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Pain relief in motion: The benefits of early mobilization for patient with post-sectio caesarea

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Abstract
A cesarean section (sectio caesarea) is an alternative procedure when normal delivery is not possible due to factors related to the mother, fetus, or the birth canal. This surgical method involves making an incision to deliver the fetus. However, a cesarean section can lead to significant postoperative pain at the incision site, making early mobilization essential for improving blood circulation and reducing pain intensity. The study aimed is to describe the nursing care application of early mobilization in reducing postoperative pain intensity in patients after a cesarean section. In this case, Mrs. N, a 32-year-old patient, experienced early rupture of membranes and reported significant pain following her cesarean section. After implementing early mobilization, the results showed a decrease in pain intensity from a score of 6 to 5 on the first day post-surgery. The patient was able to perform right and left oblique mobilization just 6 hours after the procedure. On the second day, her pain score further decreased from 5 to 3, and she was able to sit up in bed and sit on the edge of the bed. By the third day, her pain score dropped to 1, and she was able to walk independently. These results indicate that early mobilization effectively resolved the problem, demonstrated by the reduction in pain intensity from a score of 6 to 1. Additionally, the patient progressed from being unable to move to walking independently after engaging in early mobilization exercises. In conclusion, the nursing intervention of early mobilization significantly lowers postoperative pain intensity after a cesarean section, enhances physical mobility, and promotes better breast milk production.

Keywords: Early mobilization; maternity nursing; post-sectio caesaria; complementary therapy; recovery

Introduction
Labor is the process of expelling the fetus, placenta, and membranes from the womb through the birth canal. The childbirth process begins with the development of the cervix, caused by uterine contractions that occur with regular frequency, duration, and strength (Steer & Flint, 1999). There are two types of childbirth: normal vaginal delivery and surgical delivery (cesarean section). Not all mothers can give birth vaginally due to various factors such as a narrow pelvis, breech presentation, fetal macrosomia, early rupture of membranes, and others. In such cases, medical intervention is required, leading to a cesarean section (Angolile, Max, Mushemba, & Mashauri, 2023). The rate of cesarean sections has been increasing worldwide, as evidenced by reports from the World Health Organization (WHO) in 2021, which noted an increase to 21%, up from only 7% in 1991 (Gyaase et al., 2023). In Indonesia, the rate of cesarean deliveries has also risen. According to data from the Indonesian Demography and Health Survey (SDKI), the rate of cesarean sections increased from 1.2% in 1991 to 6.8% in 2017. AUndergoing surgery for a cesarean section can lead to significant postoperative pain at the incision site. Pain is a subjective experience and reflects an individual's response to the pain they encounter (Emrich et al., 2023).

Postoperative pain following a cesarean section typically arises as the effects of anesthesia wear off. Therefore, effective pain management is essential to alleviate the intensity of pain experienced by the mother, allowing her to feel more comfortable after childbirth. One non-pharmacological method used to reduce postoperative pain intensity in cesarean patients is early mobilization. Early mobilization involves gradually engaging in activities post-operation, starting with light exercises while in bed and progressing to sitting up and moving around. The benefits of early mobilization include decreased pain intensity, accelerated recovery, and prevention of postoperative complications associated with cesarean sections (Ituk & Habib, 2018). The implementation of early mobilization in postoperative cesarean patients can be influenced by the patient's fear of movement, often due to concerns about the incision site and pain. Mobilization should begin within 48 hours post-surgery. In the first 6-12 hours after a cesarean section, patients are advised to rest in bed while moving their arms, legs, and toes. After 12-24 hours, patients should be encouraged to shift their body position to the right or left to prevent thrombosis and thromboembolism. After 24-48 hours, patients can begin practicing sitting up and walking (Ganer Herman et al., 2020). Based on the discussion regarding postoperative pain following a cesarean section, the role of nurses is crucial, particularly in facilitating early

mobilization. This has inspired the author to explore this topic as the final scientific work for nursing. Therefore, the study was aimed to evaluate the early mobilization in reducing pain intensity in patient with post-sectio caesarea.

Case Description

Based on a case study conducted on January 23, 2024, in Shofa Room 1 of PKU Muhammadiyah Temanggung Hospital, assessment data was obtained for a patient named Mrs. N, a 32-year-old woman. The patient is Muslim and resides in Giyanti, Temanggung Regency. She is a housewife with a high school education. Mrs. N was initially attended by a village midwife but was referred to PKU Muhammadiyah Hospital due to early rupture of membranes at 39 weeks of pregnancy. She arrived at the hospital accompanied by her husband and mother. The patient was admitted for care with a planned cesarean section at PKU Muhammadiyah Hospital, with the medical record number 0330xxx. The patient's main complaint is significant pain in the postoperative area, and she expresses fear of moving due to intense pain in her lower abdomen, which she describes as feeling "slashed," with a pain scale rating of 6. She reports difficulty in moving and feels unable to get up.

Discussion

The study was conducted on January 23, 2024, and patient data was obtained for a 32-year-old woman named Mrs. N, who has an obstetric status of P2A0. The patient is a Muslim resident living in Giyanti, Temanggung Regency. She is a housewife with a high school education. Mrs. N was taken to the hospital due to early rupture of membranes at 38 weeks of pregnancy. The optimal age for women to conceive and give birth is between 20 and 35 years as this age range is associated with sufficient physical strength for labor and better recovery conditions (Temmesen et al., 2023). Based on this theory, it can be concluded that the patient is within the productive age range for childbirth. However, due to medical indications, she required a cesarean section because of early rupture of membranes. Factors leading to cesarean delivery include maternal factors such as first-time pregnancy with abnormal fetal position, older primipara with abnormal fetal position, disproportion between fetus and pelvis, previous bad birth history, placenta previa, cord prolapse, pregnancy complications, and early rupture of membranes (Abdulla, Hossain, Rahman, Rahman, & Rahman, 2023). The primary purpose of a cesarean section is to ensure the safety of both the mother and the baby. A study revealed that women undergoing cesarean sections often experience acute pain and mobility limitations after surgery (Hussen et al., 2022). This is due to the abdominal incision made during the procedure. The author identified that patients often report pain, which leads to fear of movement, especially since this was Mrs. N's first cesarean section. Subjective data from the assessment indicated that the patient reported pain in the postoperative area, rating it a 6 on the pain scale, and described it as a slashing sensation, which hindered her ability to perform activities after the surgery. Objective data collected on postoperative day 0 (<24 hours) showed that the patient appeared pale, weak, and grimacing in pain, with vital signs indicating a blood pressure of 115/85 mmHg and a pulse of 87 beats per minute.

The data from the study indicated that the patient experienced difficulty in movement due to the cesarean incision and reported pain at the surgical site. Therefore, the author prioritized the nursing diagnosis of acute pain related to physical injury. Based on the examination results, Mrs. N experienced acute pain and was unable to engage in normal activities. Interventions to manage pain in postoperative cesarean patients included both pharmacological and non-pharmacological therapies. Early mobilization is an effort to encourage patients to begin moving gradually, starting with simple movements such as tilting to the right and left until they can walk. Mobility refers to an individual's ability to move freely, easily, and in an organized manner to meet their activity needs and maintain health. Early mobilization is an effort to maintain independence and physiological function. Implementation of early mobilization began on the first day after assessment, starting with monitoring vital signs. This was conducted three times for 15 minutes each day over three days. On the first day of mobilization, the patient reported pain at a scale of 6 but experienced a decrease to 5 after mobilization as instructed by the nurse. On the second day, the patient’s vital signs were normal, and she was very enthusiastic about the mobilization exercises. After the second day’s mobilization, the patient was able to sit upright (in a Fowler's position), with pain reducing from 4 to 3. By the third day, the patient was very cooperative and, after 24 hours, was able to stand and start walking, reporting no significant pain at the surgical site and feeling comfortable performing activities.

Evaluation was conducted after completing early mobilization from the first to the third day. On the first day, the patient went from being unable to move her lower extremities to being able to perform simple right and left tilts. On the second day, after the mobilization exercises, the patient progressed to sitting on the edge of the bed. By the final evaluation on the third day, the patient was able to stand and walk independently for activities such as using the bathroom, dressing, and eating without assistance from family or caregivers. Mobility disturbances refer to limitations in physical movement of one or more extremities independently. On January 23, 2024, the author established the diagnosis based on the assessment, which indicated that the patient reported an inability to move her extremities and body after surgery due to pain, resulting in limited movement and a feeling of weakness. Mobility disturbances in postoperative cesarean mothers can be addressed through early mobilization. Early mobilization involves activities performed by the mother several hours after the surgery (Chen, Wan, Zhu, Su, & Mei, 2022). Early mobilization should be initiated promptly to prevent maternal complications and facilitate recovery (Patel & Zakowski, 2021). Mothers who

do not engage in early mobilization after cesarean surgery may experience elevated body temperature (Duran & Vural, 2023).

The benefits of early mobilization include reduced pain intensity, improved cardiovascular function, strengthened heart muscles, enhanced blood circulation, improved metabolic regulation, restored physical function, and prevention of stiffness in postoperative muscles (Macones et al., 2019). The intervention implemented by the author for the nursing diagnosis of mobility disturbance involved early mobilization. This was aimed at reducing pain intensity and addressing mobility disturbances. On the first day, the author conducted a postoperative assessment one hour after the patient was moved from the operating room to the recovery room. The assessment revealed that the patient was unable to move her lower extremities, likely due to the effects of spinal anesthesia. The author returned for a follow-up assessment two hours post-surgery, noting that the patient still could not move her lower extremities. After four hours, the author conducted another assessment and found that the patient was still unable to move her legs, although they felt less heavy than before. After six hours post-surgery, the author found that the patient was able to move her lower extremities, allowing for the initiation of early mobilization with simple right and left tilts. Early mobilization was implemented in accordance with the patient's agreement on January 23, 2024, with assistance from the nursing staff. The patient was willing to participate in early mobilization exercises over three days, starting six hours after the cesarean section, as indicated by the assessment results. On the first day, the patient was very cooperative and willing to engage in early mobilization exercises. The nurse demonstrated simple mobilization methods, such as tilting to the right and left, and the patient began these exercises with assistance. On the second day, the patient was assisted by a nurse to practice sitting up and sitting on the edge of the bed until she could do so independently. By the third day, the patient was taught to stand and walk, allowing her to perform activities such as toileting, eating, and dressing independently.

If performed gradually, early mobilization can enhance blood circulation, promote faster healing of postoperative wounds from cesarean sections, and reduce pain intensity. It can also maximize the production of hormones in the body, such as prolactin and oxytocin, which play important roles in breast milk production (Yisma, Mol, Lynch, & Smithers, 2019). Evaluation was conducted after completing early mobilization from the first to the third day. On the first day, the patient progressed from being unable to move her lower extremities to being able to perform simple tilts. On the second day, the patient advanced from only being able to tilt right and left to being able to sit up and on the edge of the bed. By the final evaluation, the patient had progressed to standing and walking independently for normal activities such as using the bathroom, dressing, eating, and engaging in daily activities without assistance from family or caregivers. According to Indonesian Nursing Diagnosis Standards, ineffective breastfeeding is a condition where the mother and baby experience dissatisfaction or difficulty in the breastfeeding process. During the assessment of Mrs. N, subjective data indicated that her breast milk was minimal, with no dripping, and the baby cried during breastfeeding. Therefore, the author established the nursing diagnosis of ineffective breastfeeding related to inadequate breast milk supply, as the patient reported low breast milk production and the baby cried during breastfeeding.

Interventions prepared by the author to address the nursing diagnosis of ineffective breastfeeding included breast care for postoperative cesarean mothers. Breast milk is a crucial component for meeting the nutritional needs and immune system development of the baby (Lokossou, Kouakanou, Schumacher, & Zenclussen, 2022). Postoperative cesarean mothers often face challenges with breastfeeding. The production and release of breast milk are influenced by the hormones prolactin and oxytocin. Prolactin affects the amount of breast milk produced, while oxytocin influences the milk ejection reflex (Uvnäs Moberg et al., 2020). One potential non-pharmacological intervention provided to postpartum cesarean patients to accelerate and increase breast milk production is breast care. Breast care involves providing care to the mother’s breasts postpartum, including massage. The benefits of breast care include preventing infection, softening, and reshaping the nipples to facilitate effective breastfeeding, as well as stimulating the glands and hormones prolactin and oxytocin to enhance milk production (Mahdizadeh-Shahri, Nourian, Varzeshnejad, & Nasiri, 2021). The theory aligns with a study which states that breast care is effective in increasing breast milk production in postpartum cesarean mothers (Anderson, Kynoch, Kildea, & Lee, 2019).

Conclusion

Early mobilization for patients following a cesarean section offers numerous benefits that significantly enhance recovery outcomes. By encouraging patients to engage in movement shortly after surgery, early mobilization helps reduce postoperative pain, improves circulation, and accelerates the healing process of surgical wounds. This proactive approach not only alleviates discomfort but also fosters independence, allowing patients to resume daily activities more quickly. Additionally, early mobilization has been shown to positively influence the production of breast milk, which is crucial for the nutritional needs of newborns. Overall, implementing early mobilization as part of postoperative care can lead to improved physical and psychological well-being for cesarean delivery patients. Future studies should focus on exploring the optimal timing and types of mobilization exercises that yield the best outcomes for cesarean section patients.

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