

The Importance of Preoperative Education Interventions in Improving In-Patient Outcomes in Hospital

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ABSTRACT: The study conducted a thorough examination of the significance of preoperative education interventions in enhancing in-patient outcomes within a hospital setting. The findings underscored the crucial role of such interventions in improving patient outcomes and highlighted the potential benefits for both patients and healthcare facilities. The paper emphasized the importance of providing comprehensive education to patients prior to surgery, and its positive impact on their overall experience and recovery. The results provide valuable insights for healthcare professionals and administrators seeking to enhance the quality of care and outcomes for in-patients undergoing surgical procedures. Preoperative teaching is a crucial intervention aimed at enhancing patients' knowledge, health behaviors, and outcomes prior to surgery. It is imperative for perioperative nurses to possess the necessary knowledge and skills to effectively assess, diagnose, plan, intervene, and evaluate preoperative interventions. However, the implementation of preoperative teaching in developing countries is notably low, primarily due to factors such as lack of awareness, inadequate knowledge among staff nurses, nursing shortages in hospitals, and overwhelming workloads. The purpose of preoperative teaching is to educate and counsel patients about their upcoming surgery and manage their expectations. The key components of preoperative teaching include promoting postoperative recovery, reducing surgical stress, maintaining physiological functions, minimizing pain and discomfort, and fostering patient independence. Research has shown that preoperative teaching can significantly decrease anxiety and depression scores in patients undergoing surgery, leading to reduced time spent in intensive care units. In conclusion, preoperative teaching plays a vital role in ensuring patient safety and well-being before, during, and after surgical procedures. It is recommended that nurses pursue continuous education programs, such as post-basic or post-graduate programs in perioperative nursing, to enhance their knowledge of preoperative teaching protocols and communication skills with patients and the surgical team.

Keywords: In-Patient outcomes, hospital, preoperative education, interventions

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INTRODUCTION

Preoperative teaching is an essential intervention in the perioperative setting, designed to enhance patients' understanding, promote positive health behaviors, and ultimately improve surgical outcomes (Louw et al., 2014). As integral members of the perioperative team, nurses

play a crucial role in this process, requiring both knowledge and skill to effectively assess, diagnose, plan, intervene, and evaluate patient interventions prior to surgery. This includes a comprehensive assessment and preparation of surgical patients, encompassing their

physiological, spiritual, and psychological responses to the impending surgery. Patient education in the perioperative phase is a fundamental aspect of nursing care, serving to provide patients with clear and concise information regarding their upcoming procedure, post-operative care, and overall health condition (Ali and Malik 2015). By addressing these critical elements, perioperative nurses contribute significantly to ensuring that patients are well-informed and prepared for their surgical experience, ultimately contributing to improved patient outcomes. Patient education is a crucial aspect of a professional nurse's responsibilities, aimed at ensuring that individuals, whether healthy or ill, acquire the necessary health knowledge, attitudes, behaviors, and habits. In recent years, there has been a shift in the focus of patient education, moving away from solely concentrating on illness pathophysiology and treatment, to also encompass disease prevention, patient development, and the involvement of the patient's family in care management. Specifically, preoperative patient education plays a significant role in providing patients with essential health information, psychological support, and the opportunity to develop specific skills post-surgery. This nursing intervention is designed to enhance patient self-efficacy and is based on current trends and early scheduling of educational interventions. It involves repeated oral briefings and the provision of informative leaflets, with a focus on postoperative management and appropriate follow-up care.

The realm of preoperative education encompasses a wide array of interventions, including the provision of didactic information regarding various diseases, their diagnosis, symptoms, and management strategies. This also extends to encompass self-management techniques, pharmacologic treatments, and behavioral strategies like physical activity and smoking cessation. Patients who have opted for surgery, along with their family and caregivers, stand to benefit from practical education about the surgical procedure, hospital experience, and perioperative care, which serves to facilitate recovery and alleviate anxiety. Furthermore, patient education involves the dissemination of therapeutic strategies related to medication usage both before and after the operation, as well as throughout the patient's life. This includes information on expected benefits, risks of adverse events, and potential interactions with concurrent medications. In a patient-centered care model, patients and their families engage in a shared decision-making process with a multidisciplinary team of care providers. This collaborative approach aims to promote a safe and successful surgical experience, ultimately leading to positive long-term outcomes in terms of both quality of life and emotional well-being. Developing formal preoperative teaching programs for nurses in perioperative settings has proven to be a challenging endeavor. While nurses play a crucial role in patient education, there is limited

understanding of their current practices in providing preoperative teaching for surgical patients (Yalew et al., 2020). Despite the widely recognized importance of preoperative teaching, its implementation, particularly in developing countries, remains low. This is largely attributed to factors such as lack of awareness, insufficient knowledge among staff nurses regarding the concept of preoperative teaching, nursing shortages in hospitals, and challenges related to time constraints and work overload (Engidaw et al., 2019). Addressing these barriers is essential to ensure that surgical patients receive comprehensive preoperative education and support.

OBJECTIVES

1. To educate and counsel the patient concerning the surgery and their expectations.
2. To promote positive outcomes through preoperative education interventions
3. To establish rapport with patients so as to alleviate anxiety,
4. To assist clients and their significant others through the surgical episode
5. To help clients achieve their optimal level of formation and wellness after surgery.

LITERATURE REVIEW

Preoperative education is a crucial step in ensuring that patients are prepared for their surgeries. It's a teaching that is aimed at meeting the patients one on one to interact, assess, educate and form a rapport with the patient prior to the surgery. During this teaching, the health care provider will review the patient's medical history, medications and any allergies they may have and also provide an opportunity for the patient to ask questions and to voice any concerns they may have concerning the surgery.

The expanded scope of preoperative training includes the preoperative, intraoperative, and postoperative phases, which contributes to the continuity of patient care. This education raises nurses' awareness of the dangers that patients may face before and after surgery, as well as how to avoid such risks, through comprehensive preoperative training (Ali and Malik, 2015). Perioperative nurses review critical data prior to surgery in order to plan ahead and prepare for expectations. They also foster meaningful nurse-patient relationships; for example, some patients are hesitant to reveal their feelings and require someone in a short-term relationship with them, which contributes to other cooperation and involvement by facilitating communication.

Preoperative teaching is an important aspect in improving the health outcomes of patients undergoing

surgery, and it can be a multidisciplinary approach that requires the harmonization of knowledge and information among nurses, surgeons, anesthesiologists, dieticians, and physiotherapists to coordinate patient care (Ali and Malik, 2015). Pre-operative instruction includes patient education, preparation, lowering surgical stress response, maintaining postoperative physiological function, minimizing pain and discomfort, and promoting patient autonomy (Gerlitz et al., 2017). Preoperative teaching has been used to improve patients' experiences by providing health care, relevant information, coping skills, and physiological support prior to surgery, promoting positive postoperative outcomes and reducing postoperative complications for surgical patients (Guo et al., 2014). These patient educations are provided by perioperative nurses who have completed a perioperative nursing specialty at a reputable institution and are skilled in interviewing and assessment. The interview allows nurses to learn about the patient, establish rapport, and develop a plan of care before bringing the patient to the perioperative environment.

Standard protocol for preoperative teaching

The overall goal of preoperative teaching is to improve recovery following surgery, which includes patient education and preparation, lowering surgical stress, maintaining postoperative physiological function, reducing pain and discomfort, and promoting patient independence. Preoperative training of surgical patients comprises expectations of surgical procedures, drugs, and food restrictions before to undergoing surgical care, as well as postoperative instructions (Gross Weile, 2016). Prior to the surgery, it is important for the patient to refrain from using lotions, creams, or makeup as these substances may cause irritation to the skin and eyes while under anesthesia. Additionally, the patient should be aware that certain medications can interfere with the surgical procedure. It is advised to take prescribed medications with only a small sip of water on the day of surgery. Furthermore, before entering the operating room, the patient must remove any dentures, glasses, contact lenses, appliances/prosthetics, makeup, nail polish, and hairpins. These precautions are essential for ensuring a safe and successful surgical experience. Inform him or her that valuables and jewellery should be given to family members or friends, or locked in the ward manager's office or patients' lockers.

In addition to the preoperative teaching, it is important to provide information on the administration of premedication and prepare the patient for the sensation they may experience when anesthesia is induced. Patients should also be informed about what to expect preoperatively, including the frequent monitoring of vital signs, Intravenous Infusion (IV) and wound drains.

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It is crucial to educate surgical patients about the expected postoperative activities such as activity restrictions, deep breathing and coughing exercises, as well as early ambulation with the support of nursing personnel (Figure 1). Furthermore, patients should be made aware of the medications available for managing pain and nausea, if necessary. Lastly, any other specific information relevant to the planned surgery should be communicated to the patient to ensure they are well-informed and prepared for their surgical experience (Koutoukidis et al, 2017).



Figure 1: Preoperative Teaching/Patient Assessment
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Interventions

Patients awaiting surgery often undergo significant physical and psychological stress. However, research indicates that preoperative education interventions can result in positive postoperative outcomes for surgical patients. By providing patients with comprehensive information about their upcoming procedure, potential risks, and postoperative care, healthcare providers can help alleviate anxiety and better prepare individuals for the surgical experience. This, in turn, can contribute to improved recovery and overall patient satisfaction. As such, integrating preoperative education as a standard practice in surgical care may offer valuable benefits for both patients and healthcare provider.

The effectiveness of interventions for patients undergoing cardiac surgery remains an area with limited understanding. A recent study involved 153 adult patients who were undergoing cardiac surgery, and they were randomly assigned to either a usual care control group (n=77) or a Preoperative education group (n=76) which received usual care along with an information leaflet and verbal advice. The primary outcome measured was the

change in anxiety using the Hospital Anxiety and Depression Scale (HADS) before randomization and at seven days following surgery (Zhuo et al., 2023). This study contributes to the growing body of literature on interventions for patients undergoing cardiac surgery, shedding light on the potential impact of preoperative education on anxiety levels in this patient population.

The study examined secondary outcomes including changes in depression (HADS), changes in pain as measured by subscales of the Brief Pain Inventory-Short Form (BPIsf), length of intensive care unit stay, and postoperative hospital stay. A total of 153 participants were randomized, with 135 (88.2%) completing the trial. Participants who received preoperative education experienced a greater decrease in anxiety score, with a mean difference of 3.6 points and a 95% confidence interval. Additionally, they also experienced a greater decrease in depression score, with a mean difference of -2.1 points and a 95% confidence interval, compared to those who did not receive preoperative education. However, there was no significant difference between the groups in average pain and interference in general activity, mood, and walking ability. Based on the findings, patients who underwent preoperative education reported a decrease in pain interference and a notable reduction in the duration of intensive care unit stay. Additionally, preoperative education demonstrated effectiveness in alleviating anxiety and depression among inpatients. Considering the existing evidence and international standards, it is recommended that preoperative education be integrated into standard practice to adequately prepare inpatients for surgical procedures.

Guidelines to preoperative education

Upon receipt of the patients list for upcoming surgeries, my objective is to compile essential information such as ward assignment, date of admission, diagnosis, planned surgical procedures, and patient hospital number. Subsequently, I will arrange educational sessions at a suitable time for both patients and their family members. During these interactions, I will formally introduce myself to the patient and their family, and provide a clear explanation of the purpose behind my visit or teaching activities. This is done to ensure that the patients and their families understand that such discussions are standard procedure and to prevent any misunderstanding regarding the intent of my presence. Furthermore, I will collaborate with ward nurses to gather any additional necessary information. During the preoperative interview, it is essential to ensure that the patient comprehends the upcoming surgical procedure. It is important to provide the patient and their family members with general information about the operating room, intraoperative nursing care, and the schedule for the surgery. Additionally, the patient should be informed about the

requirements of the proposed surgery and what to expect in the operating and recovery rooms. Throughout the interview or teaching session, it is crucial to create an open environment for questions and expression of feelings from the patient and their family members. This allows for clarification of specific concerns regarding the surgical procedures and the administration of anesthesia during the procedure.

Upon evaluation of the patient and their family members, it is essential to assess their level of anxiety in relation to the upcoming surgery and hospitalization. It is imperative to address and manage their anxiety to the best of our ability. When communicating with the patient, it is important to maintain an attitude of hope and reassurance, particularly in regards to the competency of the operating room staff (Figure 2). The assessment of the patient should follow the nursing process approach, with a focus on pre, intra, and postoperative potential challenges (Philips, 2017). This comprehensive approach will allow for a thorough understanding of the patient's needs and concerns, and enable us to provide the best possible care and support.



Figure 2: Preoperative Teaching/Patient Assessment
<https://www.shutterstock.com>

Pros of preoperative teaching

The preoperative teaching which is carried out by an experienced perioperative nurse helps to orient and prepare both patients and families for the postoperative period and to improve individualized intraoperative nursing care and efficiency (Philip, 2017)

Improved patient preparation

Perioperative teaching is a crucial aspect of the perioperative nurse's role, as it enables patients to be fully prepared for their upcoming surgical procedure. Through this process, patients are not only informed about the physical aspects of the surgery, but also supported mentally and emotionally.

It provides a platform for patients to address any concerns or queries they may have, ensuring that they are well-equipped to face the procedure with confidence. This proactive approach ultimately contributes to a smoother and more successful surgical experience for the patient.

Reduced anxiety

Prior to undergoing a surgical procedure, patients often encounter feelings of anxiety. To address this, perioperative nurses play a crucial role in alleviating patient concerns through preoperative teaching. By offering comprehensive information about the surgical process, as well as detailing what to anticipate both during and after the procedure, nurses can effectively reduce patient anxiety. This proactive approach not only fosters a sense of reassurance but also empowers patients to approach their surgical experience with a greater sense of understanding and confidence.

Identification and management of abnormalities

During preoperative teaching, the perioperative nurse plays a crucial role in identifying and managing any pre-existing abnormalities that could potentially heighten the risk of complications both during and after the surgical procedure. For example, a patient with diabetes may require close monitoring of their blood sugar levels throughout the entirety of the procedure and during the postoperative period. By recognizing and addressing such factors proactively, the perioperative nurse contributes to the overall safety and well-being of the patient, ensuring a more successful surgical outcome.

Improved communication

Preoperative teaching serves as a crucial platform for patients to effectively communicate their concerns and preferences to their healthcare provider. This exchange of information also enables healthcare providers to impart vital details to the patient, including pre-surgical preparation and post-operative care instructions. As such, preoperative teaching plays a pivotal role in ensuring that patients are well-informed and prepared for their upcoming surgical procedures, ultimately contributing to improved patient outcomes and satisfaction.

Enhanced patient safety

Preoperative teaching plays a crucial role in improving patient safety by allowing healthcare providers to identify potential risks and complications related to the surgical procedure. This, in turn, enables perioperative nurses to take proactive measures to minimize these risks and

ensure that the patient receives optimal care throughout the surgical process. By imparting necessary information and guidance to patients prior to their surgery, healthcare professionals can effectively enhance patient safety and contribute to better overall outcomes.

Improved patient outcome

Preoperative teaching allows health care professionals to identify and manage any potential risk or complications that may arise during or after surgery, this can lead to a better outcome for the patient'

Cons of preoperative teaching

Cost containment measures: may not provide adequate staffing to allow time to visit and teach the patient.

Limited understanding of the surgical procedure

Effective preoperative teaching is essential to ensure that patients have a thorough understanding of their upcoming procedure. Without this crucial education, patients may be left with limited knowledge about what to expect. Additionally, it is imperative that nurses possess strong interviewing skills in order to effectively communicate with patients and address any concerns they may have. Failure to do so may result in patients feeling as though their privacy has been compromised. Furthermore, the process can become challenging and frustrating when dealing with a high volume of patients or those who are uncooperative. The timing of preoperative teaching can also present difficulties, particularly when patients are admitted on the day of surgery or late the day before, and in cases of emergency surgeries where schedules may be unpredictable. These factors highlight the importance of a well-structured and adaptable approach to preoperative education for patients.

Repetition

During interview may lead to a stereotyped manner and lack of enthusiasm and unity on the part of the nurse teaching / interviewee

The importance of postoperative instructions

When it comes to surgery, it is common for individuals to experience apprehension and concern about the prospect of undergoing a procedure. This is a natural response, given that they will be under sedation and entrusting their well-being entirely to their medical team. Surgeons often emphasize to their patients that while they have limited control while under anesthesia, their actions and adherence to postoperative care instructions play a crucial role in ensuring the success of the procedure.

Unlike the surgical process itself, postoperative care is a responsibility that lies within the patient's control and should be approached with the utmost seriousness.

Reasons why postoperative instructions must be followed meticulously

To prevent infection

In order to minimize the risk of postoperative infection, it is essential for patients, particularly those who are older, obese, or have weakened immune systems, to strictly adhere to specific postoperative instructions. It is crucial for patients to maintain cleanliness and ensure proper coverage of the incision sites. Moreover, it is imperative for individuals to wash their hands before tending to or touching the incision area, especially when receiving assistance from a third party. Wearing gloves and a face mask is strongly recommended in such instances. Additionally, patients should avoid unnecessary contact with the wounds to prevent the disruption of stitches and the potential entry of bacteria into the body. These measures are crucial in preventing postoperative infections and promoting optimal recovery.

To prevent complications

The successful outcome of surgery is contingent upon strict adherence to post-operative instructions to mitigate potential complications such as deep vein thrombosis, characterized by the formation of blood clots within major veins. These clots can manifest in various parts of the body, posing risks if dislodged and traveling to vital organs. For instance, when a clot reaches the lungs, it can obstruct pulmonary arteries, precipitating a life-threatening pulmonary embolism. Similarly, if the clot migrates to the brain, it can lead to speech and vision impairments, dizziness, headaches, and even a stroke. To avert such grave outcomes, patients are frequently counseled to engage in specific exercises aimed at enhancing oxygen delivery to cells. Additionally, standard post-operative directives encompass maintaining adequate hydration, sterilizing all equipment, and rigorously adhering to surgical aseptic protocols.

To speed up recovery:

After surgery, the patient must thoroughly cooperate with post-operative instructions in order to recover quickly. Adherence to prescribed prescriptions is vital, even if the patient believes they are unnecessary. It is critical to rigorously adhere to any limits on movements or activities, such as driving, as prescribed by the medical staff. Compliance with wound care, physical therapy, medications, and specific diets, while somewhat excessive, is critical to ensuring a quick recovery without

complications. It is critical that the patient does not dismiss or replace these instructions with third-party counsel, as doing so may unwittingly jeopardize their own health. Effective communication and preparation within the healthcare team are critical to avoiding contradicting advice, which can lead to patient worry. As a result, precise and unambiguous information should be supplied to avoid potential misconceptions and facilitate a successful recovery.

Barriers to pre-operative nursing teaching

1. Wrong timing of surgeries
2. Lack of time by Pre-operative nurses
3. Inadequate knowledge of preoperative education or teaching among perioperative nurses
4. Shortage of perioperative nurses
5. Hospital policy
6. Reluctance by the surgeons and anesthetists to allow the perioperative nurses to conduct visit or teaching of the surgical patients
7. Lack of Interest by the perioperative nurses

Summary

Perioperative education is an important step in the preparation for a surgical procedure. The preoperative teaching is carried out by an experienced perioperative nurse to help orient and prepare both patient and family for the postoperative period and to improve individualized intraoperative nursing care and efficiency. The teaching involves a comprehensive assessment of the patient's medical history and physical condition to identify any potential risks associated with the surgery, the benefits of the teaching improves patient preparation, reduced patient anxiety, identification and management of abnormalities and improved communication. However, there are several negative effects on patients if this teaching is not carried out. Barriers to the practice of preoperative teaching include wrong timing of surgeries, lack of time by the perioperative Nurses, inadequate knowledge of preoperative teaching among Nurses, shortage of perioperative nurses among others. Healthcare organization should help in provision of educational resources as well as support continuous education among nursing specialty in perioperative nursing. This would help the organization to build nurses who are more knowledgeable on importance of preoperative teaching, its benefits and how to improve policies regarding preoperative teaching in order to provide quality preoperative nursing care.

Conclusion

Preoperative teaching is an essential component of ensuring patient's safety and well-being before, during

and after surgical procedures. By conducting a thorough assessment of the patient's medical history and physical condition, perioperative nurses can identify potential risks and take steps to mitigate them. Clear communication and education are also keys to ensuring that a patient is well-informed and prepared for surgery by implementing standardized protocols and providing Comprehensive support, healthcare organizations should ensure that patients has surgical experience and a successful recovery.

Recommendations

Continuous education

Nurses should endeavor to attend continuous education such as Post Basic programme or Postgraduate programme in perioperative nursing especially those working in the theatre complex in other to ensure they have the necessary knowledge on preoperative teaching as well as it's protocol, including how to communicate with patients, how to gather necessary information, and how to coordinate with the surgical team.

To the patients

Perioperative nurses should ensure that a patient is well informed about the preoperative teaching process, including why it is important and what to expect during the teaching. Provide patients with any necessary instructions or information prior to their appointment.

Schedule appointments

Perioperative nurses should schedule preoperative teaching for patients who are scheduled for surgery. Ensure that appointments are scheduled with enough time to allow for the necessary assessments, tests, and communicate with them.

Liase with other surgical teams

Perioperative Nurses should liase with the surgical team such as anaesthetist and surgeons to ensure that they are aware of the preoperative teaching process and to provide them with any necessary information gathered during the teaching.

To heath care organizations

Adequate staffing

Having adequate staffer is essential to the success of preoperative teaching. Shortage of Perioperative nurses can result in rushed assessments, inadequate patient education, and increased risk, errors or complications

during surgery. Adequate staffing of Perioperative nurses and other surgical teams also ensure the provision of timely follow-up care and address any issues or concerns that may arise after the procedure.

Develop preoperative education protocol

Develop a protocol for preoperative teaching that outlines the necessary steps and procedures to ensure consistency across the organization. This protocol should include guidelines for patient selection, scheduling, and communicate with the surgical team.

Assigning of theatre managers

The health care organizations should assign theatre managers to oversee the preoperative teaching process, including scheduling appointments, coordinating with the surgical team, and providing patients with necessary information.

Provision of feedback to the theatre managers

The health care organization should ensure that feedbacks are provided to the theatre managers on the results of the preoperative teaching process. The feedback can be used to improve the process and to ensure that the patients receive the best possible care.

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