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The effects of footbath on postpartum pain after caesarean section: A case report

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Abstract

Background: Caesarean section delivery is carried out not only based on medical indications but also non-medical ones. Caesarean section delivery has an impact on both the mother and fetus. The risk of delivery with caesarean section is three times greater than with normal delivery.
Purpose: To determine the effect of a footbath on postpartum pain after cesarean section.
Method: Descriptive case study with a nursing process approach which includes assessment, nursing diagnosis, planning, implementation and evaluation.
Results: Footbath for 20 minutes at a time can make the patient more relaxed and calm the patient. This therapy can lower the postpartum pain scale from 5 to 3.
Conclusion: Footbath or soaking the feet in warm water can reduce postpartum pain after a cesarean section. This therapy is recommended as an additional intervention to reduce pain in post-cesarean section mothers.

Keywords: Cesarean Section; Footbath; Post Partum Pain.

INTRODUCTION

Childbirth can be carried out in two ways, namely normal delivery through spontaneous delivery and abnormal delivery through the caesarean section surgical procedure (Macwan, Parmar, & Savaliya, 2022). Caesarean section delivery is a medical procedure to remove the baby through an incision in the abdominal wall and uterus. This procedure is carried out to save the mother and baby based on several medical indications, such as fetal distress, prolonged delivery, placenta previa, fetal malpresentation or transverse position, narrow pelvis, umbilical cord prolapse, and preeclampsia (Purba, Anggorowati, Sujianto, & Muniroh, 2021). The use of caesarean sections is increasing globally and now accounts for 21% of all births. It is estimated that this figure will increase to 29% in 2030 (World Health Organization, 2021). In Indonesia, according to Basic Health Research data caesarean sections reached 17.6% of births, with Jakarta recording the highest rate at 31.1% and Papua the region the lowest was 6.7%. And the incidence of births by caesarean section in Central Java alone reached 17.1 (Ministry of Health of the Republic of Indonesia, 2020).

The maternal morbidity rate after giving birth is higher in births by caesarean section compared to normal births, as well as the possibility of higher complications (Tyas, & Sadanoer, 2020). Several complications that commonly occur in mothers after cesarean section are a result of the surgery. Mothers who give birth by caesarean section may experience some discomfort, including pain due to the abdominal incision. The morbidity rate experienced by mothers after caesarean section is around 17.5% related to the location of the incision and around 15.9% experience abdominal pain (Duran, & Vural, 2023). The response to pain can cause problems for both mother and baby. The impact on the mother includes limited mobilization due to increased pain intensity when moving. If early mobilization is not carried out, it can result in weak uterine contractions and dilation of blood vessels (Rumhaeni, Sari, & Mulyani, 2018). The impact of pain in mothers after caesarean section on

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babies includes disturbances in the bond of affection, disturbances in the mother's activities of daily living (ADL) and a decrease in the baby's nutrition (Susanti, Laksito, Handayani, & Harini, 2023).

Management carried out to eliminate or divert pain after caesarean section can involve the use of pharmacological and non-pharmacological therapy. Pharmacological therapy involves the use of analgesics such as opioids (narcotics), non-opioids such as acetaminophen and non-steroidal anti-inflammatory drugs (NSAIDs), as well as supplements or analgesics. One non-pharmacological pain management is to use footbath, where the feet are soaked in warm water to relieve pain and reduce muscle tension (Oktarina, Aprina, & Purwati, 2022). Apart from that, footbath can help reduce pain and tension in the body because it stimulates the release of endorphins into the brain which are natural hormones that reduce pain. This method can also improve blood circulation by expanding blood vessels, so that more oxygen can enter the tissues.

Research on 2 respondents from mothers after caesarean section showed that before undergoing footbath they experienced moderate pain and after this procedure the pain decreased to mild (Sudjarwo, & Solikhah, 2023).

RESEARCH METHOD

This nursing care case study was carried out with a pre-post test design at Indriati Solo Baru Hospital. Before having footbath, a pre-test system is used to measure pain levels. After carry out footbath interventions, using a post test system to measure changes in pain levels. This research uses a care case study approach nursing to see how footbath therapy helps patients manage pain after cesarean section. This article uses nursing care instruments according to the format applicable at the Muhammadiyah University of Surakarta. Data analysis includes the results of applying daily patient reports which are compared with theory and previous research findings. Patient monitoring is carried out during hospitalization. The respondents in this study were mothers in their first pregnancy and experienced moderate pain (5) after a caesarean section, the patient was conscious full (compos mentis).

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RESEARCH RESULTS

Table Characteristics of The Subject

Variable	Value/Note
Biodata	
Age	27 Years
Education	Senior High School
Occupation	Housewife
Medicl diagnosis	Post Caesarean Section P_1A_0
Physical Examination	
Consciousness	Compos mentis GCS = 15 ($E_4V_6M_5$)
Blood pressure	110/80 mmHg
Pulse	80x/menit
Height	165 Cm
Weight	50 Kg
Nursing Diagnosis Identification	
Subjective	Pain in post-operative wounds, with pain felt when moving, pain scale 5 out of 10, like being cut, and pain that comes and goes.
Objective	The patient's movement appeared limited and the patient appeared to be wincing in pain and looked weak. Physical examination showed post SC wounds on the lower abdomen with bilateral incision wounds of ± 13 cm. REEDA assessment showed Redness: 0.5 cm around the incision, Edema: 1 cm around the wound, Ecchymosis: 0.25 cm on the right side of the incision, Discharge: little blood, 5.08 (4-10.5), and Platelets 388 (150-400), all Approximation: skin subcutaneous fat appear separate, with a REEDA score = 2. RR 20 x/minute, temperature 36 °C, and SpO_2 98%. Laboratory examination results showed Hemoglobin 12.8 (11.7-15.5), Leukocytes within normal limits.

Patient Mrs. L G1P0A0, with a gestational age of 40^{+4} weeks, presented with complaints of continuous contractions. The patient arrived at the ER on 01-08-2024 at 18.31 WIB and was transferred to the VK room at 19.00 WIB. Caesarean section operation was carried out on 01-09-2024 at 08.00 WIB due to indications of umbilical cord entanglement. The patient returned to the postpartum room at 10.15 WIB. The patient complained of pain in the post-operative wound, with pain felt when moving, a pain scale of 5 out of 10, like being cut, and the pain came and went. The patient's movements appear limited and the patient appears to grimace in pain and appears weak. Physical examination showed post-SC wounds in the lower abdomen with bilateral incisions measuring ± 13 cm long. REEDA assessment shows Redness: 0.5 cm around the incision, Edema: 1 cm around the wound, Ecchymosis: 0.25 cm on the right side of the incision, Discharge: a little blood, Approximation: skin and subcutaneous fat appear separated, with REEDA score = 2. The patient's general condition is moderate, consciousness is compos mentis, BP 110/80 mmHg, pulse 80 x/minute, RR 20 x/minute, temperature 36°C, and SpO_2 98%. The left hand has an IV infusion line RL 20 tpm attached. Laboratory examination results showed Hemoglobin 12.8 (11.7-15.5), Leukocytes 5.08 (4-10.5), and Platelets 388 (150-400), all within normal limits.

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The patient said this was her first hospitalization and first pregnancy. The patient has no history of previous illness, no drug or food allergies. The patient also said that no one in his family suffered from infectious diseases such as tuberculosis, skin diseases, or hereditary diseases such as diabetes mellitus, asthma and hypertension. Previously, the patient said he had completed the complete TT vaccination. The patient said that before marriage the menstrual cycle was around 28 days and there were no signs of other reproductive disorders. The patient said that when she was pregnant, she had regular monthly check-ups with an obstetrician.

From this data, a nursing diagnosis was obtained that was based on the Indonesian Nursing Diagnosis Standards (SDKI) in the form of Acute Pain (D.0077) with subjective and objective data analysis as follows: Subjective: The patient said that he had pain in the abdominal surgical wound, the pain was felt continuously with scale 5, and pain is felt when moved. Objective: The patient appears to be grimacing in pain, appearing to be holding his lower abdomen which feels painful. There was a post SC wound in the lower abdomen with bilateral incisions measuring ± 13 cm long. REEDA obtained Redness: 0.5 cm around the incision, Edema: 1 cm around the wound, Ecchymosis: 0.25 cm on the right side of the incision, Discharge: a little blood, Approximation: skin and subcutaneous fat appear separated, REEDA score = 2. General condition Moderate patient, Compos mentis consciousness, BP 110/80 mmHg, pulse 80 x/minute, RR 20 x/minute, temperature 36°C, and SpO_2 98%. The left hand has an IV infusion line RL 20 tpm attached. Laboratory examination results showed Hemoglobin 12.8 (11.7-15.5), Leukocytes 5.08 (4-10.5), and Platelets 388 (150-400), all within normal limits.

Next, objectives or outcomes are formulated that can be measured and observed specifically using the Indonesian Nursing Outcome Standards (SLKI). It is hoped that after 3x24 hours of nursing intervention, the patient will show complaints of decreased pain levels (L.08066) with the following outcome criteria: complaints of pain decreases, the patient is more relaxed/does not grimace in pain, and is less anxious. The predetermined outcomes will not be achieved without the intervention carried out. The next stage is to determine nursing interventions in the Indonesian Nursing Intervention Standards (SIKI) guidelines, namely pain management (I.08238), including: identification of location, pain scale, and factors that reduce and aggravate pain; providing non-pharmacological techniques to reduce pain by soaking the feet in warm water or footbath therapy; suggest self-monitoring of pain; collaborate to provide analgesics and recommend relaxation techniques that are taught periodically.

Nursing implementation is carried out after planned interventions. The implementation given is by soaking the feet in warm water twice a day for 20 minutes. A formative evaluation was carried out after the intervention was provided, and a summative evaluation was carried out at the end of each shift. At the end of the shift the patient said the pain had reduced to a scale of 3, but the patient was still afraid to move and looked restless. After 48 hours the nursing intervention was carried out showing a decrease in the level of pain with the patient saying the pain had decreased on a scale of 3, the patient looked more relaxed, and the patient's vital signs were stable with BP: 120/80 mmHg, Pulse: 80 x/minute, and Temperature: 36.3 ^{o}C.

DISCUSSION

Footbath is a technique that can increase the movement of several structures of both muscle and subcutaneous tissue, by applying mechanical force to the tissue (Davies, 2011). This movement can increase lymph flow and venous return, reduce swelling and mobilize muscle fibers, tendons and skin. Apart from blocking pain messages to the central nervous system, foot massage can also make the body react by releasing endorphins due to massage (Kartilah, & Februanti, 2020). Endorphins are substances produced naturally by the body, work and have effects like morphine. Endorphins are calming, have a comfortable effect, and play an important role in regenerating cells to repair worn or damaged body parts (Keenan, 2014).

The post partum period is often considered as something that is not important and only lasts temporarily, so that post partum maternal care is often ignored by health workers (Artiyani, Maryatun, & Widodo, 2024). After giving birth, a mother will experience the postpartum period (Parmar, & Tiwari, 2021). The postpartum period is a crucial period in a mother's life. Postpartum mothers will experience many problems, one of which is postpartum pain

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(Hernawati, Tarwiyah, & Arianti, 2024). The pain felt by the mother after caesarean section surgery will certainly influence feelings of anxiety and fear, which in turn will also affect the mother's body's sense of comfort. Post-cesarean section pain is one of the factors that hinders the healing process of post-partum mothers, especially when the pain is on a severe scale (Fikri, Astuti, & Rusnaningsih, 2024).

Based on the research results, it is known that Mrs. L with post SC started to feel pain after the anesthetic given had worn off. In this condition, the patient begins to feel sharp pain that can affect some of the senses, causing the patient to fail to focus, have poor communication, and groan in pain. In this study, patients were observed for 2 days after Caesarean section (Pardede, & Tarigan, 2020). According to researchers, the stage of wound healing can influence the level of pain felt. The pain at the second observation will not be as intense as at the initial injury. This is caused by the inflammatory stage which lasts for 2-5 days. On the second day, the inflammation level begins to decrease, so the pain can be reduced compared to before (Syahruramdhani, 2023).

After applying foot bath therapy, the results showed that the pain level for both respondents was in the mild category (Şimşek, & Alpar, 2022). The foot soak therapy method is a non-pharmacological method that is cheap and easy for patients and their families to do at home. Apart from that, foot soak therapy with relaxation techniques is very effective for mothers after caesarean section surgery who have limited mobility.

In the results of interviews with patients, Mrs. L found that doing footbath therapy for 20 minutes at a time can make the patient more relaxed and able to calm the patient. Who stated that the application of footbath therapy can reduce the pain scale from 4 to 3 (Pongoh, Egam, Kamalah, & Mallongi, 2020). This is due to the ability of this therapy to help release endorphins, which are natural pain reliever hormones. Apart from that, foot soak therapy can also improve blood flow and cause vasodilation, which helps relax muscles because the muscles get the nutrients carried by the blood.

Footbath therapy or commonly known as soaking the feet in warm water for 20 minutes given 2 times a day for 2 consecutive days is able to calm and distract the patient so that it can reduce pain in mothers with post caesarean section.

CONCLUSION

From the assessment data found, an actual nursing diagnosis can be established with the priority of acute pain related to physical injurious agents with code (D.0077). At the evaluation stage, after 48 hours of intervention, the patient's pain complaints decreased from a scale of 5 to 3 with stable vital signs and the patient appeared relaxed. Footbath therapy or soaking the feet in warm water can reduce pain in postpartum mothers with caesarean section. This therapy is recommended as an additional intervention to reduce pain in mothers after cesarean section.

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