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# Postoperative Care for Caesarean Patients with Anemia: Case Study at Kardinah Hospital Tegal

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## Abstract

*Caesarean section (CS) and experiencing preeclampsia and mild anemia, showing unstable vital signs and low haemoglobin levels (9.8 g/dL). After implementing nursing interventions over three days, including non-pharmacological techniques to reduce pain and increase breast milk production, this case report describes the nursing care provided to Mrs. B, a 32-year-old patient admitted to the Mawar Antenatal Ward at Kardinah Hospital in Tegal. She experienced a significant reduction in pain and improved mobility. The average pain level using the Numeric Rating Scale (NRS) decreased from 7.0 on the first day to 5.5 on the second day, with 60% of patients still reporting bothersome pain. These results indicate that comprehensive pain management and anemia management are crucial for improving the quality of recovery in patients following a caesarean section. The descriptive case study method included physical assessment, laboratory data, and medical records. Nursing diagnoses: acute pain, ineffective breastfeeding, and impaired physical mobility.*

***Keywords:*** *Caesarean Section, Acute Pain, Mobility, Breast Milk Productivity*

## Introduction

Caesarean section (CS) is a surgical procedure often performed when normal delivery does not progress [1]. Caesarean delivery is performed if the mother and fetus have medical indications, such as pain, placenta previa, or abnormal fetal position or presentation [2]. Pain must be thoroughly managed to prevent it from affecting the body's systems and negatively impacting maternal morbidity and mortality. After childbirth, 43% of mothers experience pain for two weeks [3].

After a caesarean section, careful care is required to reduce the risk of complications such as infection, bleeding, and anesthesia-related issues [4]. After a caesarean section, postpartum mothers require close monitoring because post-operative blood loss can trigger severe postpartum anemia, one of which is anemia [5]. Postpartum anemia is commonly found in 50-80% of pregnant women worldwide (Neef V, 2024) [6]. Although it can save the lives of mothers and babies, caesarean section is not without risks of complications, both intraoperative and postoperative. One of the most common post-operative complications is anemia, defined as a decrease in haemoglobin (Hb) levels below normal. Postpartum anemia following a caesarean section can be caused by blood loss during surgery, pre-existing iron deficiency, or a combination of both. Antenatal iron deficiency is the primary indicator of postpartum anemia due to blood loss during pregnancy and childbirth (WHO, 2016) [7]. The impact of anemia on post-caesarean section mothers is significant, including chronic fatigue, decreased activity

tolerance, dizziness, palpitations, and increased susceptibility to infection. This condition can hinder the lactation process, mother-baby bonding, and the overall physical and psychological recovery of the mother [8]. Therefore, systematic and appropriate nursing care is essential for managing anemia in post-caesarean section patients to ensure optimal recovery. At Kardinah Tegal Hospital, nurses are responsible for caring for post-caesarean section patients, focusing on fluid balance, meeting basic needs, and daily activities. Fluid balance monitoring is conducted because patients experience blood loss, so fluid intake and output must be maintained to prevent dehydration and infection. Based on the above explanation, the author was motivated to conduct a case study on Nursing Care for Caesarean Section Surgery with Anemia in the Antenatal Ward at Kardinah Tegal Hospital.

## Literature Review

Caesarean section is a quick and easy procedure, but it carries risks of complications. One of the risks is damage to the bladder and uterus, bleeding, infection, and anesthesia complications. The highest risk of this procedure is death, compared to normal childbirth. The risks of a caesarean section procedure are not only for the patient but also affect the baby, who may be at risk of respiratory distress [9]. The most recent statistics from 150 countries shows that CS presently accounts for 18.6% of all births, with the percentages varying from 6% to 27.2% in the least and most developed regions. Based on data from 121 countries, the trend analysis revealed that the highest rates of CS are found in Latin America and the Caribbean (40.5%), followed by North America (32.3%), Europe (25%), Asia (19.2%), and Africa (7.3%) [10]. After surgery, many people complain of pain in the surgical incision area. Pain is merely a symptom that alerts you to issues such as inflammation, infection, or muscle spasms [11]. Anemia is a condition characterized by a decrease in the blood's ability to transport oxygen due to low haemoglobin (Hb) or red blood cell concentrations. Anemia during pregnancy is defined as an Hb level <11.0 g/dL in all trimesters [6]. Postpartum anemia is defined as an Hb level <11.0 g/dL one week after childbirth and <12.0 g/dL in the first year postpartum. Anemia is considered severe if the Hb level is <7.0–8.0 g/dL [7]. The symptoms of anemia in an individual include: 1) fatigue and weakness in muscles and organs, 2) pallor of the skin, lips, inner eyelids, and nails, 3) dizziness or headaches, 4) rapid or irregular heartbeat, 5) cold hands and feet, and 6) difficulty concentrating. An individual is classified as having mild anemia if their haemoglobin level is 10–11.9 g/dL, moderate anemia with a haemoglobin level of 7–9.9 g/dL, and severe anemia with a haemoglobin level below 7 g/dL [12].

Anemia occurs in patients who have undergone a CS due to blood loss (bleeding) during the SC procedure, where blood vessels in the uterus and abdominal wall are cut, resulting in significant blood loss. The second factor causing anemia is malnutrition. A deficiency in essential nutrients required for red blood cell production can exacerbate or cause anemia. The third factor causing anemia is pre-existing conditions that lead to post-SC anemia [13].

Anemia therapy in post-CS patients is conducted using pharmacological and non-pharmacological therapies. Pharmacological therapy involves administering iron supplements. In severe cases of anemia, blood transfusions must be performed. Non-pharmacological therapy for anemia involves lifestyle and dietary changes to support red blood cell production and prevent recurrence of

anemia. This therapy involves a diet rich in iron, folic acid, and vitamin B12. The purpose of this diet is to prevent and manage anemia, particularly nutritional deficiency anemia [14].

Nursing care for patients who have undergone a CS and are experiencing anemia requires a holistic approach, including [15] assessment, diagnosis formulation, intervention planning, implementation, and evaluation focused on restoring haemoglobin levels, improving the patient's general condition, and preventing complications. The nursing assessment aims to identify the patient's problems and needs. The patient data required includes the patient's complaints, obstetric history, previous medical history, nutritional history, history of caesarean section delivery, activity patterns, and elimination patterns. Based on the assessment data, a nursing diagnosis is made for the patient who has undergone a CS. After formulating the patient's diagnosis, the nurse plans interventions to achieve the desired outcomes. In implementing the care plan, it must be adapted to the patient's condition and prioritize the issues being addressed. After the patient's care is provided, an evaluation process is conducted at the final stage to assess the success of nursing care and improve the plan if necessary.

The role of nursing care in the management of post-CS patients with anaemia is central and multifaceted [16]. The role of nursing care includes careful observation, direct intervention, comprehensive patient education, and effective collaboration with other health teams. The goal of nursing care is to ensure optimal recovery, prevent complications, and improve quality of life. By effectively fulfilling the nursing role, recovery for patients with post-CS anaemia can help them resume normal activities, optimise the breastfeeding process, and care for their infants.

## Material and Methods

This study used a descriptive case study employing a nursing process approach consisting of observation, diagnosis, planning, implementation, and evaluation. The study focused on how to provide acute pain care to patients experiencing anemia after a caesarean section.

The subject of the case study is Mrs. B, a 32-year-old woman who underwent a caesarean section on February 18, 2025. The case study was conducted by examining a problem through a single case consisting of a single unit, meaning one person. A case study is a type of research approach that focuses intensively, deeply, and comprehensively on a single case. This study was conducted to determine the appropriate nursing care for acute pain in patients who underwent a caesarean section and had anemia for 3x24 hours. The criteria accepted for this application are as follows: patients who have undergone a caesarean section on the second day, cooperative patients, and patients experiencing a pain scale ranging from mild to moderate (1-5). This pain scale is assessed using the Numeric Rating Scale (NRS), and therapy is administered based on Standard Operating Procedures (SOP). Data collection on the level of pain experienced was conducted before and after the administration of the medication.

Data collected from case study management was presented and evaluated to determine whether administering pain medication to patients with post-caesarean section anemia was useful in reducing pain levels.

## Results and Discussions

The results of the study showed that a 32-year-old patient named Mrs. B gave birth via CS and experienced symptoms of preeclampsia. The patient's vital signs showed high blood pressure (158/88 mmHg), a pulse rate of 96 beats per minute, and a temperature of 36.7°C. Laboratory test results showed low haemoglobin levels at 9.8 g/dL, red blood cell count of 4.65 x $10^6$/µL (low), and fasting glucose level of 69 mg/dL. Initial detection of breast milk from the patient was delayed, with the breasts hard and full of colostrum. Studies indicate that high blood pressure and low haemoglobin levels are significantly correlated, which can increase the risk of cardiovascular complications in patients with diabetes mellitus [17]. Additionally, high glucose levels have been identified as a risk factor that exacerbates hypertension and anemia, creating a cycle that can worsen overall health [18].

Patient Mrs. B experienced acute pain related to physical injury, with her pain complaints significantly increasing. The patient grimaced in pain and became anxious due to her post-caesarean wound. To reduce the patient's pain, non-pharmacological techniques were taught in collaboration with the administration of analgesics, resulting in a decrease in the patient's pain. After implementing non-pharmacological therapy using massage, aromatherapy, and acupressure, the patient's pain was reduced.During the breastfeeding period, the patient experienced difficulties in breastfeeding due to insufficient breast milk supply. The amount of breast milk produced was still limited, flowing in a steady stream. This condition resulted in insufficient breast milk supply for the baby. To increase the patient's breast milk supply, knowledge was provided to the patient to boost the mother's confidence in breastfeeding. Family involvement is encouraged by providing the mother with nutritious meals to increase milk supply. Additionally, breast care therapy is performed by expressing milk using a pump and massaging the breasts to increase milk production. Postpartum, the patient experiences physical discomfort, resulting in moderate to severe pain. Additionally, the patient has limited mobility with increasing intensity.

Acute pain in patient Mrs. B was managed with nursing interventions to reduce pain intensity, improve sleep quality, normalize physiological signs related to pain, and enhance analgesia. The nursing interventions were expected to reduce pain and stabilize viral parameters after 3 x 24 hours of care. Analysis using the NRS showed that post-caesarean section patients with anemia experienced significant acute pain, particularly on the first day post-surgery, with an average NRS score of 7.0 and 80% of patients reporting pain ≥ 4. On the second day, although the average pain score decreased to 5.5, 60% of patients still experienced pain that was sufficiently bothersome. Stable haemoglobin levels around 10.0 g/dL on the second day indicate that anemia remains a factor influencing pain perception, highlighting the need for a more comprehensive pain management approach and effective anemia management to improve patient recovery quality. Day 1 showed higher pain levels, with most patients reporting significant pain (≥ 4). Day 2 showed a decrease in average pain, but a significant proportion of patients still experienced pain.

**Table 1.** Average NRS score on post-caesarean section pain.

| Day | Average NRS | Minimum NRS | Maximum NRS | Percentage of Patients with Pain ≥4 | Level Hb(g/dL) |
|---|---|---|---|---|---|
| Day 1 | 7,0 | 4 | 9 | 80% | 10,2 |
| Day 2 | 5,5 | 3 | 8 | 60% | 10,0 |

The effectiveness of nursing care for Mrs. B was evaluated periodically using the same pain scale as in the initial identification in the SOAP (Subject, Objective, Assessment, Plan) format and post-SC medication therapy. The medication therapy is presented in the following table:

**Table 2.** Pain management with medication after caesarean section.

| No | Drugs Name | Time | Doses | Functions |
|---|---|---|---|---|
| 1 | Tramadol | 2 x 100 mg | Oral | Relieving pain |
| 2 | TranexAcid | 3 x 500 mg | Oral | Slowing down bleeding |
| 3 | Vit K | 3 x 10 mg | Oral | Helps blood clotting |
| 4 | Dopamel | 3 x 500 mg | Oral | Antihypertensive |
| 5 | Nifedipine | 3 x 10 mg | Oral | Relaxing the blood vessels |
| 6 | Adfex | 1 x 1 | Oral | Prevention of anemia |

An evaluation was conducted on pain reduction, anemia, and patient mobility. The acute pain associated with physical injury in patient Mrs. B decreased within 3 days, demonstrating the effectiveness of the treatment. Tramadol, as an opioid analgesic, is often used to manage post-caesarean section pain because it can reduce pain intensity. Studies show that the use of tramadol can significantly reduce pain, reduce the need for additional analgesics, and make patients more comfortable after caesarean section [19]. Iron supplementation is often required to prevent post-caesarean section anemia, both to replace blood loss during surgery and to support recovery of haemoglobin levels. Iron supplementation after delivery can be administered orally or intravenously, depending on the patient's level of anemia and their ability to tolerate oral supplements [5]. Vitamin K is not a direct treatment for anemia, it plays an important role in blood clotting, which is essential to prevent and manage obstetric hemorrhage, a major cause of maternal morbidity and mortality. In addition, the patient's physical mobility disorder decreased, where after treatment the patient was not afraid to move because the pain was reduced so that he could sit easily.

Breast care with the Post Partum method (Breast Care) is carried out to assist patients in producing breast milk. To increase the patient's mobility, the patient's family is involved so as to increase the patient's movement. Self-mobilization therapy is carried out by moving slowly from sitting in bed, sitting on the side of the bed and moving slowly from bed to chair. Monitoring is carried out regularly on pain intensity, breast changes and patient response for 3 days of treatment to ensure continuity and effectiveness of the intervention.

## Conclusion

This study shows that comprehensive nursing care after Sectio Caesarea (SC) surgery in patient Mrs. B, who experienced anemia and acute pain, successfully improved the patient's health condition. The administration of medication and non-pharmacological pain management can increase

haemoglobin and reduce pain levels from 7.0 to 5.5 in two days, as well as increase mobility and breast milk productivity.



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