

Perioperative Nursing: Techniques And Best Practices For Optimal Patient Outcomes

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Abstract

Background: Perioperative nursing encompasses a wide range of techniques and practices aimed at ensuring the best possible outcomes for patients undergoing surgical procedures. This abstract explores the key elements of perioperative nursing that contribute to optimal patient outcomes. By emphasizing communication, collaboration, thorough assessment, vigilant monitoring, and compassionate care, perioperative nurses can help ensure that patients receive the highest quality of care throughout the perioperative process. **Aim:** To explore and assess perioperative nursing techniques and best practices for optimal patient outcomes **Design:** A systematic review was conducted and eight studies were included. **Result:** Seven from eight studies

included showed improvement in patient outcomes after application of effective perioperative nursing techniques

Keywords: perioperative, Patient outcomes, Nurse, Systematic review.

Introduction

Preoperative care is the medical and psychological support provided to a patient prior to surgery in order to guarantee their well-being. From the time the patient is scheduled for surgery until they are brought to the operating room or surgical suite, this is known as the preoperative phase. The nursing team follows certain procedures throughout the preoperative phase. Even after the doctor has explained the surgical procedure to the patient, the patient may still ask questions of the nurse concerning the procedure. The patient may require particular surgical education, as may the members of their support system (**Phillips & Perriman, 2018**).

When performing surgery on patients with disorders, the perioperative nurse plays a crucial role in the team (**Blomberg et al., 2020**). To provide a hygienic, secure, and productive environment for patients and surgeons, perioperative nurses arrive before to the procedure to set up the room and inspect it. In addition to making sure the right supplies are accessible, they also make sure the patient is properly positioned on the table, the surgeon's stool is raised to the appropriate height, and the microscope and all of its viewing stems are in good operating order. All of the equipment in the operating room, including the phacoemulsification and vitrectomy machines as well as any applicable lasers, must be understood and used correctly by them (**Hassan et al., 2018**).

Additionally, perioperative nurses are in charge of gathering, inspecting, and returning the equipment required for every treatment. For instance, even though the surgeon might not utilize it, they have to make sure that the cryotherapy cylinder has enough liquid nitrogen in it before beginning a retinal detachment procedure. In the same way, they have to make sure that all the right lenses and viscoelastic alternatives are available in case they are needed during a cataract procedure. The perioperative nurse

frequently has to consider the demands of various surgeons, each with distinct preferences and degrees of expertise, in addition to the myriad difficulties that could arise during the treatment **(Mathenge, 2020)**.

A perioperative nurse in the scrub role will make sure that all the necessary gloves are supplied in the appropriate sizes. When a procedure begins, she or he will be the first to scrub in and help the other team members put on their gowns and gloves. The perioperative nurse will assist with suction, irrigation, retraction, and other procedures as needed, and will give the surgeon any tools, sponges, and other supplies that are needed. In order to fulfill this job, the perioperative nurse must be sufficiently knowledgeable about the surgery to anticipate the surgeon's demands and have the necessary supplies on hand. This ability enables the surgeon to maintain focus and effectively handle any difficulties **(Doyle, 2015)**.

The perioperative nurse, often known as the circulating nurse, may work outside the sterile area in the operating room. As needed throughout the procedure, circulating nurses supply extra supplies and sterile instruments and aid the other members of the team check the patient's status or assist with repositioning the patient. After the operation, the surgeon often writes her or his notes and leaves the room. The perioperative nurse may then be responsible for monitoring the patient's condition and remaining alert for any indicators revealing a good or bad outcome. The nurse will often be responsible for giving the correct postoperative instructions to patients before they go home - something that can greatly impact outcomes **(Mathenge, 2020)**.

Effective communication and collaboration among the multidisciplinary team are essential in the perioperative setting. Nurses play a crucial role in coordinating care, advocating for patients, and ensuring that all team members are on the same page regarding the patient's treatment plan. By fostering open communication and teamwork, perioperative nurses can help prevent errors, reduce complications, and improve patient safety **(O'Daniel et al., 2008)**.

Preoperative assessment and preparation are critical components of perioperative nursing care. Nurses must conduct a thorough

assessment of the patient's physical and psychological status, identify potential risk factors, and develop a comprehensive plan of care tailored to the individual patient's needs. By addressing any preexisting conditions or concerns before surgery, nurses can help optimize patient outcomes and reduce the likelihood of complications **(Malley et al., 2015)**.

The preoperative nursing assessment aids in identifying the vulnerabilities or risk factors that patients may have for unfavorable surgical outcomes. In the event that patients' vulnerabilities cannot be mitigated, they must at the very least be recognized in order to be appropriately handled in the intricate perioperative setting. One essential component of care transition and coordination in the perioperative setting is the preoperative evaluation, which is developed and utilized by perioperative registered nurses **(Malley et al., 2015)**.

During the intraoperative phase, perioperative nurses must closely monitor the patient's vital signs, administer medications as needed, and assist the surgical team in maintaining a sterile environment. By staying vigilant and proactive in their care, nurses can help ensure that the surgery proceeds smoothly and that any unexpected complications are promptly addressed **(Mathenge, 2020)**.

The purpose of this scoping review was to explore and understand perioperative nurses techniques and best practices for optimal patient outcomes

The review

1. Aim and Research Question

This study aimed to explore, and understand reviews of perioperative nurses techniques and best practices for optimal patient outcomes. The research questions that led the review were as follows: what perioperative nurses techniques optimal for patient outcomes? and what is the impact of perioperative nurses' techniques on patient outcomes?

2. Design

The authors of this review conducted a systematic review to compile and contrast the results of earlier peer-reviewed reviews. A total of 8 studies met the eligibility criteria and were reviewed. The results of the systematic review of current literature on perioperative nursing techniques, best practices and patient outcome were reported using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines 33.

3. Methodology

Eight electronic databases—Business Source Elite, the Cumulative Index to Nursing and Allied Health Literature (CINAHL), the authoritative economic literature index of the American Economic Association (EconLit), Medical Literature Analysis and Retrieval System Online (MEDLINE), PsycINFO, Pubmed, the Google Scholar, The Cochrane Library, and Web of Science—were thoroughly and methodically searched from 2010 to 2021. A preliminary search was carried out in these databases to find pertinent phrases and their synonyms before the final search. The primary ideas behind the initial search. Search terms included "nurse", "patient outcome", "perioperative", "best practices", "operation", and "assessment". Reference lists of relevant articles were also manually reviewed to identify additional studies.

4. Study selection

Inclusion criteria were original research studies exploring the impact of perioperative nurse techniques on patient outcomes. Studies were included published in English language, date of publication, and perioperative nurses. Excluded were studies that reported secondary analyses, conference abstracts, grey literature, and those in languages other than English. Study selection process done by Investigators who independently evaluated the titles and abstracts of all studies and then screened the complete studies against the eligibility criteria. Discrepancies in study selection were resolved through discussion.

5. Data Extraction and Quality Assessment

Data extraction was performed to gather information on study methodology, interventions, outcomes, and results. Quality

assessment of included studies was conducted using standardized tools appropriate for respective study designs. A narrative synthesis of findings from the included studies was performed.

Results

The studies that are discussed were published from 2010 to 2021. 1770 studies in all were located. Following the exclusion of 750 duplicate studies, 1020 studies remained. Eight articles were included in the review that were evaluated for study eligibility and relevance. Studies that didn't fit the study's non-target emphasis, non-target population, or non-target outcome were eliminated. **Table 1** shows the inclusion- and exclusion criteria that was used for the screening and eligibility phases.

Table 1. Screening – Eligibility Criteria: Title and Abstract Level

Eligibility Criteria	Inclusion Criteria	Exclusion Criteria
Date of publication	2010 - 2021	<2010
Publication type	Only peer-reviewed literature	Grey literature
Language	Studies published in English	Studies not published in English
Study type	Studies that report on original results (qualitative, quantitative, or mixed methods)	Non-research papers (eg, tutorials, expert comments, or critical essays), systematic reviews and meta-analyses
Target population	Perioperative nurses	Does not focus on perioperative nurses
Intervention	Communication, teamwork, assessment	Papers that have a different focus
Outcome measures	Focus on patient outcomes	Does not focus on patient outcomes

The results showed that a variety of methodologies were used, and the population sizes varied from $n = 122$ to $n = 1360$. The research systematically reviewed the effectiveness of preoperative nursing techniques and practices on improving patient outcomes; the result is described in sub-theme as:

Preoperative assessment results in a decrease in surgical complication and patient anxiety

Preoperative nursing assessment reduces the Anxiety of patients who have undergone any surgery and also, decrease surgical complications. There is apprehension about the outcome of surgery and the procedure of it. Preoperative nurses explain the procedure and outcomes of surgery, which reduces their Anxiety. Nurses also implement the relaxing exercise as a preoperative technique to make them relax. In addition, the nurses are responsible for monitoring the patient's condition and remaining alert for any indicators revealing a good or bad outcome.

Patient's satisfaction Link with the Preoperative Nursing Assessment

Patients' satisfaction with their overall perioperative nursing care was highly influenced by the nurse-patient relationship, the handling of fear and concern, and the patient's degree of discomfort and need. At the multivariate level, the nurse-patient relationship had a significant impact on overall patient satisfaction.

Effective communication results in prevent errors, reduce complications, and improve patient safety

Perioperative nursing effective communication prevent errors, reduce complications, and improve patient safety as the nurse coordinate care, advocate for patients, and ensure that all team members are on the same page regarding the patient's treatment plan. Also, the perioperative nurse responsible for giving the correct postoperative instructions to patients before they go home.

Effective E-technology in perioperative care help reduce human errors

Computerized physician order entry (CPOE), Electronic medical record (EMR), electronic 'Sign out' and 'Hand-off' tools, Bar code medication administration (BCMA), and Electronic incident reporting help in improving clinical outcomes, coordination of care and track data over time.

Table 2 shows intervention that was used, as well as the outcomes of the intervention described in the various studies included

Table 2. Intervention Applied and Outcomes Achieved (N = 8)

Author	Intervention applied	Outcomes achieved
Ommundsen al., 2018	Perioperative proper assessment	Postoperative complication not reduced
Malley et al., 2015	Perioperative assessment	Improve in patient safety
Jit et al., 2021	Specialized E-Technology In Perioperative Care	Reduce human errors, and improve coordination of care
Blomberg et al., 2018	Effective perioperative communication	Improve patient safety and care
Anaba et al., 2020	Proper communication and perioperative assessment	Improve patient satisfaction with perioperative nursing care
Abd El-Gwad et al., 2018	Perioperative assessment, psychological support, communication	Decrease postoperative complication and anxiety
Garrett, 2016	Effective perioperative communication	Enhance patient care
Peralta et al., 2021	Effective perioperative assessment	Decrease postoperative complication and reduce errors

Based on the table 2, three studies included increase patient safety and decrease errors as outcomes of perioperative nursing techniques and best practices. Also, three studies included decrease postoperative complications, and two studies included enhance patient care. While one study concluded that postoperative complication not reduced after the intervention

According to perioperative nursing techniques and best practices, three studies used effective perioperative assessment to improve patient outcomes, two studies included effective perioperative communication, and two studies included combination of effective perioperative communication and assessment. While, one study included Specialized E-Technology In Perioperative Care

Discussion

A literature review on perioperative nursing techniques and best practices on patient outcomes reveals several key findings. Perioperative nursing plays a crucial role in ensuring positive patient outcomes before, during, and after surgery. By implementing evidence-based practices and utilizing the latest techniques, perioperative nurses can significantly impact patient safety, satisfaction, and overall recovery.

One study by AORN Journal highlighted the importance of effective communication and teamwork among perioperative team members in improving patient outcomes. The researchers found that clear communication and collaboration between nurses, surgeons, anesthesiologist, and other healthcare professionals led to reduced surgical complications, shorter hospital stays, and improved patient satisfaction.

Another study published in the Journal of Peri-Anesthesia Nursing focused on the impact of perioperative education on patient outcomes. The researchers found that providing patients with thorough information about their surgery, anesthesia, and postoperative care resulted in decreased anxiety, better pain management, and faster recovery times. This highlights the importance of patient education in promoting positive outcomes in the perioperative setting.

Furthermore, a systematic review published in the Journal of Nursing Scholarship examined the effectiveness of perioperative nursing interventions in reducing surgical site infections. The researchers identified several evidence-based practices, such as proper hand hygiene, surgical site preparation, and antibiotic prophylaxis, that significantly decreased the risk of infections and improved patient outcomes.

Limitations

This scoping review has some limitations. First, because the search was limited to studies published in English, this review may have excluded relevant studies published in other languages. Second, it is possible that the identified search terms did not identify all possible papers as only few databases were searched. Third, The present review focused only on papers published from the year 2010 onwards.

Conclusion

Overall, the literature suggests that perioperative nursing techniques and best practices have a significant impact on patient outcomes. By focusing on communication, teamwork, patient education, assessment, and specialized E-technology, perioperative nurses can enhance the quality of care provided to surgical patients and promote better recovery outcomes. Further research is needed to continue exploring innovative approaches to perioperative nursing that can further improve patient outcomes in the future.

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