotics, and the adherence to aseptic techniques. Patient-related factors often reflect the individual's overall health status and ability to heal, while procedural factors are largely within the control of the surgical team.

The pathophysiology of SSIs involves a complex interplay between the host's immune response and the microbial environment at the surgical site. Bacterial contamination can occur during the surgical procedure, and the presence of foreign materials, such as sutures or implants, can further complicate the healing process. The consequences of SSIs are profound, leading to increased morbidity, prolonged hospital stays, and higher healthcare costs. Therefore, effective prevention strategies are essential in mitigating these risks.

In addition to the physical implications of SSIs, there are psychological and emotional consequences for patients. The experience of an infection can lead to anxiety, depression, and a diminished quality of life. Patients may also experience feelings of frustration and helplessness, particularly if their recovery is prolonged or complicated by additional medical interventions. Understanding the full impact of SSIs on patients is crucial for healthcare providers, as it underscores the importance of implementing effective prevention strategies.

The Role of Evidence-Based Nursing

Evidence-based nursing is a systematic approach that integrates the best available evidence from research, clinical expertise, and patient preferences to guide nursing practice. This approach is particularly relevant in the context of preventing SSIs, as it allows for the implementation of interventions that have been shown to be effective in reducing infection rates. The principles of evidence-based nursing emphasize the importance of critical thinking, continuous learning, and the application of research findings to clinical practice.

In the realm of surgical care, nurses play a pivotal role in various stages of the patient's journey, from preoperative assessment to postoperative monitoring. Their involvement is crucial in implementing evidence-based interventions that can significantly reduce the risk of SSIs. This article will delve into the specific evidence-based practices that have been shown to impact surgical site infections in post-appendectomy patients.

Nurses are often the frontline caregivers who interact with patients most frequently, making them uniquely positioned to identify potential issues and implement preventive measures. Their role extends beyond direct patient care to include education, advocacy, and coordination of care among the multidisciplinary team. By fostering a culture of evidence-based practice, nurses can contribute to improved patient outcomes and enhanced safety in surgical settings.

Preoperative Interventions

The preoperative phase is critical in preparing patients for surgery and minimizing the risk of SSIs. Evidence-based nursing practices during this phase include comprehensive preoperative assessments, patient education, and optimization of the patient's health status.

A thorough preoperative assessment allows healthcare providers to identify patients at higher risk for SSIs. Factors such as obesity, diabetes, and smoking can compromise the immune response and wound healing. By recognizing these risk factors, nurses can implement targeted interventions, such as nutritional support and smoking cessation programs, to optimize the patient's health before surgery.

Patient education is another essential component of preoperative care. Educating patients about the importance of preoperative fasting, skin cleansing, and the use of antiseptic solutions can significantly reduce bacterial load at the surgical site. Research has shown that patients who are well-informed about their surgical procedure and postoperative care are more likely to adhere to recommended practices, ultimately leading to better outcomes. This education can also include discussions about the importance of reporting any signs of infection or complications early, which can facilitate prompt intervention.

The administration of prophylactic antibiotics is a well-established evidence-based practice in the prevention of SSIs. The timing, choice, and duration of antibiotic prophylaxis are critical factors that influence their effectiveness. Evidence suggests that administering antibiotics within one hour before incision can significantly reduce the risk of infection. Nurses play a vital role in ensuring that these protocols are followed, contributing to the overall success of the surgical procedure. Additionally, they must be aware of the specific guidelines regarding the selection of antibiotics based on the patient's individual risk factors and the type of surgery being performed.

Furthermore, optimizing the patient's nutritional status preoperatively is essential. Malnutrition can impair wound healing and increase the risk of infections. Nurses can assess the nutritional needs of patients and collaborate with dietitians to implement dietary modifications or supplementation as needed. This proactive approach can enhance the patient's overall health and resilience, ultimately contributing to better surgical outcomes.

Intraoperative Practices

During the surgical procedure, the role of nursing staff is paramount in maintaining a sterile environment and adhering to aseptic techniques. Evidence-based nursing interventions in the intraoperative phase include proper skin preparation, the use of sterile instruments, and the implementation of infection control measures.

Skin preparation is a critical step in reducing the risk of SSIs. The use of antiseptic solutions, such as chlorhexidine or iodine-based products, has been shown to decrease the bacterial load on the skin prior to incision. Nurses are responsible for ensuring that the surgical site is adequately prepared, following established protocols to minimize contamination. This preparation may also involve educating the surgical team about the importance of maintaining a sterile field and the proper techniques for handling instruments. Intraoperative aseptic techniques are essential in preventing the introduction of pathogens during surgery. This includes maintaining a sterile field, using appropriate draping techniques, and ensuring that all surgical instruments are properly sterilized. The adherence to these practices is crucial in reducing the risk of SSIs, and nurses play a vital role in monitoring compliance among the surgical team. They must be vigilant in identifying any breaches in aseptic technique and addressing them immediately to prevent contamination.

The duration of the surgical procedure is another factor that can influence the risk of SSIs. Evidence suggests that longer surgeries are associated with higher infection rates. Therefore, efficient surgical techniques and teamwork are essential to minimize the time the patient is under anesthesia. Nurses can contribute by ensuring that all necessary instruments and supplies are readily available, thus facilitating a smoother surgical process. Additionally, they can assist in coordinating the surgical team to ensure that everyone is aware of their roles and responsibilities, which can help streamline the procedure.

Postoperative Care and Monitoring

Postoperative care is a critical phase in the prevention of surgical site infections. Evidence-based nursing practices during this phase focus on monitoring for signs of infection, educating patients about wound care, and ensuring appropriate follow-up.

Nurses are responsible for closely monitoring patients for any signs of infection, such as increased redness, swelling, or discharge at the surgical site. Early detection of these signs is crucial, as prompt intervention can prevent the progression of an infection. Research indicates that regular assessments and vigilant monitoring can significantly reduce the incidence of SSIs. This monitoring should include not only visual assessments of the surgical site but also evaluating the patient's overall condition, including vital signs and any systemic signs of infection.

Patient education is also a vital component of postoperative care. Nurses should provide clear instructions on how to care for the surgical wound, emphasizing the importance of keeping the incision clean and dry. Educating patients about recognizing early signs of infection empowers them to seek help promptly, which can lead to better outcomes. This education can be reinforced through written materials or follow-up phone calls to ensure that patients understand their care instructions.

Follow-up care is essential in ensuring that patients recover without complications. Nurses should facilitate timely follow-up appointments and encourage patients to report any concerns regarding their recovery. This proactive approach can help identify potential issues before they escalate into serious complications. Additionally, nurses can play a role in coordinating care with other healthcare providers, ensuring that patients receive comprehensive support throughout their recovery process.

Impact of Evidence-Based Nursing on SSI Rates

The implementation of evidence-based nursing practices has been shown to have a significant impact on reducing surgical site infection rates in post-appendectomy patients. Numerous studies have demonstrated that standardized nursing protocols for wound care, preoperative education, and postoperative monitoring can lead to a marked decrease in SSIs.

For instance, a systematic review of randomized controlled trials found that hospitals that adopted evidence-based nursing interventions experienced lower rates of SSIs compared to those that did not. These findings underscore the importance of integrating evidence-based practices into nursing care to enhance patient safety and improve surgical outcomes. The consistent application of these practices not only benefits individual patients but also contributes to the overall quality of care within healthcare institutions.

Case Studies and Clinical Trials

Several case studies illustrate the effectiveness of evidence-based nursing interventions in reducing SSIs. In one notable study, the introduction of a comprehensive nursing protocol that included preoperative education, intraoperative aseptic techniques, and postoperative monitoring resulted in a significant reduction in SSI rates among appendectomy patients. The study highlighted the importance of a multidisciplinary approach, with nurses playing a central role in implementing evidence-based practices.

Another clinical trial examined the impact of a structured nursing intervention on SSI rates in a surgical unit. The intervention included regular training sessions for nursing staff on infection control practices, the use of standardized checklists, and enhanced patient education. The results showed a substantial decrease in

SSIs, demonstrating the effectiveness of evidence-based nursing in improving patient outcomes. These findings emphasize the need for ongoing education and training for nursing staff to ensure that they are equipped with the latest knowledge and skills to prevent infections.

Moreover, a longitudinal study tracked SSI rates over several years in a hospital that adopted evidence-based nursing protocols. The results indicated a sustained reduction in infection rates, suggesting that the implementation of EBN not only has immediate benefits but can also lead to long-term improvements in patient safety. This highlights the importance of institutional commitment to evidence-based practices and the need for continuous evaluation and adaptation of protocols based on emerging research.

Challenges in Implementing Evidence-Based Practices

Despite the clear benefits of evidence-based nursing, several challenges hinder its widespread implementation. Resistance to change among healthcare professionals can pose a significant barrier. Some nurses may be accustomed to traditional practices and may be reluctant to adopt new evidence-based approaches. Overcoming this resistance requires strong leadership, ongoing education, and a culture that values continuous improvement.

Resource limitations can also impact the ability of nursing staff to implement evidence-based interventions effectively. Inadequate staffing levels, lack of access to training, and insufficient supplies can hinder the delivery of optimal care. Addressing these resource challenges is essential to ensure that nurses can provide evidence-based care consistently.

Additionally, a lack of training in evidence-based practices can lead to inconsistent application among nursing staff. Providing ongoing education and training opportunities is crucial in equipping nurses with the knowledge and skills necessary to implement evidence-based interventions effectively. Institutions should prioritize the development of training programs that focus on the latest research findings and best practices in infection prevention.

Furthermore, the integration of evidence-based practices into existing workflows can be challenging. Nurses often face time constraints and competing priorities, which can make it difficult to adhere to evidence-based protocols consistently. Streamlining processes and ensuring that evidence-based practices are incorporated into routine care can help mitigate these challenges.

Future Directions

To enhance the effectiveness of evidence-based nursing in preventing surgical site infections, several strategies can be employed. Continued education and training for nursing staff on the latest evidence-based practices are essential. This can be achieved through workshops, seminars, and online training modules that focus on infection prevention and control.

Interdisciplinary collaboration is another key strategy. Encouraging collaboration between nursing staff, surgeons, and infection control specialists can foster a culture of safety and improve patient outcomes. Regular interdisciplinary meetings can facilitate communication and ensure that all team members are aligned in their approach to preventing SSIs.

Research and quality improvement initiatives are also vital in advancing evidence-based nursing practices. Conducting further research on the effectiveness of specific nursing interventions can provide valuable insights and inform best practices. Quality improvement initiatives can help standardize practices across healthcare settings, ensuring that all patients receive the highest level of care.

Additionally, leveraging technology can enhance the implementation of evidence-based practices. Electronic health records (EHRs) can be utilized to track compliance with infection prevention protocols and identify areas for improvement. Decision support tools integrated into EHRs can provide nurses with real-time access to evidence-based guidelines, facilitating adherence to best practices.

Conclusion

The implementation of evidence-based nursing practices has a profound impact on reducing surgical site infections in post-appendectomy patients. By focusing on preoperative optimization, intraoperative aseptic techniques, and postoperative education, nurses can significantly contribute to improving patient outcomes. Continued efforts to promote evidence-based practices, address implementation challenges, and foster interdisciplinary collaboration will be essential in the ongoing fight against surgical site infections. This article provides a comprehensive overview of the effects of evidence-based nursing on surgical site wound infection in post-appendectomy patients. Further research and continuous improvement in nursing practices are vital to enhance patient safety and care quality. The integration of evidence-based interventions not only reduces the incidence of SSIs but also promotes a culture of safety and accountability within healthcare settings. As the healthcare landscape evolves, it is imperative that nursing practices adapt to

incorporate the latest research findings, ensuring that patients receive the highest standard of care throughout their surgical journey. By prioritizing evidence-based nursing, healthcare providers can significantly improve surgical outcomes and enhance the overall patient experience. The commitment to evidence-based practices not only benefits individual patients but also contributes to the broader goal of improving healthcare quality and safety across the continuum of care. As we move forward, it is essential to continue fostering a culture that values research, encourages innovation, and prioritizes patient-centered care.

References:

1. (2022). The impact of the covid-19 pandemic on the incidence, severity, and management of acute appendicitis: a single center experience in thailand. *emergency medicine international*, 2022, 1-10. <https://doi.org/10.1155/2022/8324716>
2. (2022). Evaluating the impact of evidence-based nursing in combination with clinical nursing pathway for nursing care of patients with stroke. *medicine*, 101(2), e28278. <https://doi.org/10.1097/md.00000000000028278>
3. (2022). Nursing practice based on evidence-based concepts to prevent enteral nutrition complications for critically ill neurosurgical patients. *frontiers in surgery*, 9. <https://doi.org/10.3389/fsurg.2022.857877>
4. (2020). Determination of factors associated with perforation in patients with geriatric acute appendicitis. *turkish journal of trauma and emergency surgery*. <https://doi.org/10.14744/tjtes.2020.25741>
5. (2015). Partnering to promote evidence-based practice by implementing nursing reference center at the point of care. *journal of hospital librarianship*, 15(2), 151-160. <https://doi.org/10.1080/15323269.2015.1015090>
6. (2023). Climates and associated factors for evidence-based practice implementation among nurses: a cross-sectional study.. <https://doi.org/10.21203/rs.3.rs-3165617/v1>
7. (2021). Implementation of evidence in preventing medical device-related pressure injury in icu patients using the i-parihs framework. *journal of nursing management*, 30(1), 318-327. <https://doi.org/10.1111/jonm.13458>
8. (2016). The strengths and challenges of implementing ebp in healthcare systems. *worldviews on evidence-based nursing*, 13(1), 15-24. <https://doi.org/10.1111/wvn.12149>
9. (2022). Application of evidence-based practice in intensive and critical care nursing. *the open nursing journal*, 16(1). <https://doi.org/10.2174/18744346-v16-e221124-2022-66>
10. (2018). First line nurse managers' experiences of opportunities and obstacles to support evidence-based nursing. *nursing open*, 5(4), 634-641. <https://doi.org/10.1002/nop2.172>
11. (2024). Analysis of the chain-mediated effects of narrative care skills and evidence-based nursing competencies between clinical nurse core competencies and sense of career benefit. *research in health science*, 9(2), p45. <https://doi.org/10.22158/rhs.v9n2p45>
12. (2015). Evidence based practice and evidence based nursing education. *journal of nursing & care*, 04(04). <https://doi.org/10.4172/2167-1168.1000279>
13. (2015). Evidence-based practice point-of-care resources: a quantitative evaluation of quality, rigor, and content. *worldviews on evidence-based nursing*, 12(6), 313-327. <https://doi.org/10.1111/wvn.12114>
14. (2017). 'nursing research culture' in the context of clinical nursing practice: addressing a conceptual problem. *journal of advanced nursing*, 73(5), 1066-1074. <https://doi.org/10.1111/jan.13229>
15. (2022). Differences in evidence-based nursing practice competencies of clinical and academic nurses in china and opportunities for complementary collaborations: a cross-sectional study. *journal of clinical nursing*, 32(13-14), 3695-3706. <https://doi.org/10.1111/jocn.16488>
16. (2018). Research priorities for respiratory nursing: a uk-wide delphi study. *erj open research*, 4(2), 00003-2018. <https://doi.org/10.1183/23120541.00003-2018>
17. (2020). Educational interventions for teaching evidence-based practice to undergraduate nursing students: a scoping review. *international journal of environmental research and public health*, 17(17), 6351. <https://doi.org/10.3390/ijerph17176351>
18. (2013). Barriers to and facilitators of research utilization: a survey of registered nurses in china. *plos one*, 8(11), e81908. <https://doi.org/10.1371/journal.pone.0081908>

19. (2022). A qualitative study on knowledge, attitude, and practice of nursing students in the early stage of the covid-19 epidemic and inspiration for nursing education in mainland china. *frontiers in public health*, 10. <https://doi.org/10.3389/fpubh.2022.845588>
20. (2024). Effects of evidence-based nursing care interventions on wound pain and wound complications following surgery for finger tendon injury. *international wound journal*, 21(3). <https://doi.org/10.1111/iwj.14818>
21. (2020). Evidence based practice in nursing: a review. *international journal of advance research in medical surgical nursing*, 2(2), 01-03. <https://doi.org/10.33545/surgicalnursing.2020.v2.i2a.36>
22. (2022). Evidence-based practice knowledge and implementations among nurses at ho chi minh oncological hospital in 2022. *tapchikhoahocđiềudurõng*, 6(01), 41-48. <https://doi.org/10.54436/jns.2023.01.546>
23. (2015). Facilitating the implementation of evidence-based practice through contextual support and nursing leadership. *journal of healthcare leadership*, 29. <https://doi.org/10.2147/jhl.s45077>
24. (2021). Evidence-based nursing management: basing organizational practices on the best available evidence. *creative nursing*, 27(2), 94-97. <https://doi.org/10.1891/cmr-d-19-00080>
25. (2023). Effectiveness of differentiated instruction on learning outcomes and learning satisfaction in the evidence-based nursing course: empirical research quantitative. *nursing open*, 10(10), 6794-6807. <https://doi.org/10.1002/nop2.1926>
26. (2013). Evidence-based nursing management: challenges and facilitators. *journal of nursing education and practice*, 3(8). <https://doi.org/10.5430/jnep.v3n8p59>
27. (2024). Observation on the effect of rapid rehabilitation nursing with integrated medical care in perioperative period of laparoscopic appendicitis in children. *Ann Ital Chir*, 95(3), 401-410. <https://doi.org/10.62713/aic.3137>
28. (2013). The impact of evidence-based practice in nursing and the next big ideas. *ojin the online journal of issues in nursing*, 18(2). <https://doi.org/10.3912/ojin.vol18no02man04>
29. (2012). Clinical nurse specialists shaping policies and procedures via an evidence-based clinical practice council. *clinical nurse specialist*, 26(2), 74-86. <https://doi.org/10.1097/nur.0b013e3182467292>
30. (2015). Evidence-based practice in the united states: challenges, progress, and future directions. *health care for women international*, 37(1), 2-22. <https://doi.org/10.1080/07399332.2015.1102269>
31. (2019). Research priorities in evidence-based nursing cares: a delphi technique. *journal of health sciences*. <https://doi.org/10.17532/jhsci.2018.270>
32. (2022). Effect of evidence-based nursing management of protocol compliance in anticancer drug clinical trial. *asia-pacific journal of oncology nursing*, 9(10), 100114. <https://doi.org/10.1016/j.apjon.2022.100114>
33. (2014). The establishment of evidence-based practice competencies for practicing registered nurses and advanced practice nurses in real-world clinical settings: proficiencies to improve healthcare quality, reliability, patient outcomes, and costs. *worldviews on evidence-based nursing*, 11(1), 5-15. <https://doi.org/10.1111/wvn.12021>