Nursing care foor acute pain with foot massage therapy for post-caesarean section patients: case report

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Abstract
Placenta previa is an obstetric complication that can cause antepartum hemorrhage and increase the risk of morbidity and mortality for both mother and fetus. Management of placenta previa generally requires cesarean section, which may lead to nursing challenges such as acute pain, impaired physical mobility, and risk of surgical wound infection. Comprehensive nursing care is essential to support postpartum recovery. This report aims to describe the maternity nursing care process for a patient post-cesarean section with placenta previa. A case study method was used, employing the nursing process approach on a postpartum patient who underwent cesarean section due to placenta previa. Assessment results showed the patient experienced acute pain at the surgical site, impaired physical mobility, and risk of surgical wound infection. Evaluation revealed decreased pain intensity, improved mobility, and no signs of wound infection. Comprehensive and collaborative nursing care involving the family is crucial to accelerate recovery in patients post-cesarean section with placenta previa. A holistic approach through pain management, early mobilization, and infection prevention can enhance patient comfort and safety during the postpartum period.

Keywords: acute pain; cesarean section, mobilization; nursing care; placenta previa; surgical wound infection

1. Introduction

Placenta previa is one of the obstetric complications characterized by the placenta attaching to the lower part of the uterus, partially or completely covering the birth canal. The global incidence of placenta previa ranges from 0.3% to 0.5% of all pregnancies and remains a leading cause of antepartum hemorrhage, increasing the risk of maternal and fetal morbidity and mortality (Ramadhan, 2022).

The management of placenta previa generally requires operative delivery in the form of a cesarean section to prevent more severe complications such as massive bleeding and shock (Wardhana et al., 2022). A cesarean section is a major surgical procedure that may cause various nursing problems, including acute pain, impaired physical mobility, and an increased risk of infection due to the surgical wound (Santika & Iskandar, 2021).

According to research by (Suastini & Pawestri, 2021) post-cesarean pain is a primary complaint experienced by postpartum mothers, which can affect their recovery process and ability to mobilize and perform self-care. Furthermore, impaired physical mobility caused by pain and muscle weakness may increase the risk of other complications such as thrombosis and delayed wound healing (Aisyah et al., 2023). The risk of infection also increases due to the presence of a surgical wound, thus requiring proper nursing education and intervention to prevent infections (Nainggolan et al., 2022).

Mrs. R, a 26-year-old primigravida mother, was hospitalized at RSU PKU Muhammadiyah Bantul with an indication of placenta previa and underwent a cesarean section. The patient experienced pain at the surgical site, limited mobility, and was at risk of wound infection. This condition demands comprehensive and integrated nursing care, including pain management, early mobilization education, and infection prevention through nutritional and personal hygiene education. Based on the above explanation, this nursing care report was prepared to describe the maternity nursing care process for a patient post-cesarean section with placenta previa, serving as a reference for managing similar cases and improving the quality of maternity nursing services.

2. Methods

The writing of this nursing care report uses a case study method with a nursing process approach

for a postpartum patient who underwent a cesarean section due to placenta previa. The nursing process was carried out systematically through the stages of nursing assessment, data analysis and diagnosis formulation, nursing care planning, nursing implementation, nursing evaluation, and nursing documentation.

3. Results and Discussion

3.1. Results

3.1.1. Assessment Data

3.1.1.1. General Patient Data

Mrs. R, a 26-year-old married woman with a bachelor's degree in accounting, lives in Glutung Lor RT 02, Catuharjo, Pandak, Bantul. The patient was diagnosed with G1P0 with a gestational age of 38+4 weeks and placenta previa. A cesarean section was performed on February 27, 2025, at 08:00 WIB.

3.1.1.2. Responsible Person Data

The patient's husband, Mr. H, 27 years old, has a Bachelor's degree in Law, works as a private employee, lives at the same address as the patient.

3.1.1.3. Complaints of Hospital Admission

The patient came for a routine pregnancy checkup and was diagnosed with placenta previa on ultrasound, requiring a cesarean section. Post-operatively, the patient was transferred to the An-Nisa ward.

3.1.1.4. Main Complaint

The patient complained of abdominal pain in the area of the former cesarean section. According to (Ahmad & Taufik, 2021) pain in the area of a cesarean section is a common complaint experienced by postoperative patients and can persist for the first 48 hours after surgery. This pain is caused by incisions in the abdominal wall and uterus, which trigger peripheral and central nervous system sensitization, resulting in hyperalgesia and allodynia, which exacerbate the patient's pain perception. Adequate pain management is crucial to provide comfort, inhibit nociceptive impulses, and suppress the neuroendocrine response to pain, ultimately accelerating the patient's physiological recovery.

3.1.1.5. Pregnancy and Childbirth History

The patient underwent 10 prenatal checkups during the first, second, and third trimesters without any significant complications. Delivery was by cesarean section on February 27, 2025. A healthy baby girl was born, weighing 2,800 grams and measuring 49 cm long, with no postpartum complications. The patient had just started breastfeeding for her first pregnancy.

3.1.1.6. Gynecological History

Menarche at age 13 with a 28-day menstrual cycle, lasting 6-7 days, heavy flow on days 1-3, changing pads four times a day, and complaints of abdominal pain. There was no history of birth control or gynecological disease. According to (Nainar et al., 2023), menarche at age 13 with a 28-day menstrual cycle and lasting 6-7 days is considered normal based on various studies and health guidelines. The normal age of menarche generally ranges from 11 to 14 years, with a stable menstrual cycle of 22-35 days.

3.1.1.7. Current Health Data

Obstetric status G0P1A0, first postpartum day, baby is hospitalized with mother. The patient's general condition is quite good, compos mentis, weight 67 kg with a height of 161 cm.

3.1.1.8. Vital Signs

Blood pressure 112/76 mmHg, pulse 80 beats/minute, body temperature 36.5°C, and respiratory rate 20 breaths/minute.

3.1.1.9. Physical Examination

a. Normal head and neck without lesions or lumps, black hair, normal eyes, non- anemic conjunctiva, white sclera, normal nose, mouth, ears, and neck without thyroid enlargement.
b. Normal chest, heart, and lungs with normal vesicular heart and lung sounds.
c. Firm breasts, dark brown areolas, prominent nipples, milk flow, but still in small amounts.
d. Abdomen: uterine fundus palpable one finger-width below the navel, firm contractions, non-distended bladder, bowel sounds 10 times/minute.
e. Normal perineum and genitalia, normal vagina, intact perineum without REEDA's sign, loose lochia rubra with a fishy odor and stolles, no hemorrhoids.
f. Normal upper and lower extremities without edema, wounds, or varicose veins, with good muscle tone and a negative Homan's sign.

3.1.1.10. Daily Habits Patterns

Elimination is normal, with 8 urination times per day (clear yellow) and 2-3 bowel movements per day (soft). He is well rested, with 6 hours of sleep at night and 1 hour of nap during the day, occasionally waking to urinate. He is not yet able to mobilize independently. Nutrition is met by eating 4-5 times per day and drinking 8-9 glasses of water. The patient is allergic to shrimp.

3.1.1.11. Mental, Social, and Knowledge

The patient appears to be in a happy psychological state; the pregnancy was planned and well-received by her family. There are no specific customs or restrictions. She is able to breastfeed, although her milk supply is still low. Her knowledge of postpartum nutrition, breast care, and personal hygiene is quite good, and she is supported by her family. She has not yet decided on a birth control method.

3.1.1.12. Medications During Postpartum

Patients received mefenamic acid, cefadroxil, metvel, ketorolac injection, and tranexamic acid injection.

3.1.1.13. Supporting Examination

Laboratory results showed non-reactive HIV and syphilis status, with APTT, PPT, Hb, HBsAg, GDS, HMT, platelets, and bleeding time within normal limits. Leukocytes were slightly elevated (11.12 x $10^3/\mu L$), which could indicate a post-operative inflammatory response.

3.1.2. Nursing Diagnosis Analysis

After undergoing a cesarean section due to placenta previa, Mrs. R was treated in the An-Nisa ward at RSU PKU Muhammadiyah Bantul. On the first day of her postpartum period, Mrs. R was still experiencing pain at the surgical site. She frequently complained of stabbing pain in the lower abdomen, precisely at the incision site. The pain scale reported by Mrs. R reached a level of 5, and she grimaced each time she moved or when the wound was touched. Although she had received pain medication, the discomfort persisted, especially when she tried to change positions in bed. This type of pain is generally moderate to severe and may last up to 48 hours post-surgery due to incisions in the abdominal wall and uterus, which lead to peripheral and central sensitization of the nervous system

(Ahmad & Taufik, 2021)

The pain experienced by Mrs. R not only caused discomfort but also limited her movement. She felt weak and was not confident enough to walk on her own. Even to change position from lying down to sitting up, Mrs. R needed assistance from her family. Although her muscle strength was still fairly good, the pain made her hesitant to move more actively. This hindered the mobilization process, even though early mobilization is crucial to prevent post-operative complications. According to various studies, early mobilization after a cesarean section is essential for accelerating wound healing, improving blood circulation, and preventing serious complications such as thromboembolism, infection, and respiratory problems. Early mobilization, even in the form of light movements in bed or simple stretching exercises, can help reduce muscle stiffness, speed up the recovery of physiological functions, and enhance the patient's independence in performing daily activities (Jaya et al., 2023)

In addition, at the site of the surgical wound in the lower abdomen, the nurse observed a slight seepage on the plaster covering the wound. Although the surgical wound had already been dressed with gauze, this condition still raised concerns about the risk of infection. Mrs. R and her family were educated on the importance of maintaining wound cleanliness, washing hands before wound care, and paying attention to nutritional and fluid intake to accelerate the healing process. The prevention of surgical wound infections heavily depends on proper wound care and patient and family education. The education provided to Mrs. R and her family regarding the importance of keeping the wound clean, handwashing before caring for the wound, and ensuring adequate nutrition and fluid intake is strongly aligned with literature recommendations. Hand hygiene is a primary step to prevent bacterial contamination of the wound, while adequate nutrition—especially protein, vitamin C, and zinc plays a crucial role in accelerating tissue healing and boosting the body's resistance to infection.

Based on the assessment and observations during care, the nurse concluded that there were three main problems that needed to be addressed immediately. First, the acute pain experienced by Mrs. R as a result of the surgical procedure. Second, impaired physical mobility due to postoperative pain and weakness. Third, the risk of infection at the surgical wound site caused by compromised skin integrity and slight seepage on the plaster. These three nursing diagnoses are interrelated. Unrelieved pain will slow down the mobilization process, while limited mobility and an incompletely healed surgical wound increase the risk of infection. Therefore, nursing interventions were focused on pain management, support for early mobilization, and infection prevention through education and regular wound monitoring. With collaboration between the nurse, patient, and family, it is expected that Mrs. R's condition will improve promptly and her recovery process will proceed optimally.

3.2. Discussion

3.2.1. Analysis of the Nursing Care Plan

The first and most apparent problem was acute pain at the surgical site. Each time Mrs. R attempted to move, she grimaced in pain. The nursing team did not rely solely on medication but also designed non-pharmacological interventions. They taught Mrs. R's husband the technique of foot massage using olive oil—a simple yet effective method to help reduce pain. In addition, the room environment was adjusted to be comfortable—temperature, lighting, and noise were controlled to allow Mrs. R to rest peacefully. Every change in expression and complaint of pain was closely monitored so that the nurse could adjust interventions as needed.

The second problem was impaired physical mobility. The pain experienced by Mrs. R made her afraid to move. The nursing team understood that early mobilization is crucial to prevent postoperative complications. Therefore, they developed a gradual exercise schedule: starting with turning from side to side, learning to sit up, and slowly progressing to walking around the bed. Each stage was accompanied by a family member, making Mrs. R feel safer and more confident. Education was provided patiently—the nurse explained the goals, benefits, and correct techniques of mobilization. They also monitored vital signs before and after each session to ensure that Mrs. R's condition remained stable.

The third problem was the risk of infection due to the surgical wound. Mrs. R's lower abdominal wound was still fresh, and there was even slight seepage observed on the plaster. The nursing team did not want to take any risks. They routinely monitored for signs of infection, such as redness, swelling, or fever. Every contact with the patient was carried out using proper handwashing

techniques, and the family was also taught how to maintain cleanliness while assisting with wound care. In addition, Mrs. R and her husband were educated on the importance of adequate nutrition and fluid intake sufficient protein and water would help accelerate healing and strengthen the immune system.

Throughout the care process, the nurses consistently involved the family, as emotional and physical support from loved ones played a significant role in Mrs. R's recovery. Each intervention was evaluated regularly—whether the pain had decreased, whether Mrs. R had become more confident in moving, and whether she and her family truly understood the importance of hygiene and nutrition.

3.2.2. Analysis of Nursing Implementation

After undergoing a cesarean section due to placenta previa, Mrs. R received intensive care in the An-Nisa ward. The first issue faced by Mrs. R was acute pain at the surgical site. Each morning, the nurses began implementation by asking about the location and characteristics of the pain she was experiencing. They not only listened to her complaints but also observed Mrs. R's facial expressions, which occasionally showed grimaces of pain. To help reduce the discomfort, the nurses adjusted the room environment to remain calm and comfortable—the room temperature was regulated, lighting was kept soft, and noise was minimized. This approach is in line with research conducted by (Widjayanti & Pratiwi, 2024) which stated that adjusting body position, particularly adopting an ergonomic sitting posture with the back straight, shoulders back, and lumbar support, is an effective way to reduce lower back pain. Education and training on proper sitting posture are highly recommended to prevent and alleviate such pain complaints. In addition, non-pharmacological techniques such as early mobilization and massage can also support pain reduction.

In addition to administering pain relievers as recommended by the doctor, the nurse also taught Mrs. R.'s husband a foot massage technique with olive oil. Mrs. R.'s husband enthusiastically learned, gently massaging his wife's feet. Slowly, Mrs. R felt her pain begin to decrease from a 5 to a 4 on the scale, and she reported feeling more comfortable after the massage. The olive oil foot massage technique for post-cesarean section (CS) patients has been proven effective in reducing post-operative pain. Foot massage is a light massage of the feet that manipulates connective tissue by tapping, rubbing, or pressing to increase blood circulation, repair muscle tissue, and create a relaxing effect (Noviyani, 2023).

The next problem was impaired physical mobility. Pain made Mrs. R hesitate to move, even though early mobilization is crucial to prevent post-operative complications. Nurses patiently guided Mrs. R to gradually begin moving. During the day, they helped Mrs. R roll from side to side, then slowly got her to sit on the edge of the bed. Family members, especially her husband, were always involved to provide moral and physical support. After some practice, Mrs. R began to confidently sit up on her own, and her vital signs remained stable. According to (Nor Khimayasari et al., 2023) Early mobilization with right and left side tilts is recommended 6–24 hours after surgery. This is the lightest movement a patient can perform as an initial step in getting out of bed.

The risk of infection is also a major concern. Fresh surgical wounds must be kept clean. Nurses routinely monitor the wound for signs of infection, such as redness, swelling, or oozing. They demonstrate proper handwashing before and after wound care and emphasize the importance of maintaining a clean patient environment. Furthermore, Mrs. R and her family are educated on the importance of adequate nutrition and fluid intake, as nutritious food and good hydration can accelerate the healing process and boost the immune system.

Throughout the implementation, nurses consistently evaluate the results of each intervention. They note any changes, both physical and psychological. If the problem remains unresolved, the intervention is continued and adjusted according to the patient's needs. Family involvement throughout the process is a key factor in supporting Mrs. R's recovery. Through a holistic, caring, and collaborative approach, the nursing team strives to ensure Mrs. R can experience the postpartum period safely and comfortably. Each intervention is not merely routine but a tangible expression of care and support for the patient's recovery.

3.2.3. Nursing Evaluation Analysis

Nursing interventions provided by nurses periodically evaluate Mrs. R's condition. Each evaluation result is not only a benchmark for the success of the action, but also becomes the basis for determining the next steps.

Regarding the issue of acute pain, the nurses observed that Mrs. R had begun to experience positive changes. After receiving foot massage therapy and having the room environment adjusted for comfort, Mrs. R reported that the previously sharp and constant pain had started to subside. Her pain scale decreased from 5 to 4, and the pain became intermittent. Her husband, who had been taught the foot massage technique, was now able to assist Mrs. R independently. However, the nurse noted that pain was still present, so the acute pain problem was considered not yet fully resolved. The intervention was therefore continued, with the hope that the pain would gradually lessen over time.

For the nursing diagnosis of impaired physical mobility, evaluation was carried out gradually according to the planned exercise schedule. By midday, Mrs. R had started to feel confident enough to turn to the right and left sides, and she slowly attempted to sit up. With the support and assistance of her family, she eventually managed to sit independently at the edge of the bed. Her vital signs remained stable, indicating her body was responding well to the mobilization exercises. However, Mrs. R still needed more time to be able to walk and move freely. Therefore, this issue was also considered not fully resolved, and mobilization training and education were continued.

For the nursing diagnosis of risk of infection, the nurses monitored signs of infection at the surgical site and educated Mrs. R and her family about the importance of maintaining hygiene, increasing nutritional intake, and drinking sufficient fluids. Evaluation results showed that Mrs. R and her family understood the benefits of proper nutrition and hydration for accelerating healing and preventing infection. They were even able to repeat the explanations provided by the nurse. However, since the surgical wound was still in the healing stage and the risk of infection remained, this issue was also considered not yet fully resolved. Education and wound monitoring were therefore continued.

Based on the evaluation of all nursing diagnoses, the nurses concluded that Mrs. R’s condition showed gradual improvement. Her pain was decreasing, physical mobility was improving, and the family’s knowledge of infection prevention was good. However, none of the problems had been completely resolved during the observation period. Therefore, the nurses decided to continue the interventions for all major nursing problems while continuously monitoring Mrs. R’s condition holistically. With ongoing evaluation, it is expected that Mrs. R will recover optimally free from pain, able to move independently, and protected from infection during her postpartum period.

4. Conclusion

Nursing care for Mrs. R, a postpartum mother on the first day after a cesarean section due to placenta previa, demonstrated a comprehensive and structured nursing process. An in-depth assessment identified three primary nursing issues: acute pain, impaired physical mobility, and the risk of surgical wound infection. All nursing interventions were implemented as planned, from pain management with non-pharmacological techniques (foot massage), early mobilization education and training, to infection prevention through nutrition education, fluids, and hand hygiene practices. The patient's family was also actively involved in the care process, particularly in assisting with mobilization and non- pharmacological care. The evaluation showed gradual improvement in the patient's condition:

a. The pain began to decrease after intervention and family education.
b. The patient's physical mobility improved, allowing him to perform simple movements such as tilting and sitting.
c. The risk of infection was minimized through education on nutrition, fluids, and good hygiene practices, and the patient and family understood the importance of infection prevention.

However, the main nursing issues were not fully resolved during the observation period, so nursing interventions need to be continued continuously to support optimal patient recovery. Overall, the nursing care provided has helped accelerate the recovery process, improve the quality of life of postpartum mothers, and prevent further complications. A holistic, collaborative approach, and family involvement are key to successful care for post- cesarean section patients with placenta previa.

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