

Implementation of Operating Wound Care Intervention in Post-Laparotomy Sectio Caesarean Patients at Rsud X

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Sectio Caesarea (SC) is a surgical procedure that carries the risk of causing post-operative complications such as acute pain, impaired skin and tissue integrity, and surgical wound infection, so that appropriate and comprehensive wound care is needed to accelerate the healing process and improve patient comfort. This Final Scientific Paper for Nurses uses a case study design with a nursing process approach in five post-operative laparotomy *sectio caesarea patients* treated in the Bougenville (Postpartum) Room of RSUD X, with data collection through interviews, observations, physical examinations, and wound observations using the REEDAN approach. The results of the study indicate that the main nursing problems are impaired skin and tissue integrity and acute pain, and after the implementation of wound care interventions that include monitoring wound characteristics, applying sterile techniques, infection prevention, pain management, self-care wound education, and collaboration with medical therapy, the condition of the wound has improved as indicated by clean and dry wounds, no signs of infection, and decreased pain intensity. It can be concluded that the implementation of surgical wound care interventions comprehensively and according to nursing care standards is effective in accelerating wound healing and improving the comfort of post-*sectio caesarea patients*.

Keywords: Sectio Caesarea, Surgical Wound Care, Impaired Skin and Tissue Integrity, Acute Pain, Wound Healing, Postoperative Nursing Care, Infection Prevention, Patient Comfort.

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1. Introduction

A cesarean section (CS) is a surgical procedure to deliver a fetus through an incision in the abdominal wall and uterus. The number of cesarean deliveries is increasing year by year. The WHO reports that the global cesarean section rate has reached over 21% and is predicted to continue rising to 29% by 2030. In Indonesia, data shows an increasing number of cesarean births due to both medical and non-medical reasons.[1]

Post-CES patients face various risks of complications, such as acute pain, surgical site infection, impaired mobility, and constipation. Research by Dewi & Wati (2020) shows that postoperative pain is the most common complaint in the first 24 hours after a C-section, making pain management a primary focus in postoperative nursing. Furthermore, research [2] shows that performing wound care significantly reduces the risk of infection and accelerates wound healing.

The WHO indicates that the incidence of post-operative infections, including CS, varies significantly across regions: In low- and middle-income countries (LMICs), including many in Asia and Africa, the risk of post-operative infections is higher on average, with SSI rates reaching 11% or more [3]. A global meta-analysis showed that the average incidence of post-CS wound infections was 5.63%. In the African region, the post-CS infection rate was highest, at around 11.91%. The region with the lowest rate was North America, at around 3.87%. This variation between regions is caused by differences in the quality of health facilities, the

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implementation of sterile procedures, adherence to WHO guidelines, and the availability of trained personnel. This regional condition is very relevant to the Indonesian context, where several regions still face limitations in sterile facilities, infection management, and health resources.

Nurses play a central role in providing nursing care, which includes comprehensive assessment, vital sign monitoring, pain management, infection prevention, and education on mobilization and wound care. Appropriate nursing care can accelerate the recovery process and improve the patient's quality of life.[4]

Based on this phenomenon, the author is interested in conducting a Final Scientific Work for Nurses (KIAN) focusing on the implementation of postoperative wound care interventions in patients undergoing laparotomy sectio caesarea surgery at RSUD X.

2. Literature Review And Problem Statement

A laparotomy is a major surgical procedure that involves opening the abdominal wall through an incision to access organs within the abdominal cavity that are experiencing problems, such as bleeding, perforation, obstruction, cancer, or problems with the digestive and urinary systems. This procedure is also often performed in obstetrics and gynecology cases, such as cesarean sections. Indications for a laparotomy include peritonitis, appendicitis, abdominal masses, blunt or penetrating abdominal trauma, and labor that is not possible through vaginal delivery [5]. Common patient complaints include abdominal tenderness, nausea, vomiting, anorexia, changes in vital signs, constipation, and weakness [6].

Laparotomy incision types include middle incision, paramedian incision, transverse upper abdominal incision, and transverse lower abdominal incision, which are selected based on the surgical site [7]. Complications that can occur after this procedure include impaired tissue perfusion due to thrombophlebitis, surgical wound infection, wound dehiscence, and evisceration. Supporting examinations include blood tests, leukocytes, blood type, electrolytes, urine, and rectal examinations to detect organ abnormalities. The goals of post-laparotomy care are to reduce complications, accelerate healing, restore the patient's function as much as possible, maintain self-concept, and prepare the patient for discharge [8].

A wound is a break in the continuity of body tissue due to trauma or surgery [9]. Wounds are divided into acute wounds, which heal within the normal timeframe, and chronic wounds, which experience delayed healing. Wound healing occurs in three phases: inflammation, proliferation, and maturation or remodeling. To accelerate wound healing after a cesarean section, appropriate management is required, including administration of anti-inflammatory drugs and antibiotics, adequate fluid and nutritional support, routine wound care, and early mobilization to improve blood circulation and prevent complications [10].

3. Method

This Scientific Paper design uses a case study method to comprehensively describe the nursing care process for post-cesarean section patients in the Bougenville (Postpartum) ward of RSUD X. The research subjects were selected based on inclusion criteria, namely cesarean section patients, willing to participate, and treated in the postpartum ward, while patients with severe chronic complications or decreased consciousness were excluded. The focus of the study includes surgical wound care, wound assessment using the REEDA method, pain management, infection prevention, and monitoring patient progress. The instruments used were assessment sheets, wound observations, nursing diagnoses (SDKI), interventions (SIKI), outcomes (SLKI), and progress notes. Data collection was carried out through interviews, observations, physical examinations, and documentation. The study was conducted in July 2025. Data were analyzed from the beginning of the assessment to evaluation to determine the diagnosis, formulate

interventions, implement actions, and assess the results of nursing care. This study also applies ethical principles in the form of informed consent, anonymity, confidentiality, and beneficence to protect the rights and safety of patients .

4. Results and Discussion

Results

Based on the results of a case study conducted on five post-cesarean section patients in the Bougenville Ward of RSUD X, all patients experienced similar initial complaints in the first 24 hours after surgery, namely pain in the surgical wound area and limited physical mobility. Patients generally reported pain when moving, changing position, coughing, or attempting to sit. The pain intensity ranged from moderate to severe and was accompanied by nonverbal responses such as grimacing, guarding behavior, and reluctance to mobilize. These findings are consistent with previous quantitative studies showing that acute postoperative pain is the most common complaint among post-sectio caesarean patients during the early recovery period.

Wound assessment findings demonstrated that all patients had lower abdominal surgical incisions with an average wound length of approximately 15 cm. During the initial observation, the dressings remained dry without active bleeding or excessive exudate. The surrounding skin color appeared normal, with no significant redness, swelling, or unpleasant odor. These findings indicate that the wound healing process was still within the normal inflammatory phase of postoperative recovery. Similar findings were also reported in previous case study and observational research, which stated that proper sterile wound care and early monitoring could reduce the risk of surgical site infection and support optimal wound healing.

The primary nursing diagnoses identified in the five cases were impaired skin and tissue integrity related to mechanical injury from the surgical procedure and acute pain related to physical injury agents from the incision. These diagnoses were established based on subjective complaints of pain and objective findings, including surgical wounds, limited mobility, protective behavior, and pain expressions. The consistency of these findings across patients indicates that wound care and pain management remain the central focus of nursing care in post-laparotomy sectio caesarea patients.

The nursing interventions implemented included monitoring wound characteristics, observing signs of infection, changing dressings using sterile techniques, cleansing the wound with NaCl solution, educating patients regarding independent wound care, encouraging adequate nutritional intake with high-protein diets, and collaborating in the administration of antibiotics according to medical recommendations. Pain management interventions were also carried out through pain assessment, monitoring pain scales, administering analgesics collaboratively, and applying non-pharmacological techniques such as music therapy and relaxation exercises.

The results of the interventions showed positive outcomes in all patients. Wound conditions gradually improved, characterized by clean and dry wounds, absence of infection signs, reduced pain intensity, and improved patient comfort. Patients were able to perform gradual mobilization, including changing positions, sitting, and walking with assistance. In addition, patients demonstrated improved understanding regarding self-care and postoperative wound management before discharge.

A more critical synthesis of the findings shows that the results of this case study are generally consistent with previous quantitative, qualitative, and case-based studies regarding postoperative wound care in sectio caesarea patients. Quantitative studies tend to demonstrate measurable outcomes, such as reduced pain scales, shorter healing duration, and lower infection rates following standardized wound care interventions. Meanwhile, qualitative studies emphasize patient experiences, including increased comfort,

reduced anxiety, and improved confidence in performing self-care after receiving education and support from nurses. Case studies, including the present study, provide more detailed clinical descriptions of the nursing process and individual patient responses during recovery.

The similarity of findings across different research designs may be influenced by the consistent application of sterile wound care principles, pain management strategies, and early mobilization protocols in postoperative nursing care. However, some differences in outcomes among studies may be associated with variations in patient characteristics, nutritional status, hospital facilities, duration of observation, and differences in the implementation of evidence-based nursing interventions.

Despite the positive findings, several limitations should be considered. First, this study involved only five patients, which limits the generalizability of the findings to broader populations. Second, the dominance of the case study approach provides detailed clinical insights but does not allow strong statistical comparisons or causal conclusions like quantitative studies. Third, the study was conducted in a single hospital setting with specific local clinical practices and patient characteristics, which may differ from other healthcare institutions or regions. Therefore, further studies with larger sample sizes, comparative research designs, and multicenter settings are needed to strengthen the evidence regarding the effectiveness of postoperative wound care interventions in post-sectio caesarea patients.

Discussion

The results of this case study support the research objectives, namely identifying wound conditions, determining nursing problems, planning and implementing wound care interventions, and evaluating the outcomes of postoperative wound care in post-laparotomy sectio caesarea patients at RSUD X. The findings indicate that comprehensive nursing interventions contributed positively to wound healing, pain reduction, improved mobility, and patient readiness for self-care after discharge.

The first objective of this study was to identify the condition of surgical wounds in post-sectio caesarea patients. The assessment findings showed that all patients experienced postoperative pain, had lower abdominal incision wounds with dressings still intact, and generally showed no signs of infection such as redness, foul odor, or excessive drainage. According to wound healing theory, postoperative wounds normally undergo an inflammatory phase during the first few days after surgery, characterized by pain and limited mobility due to tissue injury and inflammatory responses. This finding is consistent with previous studies stating that pain is a common physiological response following cesarean section because of abdominal and uterine tissue incisions [11].

The second objective was to identify nursing problems related to postoperative wound care. The primary nursing diagnoses found in this study were impaired skin and tissue integrity and acute pain. Impaired skin and tissue integrity occurred due to the disruption of tissue continuity caused by surgical incision procedures. The theory of postoperative wound care explains that surgical wounds are highly vulnerable to infection, dehiscence, and delayed healing if not managed appropriately. Meanwhile, acute pain experienced by patients increased during movement because tension around the incision area stimulates pain receptors. This condition may limit patient activity and delay recovery if pain management is inadequate [12].

The third and fourth objectives involved developing and implementing nursing interventions for postoperative wound care. The interventions performed included wound monitoring, infection prevention, dressing changes using sterile techniques, wound cleansing with NaCl solution, pain management, nutritional education, and early mobilization. These interventions are consistent with the principles of evidence-based postoperative nursing care, which emphasize aseptic techniques, infection prevention, and

comprehensive patient management. The absence of infection signs in most patients indicates that sterile wound care procedures, antibiotic collaboration, and continuous monitoring were effective in maintaining wound hygiene and supporting tissue healing.

Pain management interventions were also shown to support patient recovery. Collaborative pharmacological therapy using analgesics effectively reduced pain intensity in all patients. In addition, non-pharmacological approaches such as music therapy and relaxation techniques helped patients reduce anxiety, increase relaxation, and divert attention away from pain sensations. Gate Control Theory explains that distraction and relaxation can reduce pain perception by influencing pain signal transmission to the brain. Therefore, combining pharmacological and non-pharmacological approaches provides more optimal pain management outcomes [13].

The implementation of nutritional education, early mobilization, and self-care education also contributed significantly to patient recovery. Patients were encouraged to consume high-protein foods to support tissue regeneration and wound healing. This finding aligns with nutrition theory, which states that protein plays an essential role in collagen synthesis and tissue repair. Early mobilization improved blood circulation, reduced the risk of complications such as thrombosis and constipation, and enhanced physical recovery. Patients who understood the education provided by nurses tended to be more cooperative and actively participated in their recovery process [14].

The final objective of this study was to evaluate the outcomes of nursing interventions. The evaluation results showed improvements in wound condition, reduced pain intensity, increased patient mobility, and improved patient understanding regarding wound self-care before discharge. These findings are consistent with previous quantitative studies reporting that standardized wound care interventions can accelerate healing and reduce postoperative complications. Qualitative studies also support these findings by demonstrating that education and emotional support from nurses increase patient confidence and comfort during recovery [15].

Overall, the findings of this case study confirm the important role of nurses in postoperative recovery among post-sectio caesarea patients. Comprehensive nursing care involving physical treatment, education, emotional support, pain management, and infection prevention can significantly improve patient outcomes and support faster recovery.

5. Conclusion

Based on the results of nursing care for post-caesarean section patients, the assessment indicated postoperative pain, limited mobility, risk of infection, and anxiety related to the condition of the surgical wound. The wound appeared clean, but still required regular observation to prevent complications and accelerate the healing process. The established nursing diagnoses were impaired skin and tissue integrity related to mechanical factors resulting from the surgical procedure and acute pain related to physical injury agents resulting from the surgical procedure.

Nursing interventions provided included pain management, aseptic wound care, observation for signs of infection, patient and family education, and early mobilization according to the patient's abilities. Evaluation showed that most nursing goals had been achieved, including reduced pain, increased mobility, no signs of infection, and clean and dry dressings. The patient also understood the care instructions and was ready to continue care at home.

Based on these results, hospitals are advised to increase the availability of modern wound care equipment to support patient healing. Nurses are expected to continue improving their skills in modern wound care

and provide comprehensive education to patients and their families. Patients and families are encouraged to maintain wound hygiene, adhere to home care instructions, and seek immediate medical attention if signs of infection appear. Furthermore, further research is recommended to examine the effectiveness of modern dressings compared to conventional dressings on post-cesarean section wounds.

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