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The Effect Of Early Mobilization Of Post-Section Caesarean Mothers On Pain Intensity At The Aceh Government Mom And Child Hospital, Banda Aceh City

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ABSTRACT
Childbirth can produce pain in post-cesarean section patients which can affect the healing process and slow down the patient's movement due to the pain, so in this study the problem obtained is the intensity of pain in post-cesarean section patients. This study aims to determine the effect of early mobilization in post-cesarean section mothers on pain intensity at the Aceh Government Mother and Child Hospital in Banda Aceh City. This study uses a quantitative research method with a quasi-experimental design with a sample of 30 people who became the intervention group. The intervention group received early mobilization intervention after post-cesarean section. The pain intensity in post-cesarean section patients was measured using a pain measurement scale, namely the Numeric Rating Scale (NRS) and using an early mobilization SOP to be taught to patients and implemented independently. Based on this study, the average pain intensity before early mobilization was 4.06, while the average pain intensity after early mobilization was 2.86, so the results of this study indicate that there is an effect of early mobilization on pain intensity in post-cesarean section mothers which is significant P = 0.000 <0.05. This study concludes that early mobilization can be used as a nursing intervention to reduce pain in post-cesarean section patients. For nursing practitioners, the results of this study can be used as a reference for developing more effective nursing interventions to reduce pain in post-cesarean section patients. Furthermore, this study is expected to serve as a reference and education for patients and their families, the Aceh Government Maternity and Child Hospital in Banda Aceh City, Bina Bangsa Getsempena University, and for future researchers.

Keywords: *Early Mobilization, Post-Section Caesarean, Pain Intensity*

Introduction

Labor is the process of the cervix opening and thinning, allowing the fetus to descend into the birth canal. Birth is the process by which the fetus and amniotic fluid are pushed out through the birth canal (Sarwono, 2018). Labor is also the expulsion (delivery) of viable products of conception outside the uterus through the vagina into the outside world. This process can be considered normal or spontaneous if the baby is born in a head-down position, occurs without the aid of instruments or assistance, and does not injure the mother or baby. This process generally takes less than 24 hours (Rachmawati and Nurliyani, 2024).

One method of managing pathological labor to save the mother and baby is a transabdominal cesarean section. A cesarean section (CS) is a surgical procedure that assists

in the delivery of the fetus through incisions in the abdominal wall and uterus. It is only performed in emergency medical conditions such as placenta previa, abnormal presentation or position of the fetus, and other indications that could endanger the life of the mother or fetus (Siagian, Anggraeni, and Pangestu, 2023).

According to WHO (World Health Organization) data in 2021,There are significant differences in women's access to cesarean sections, depending on where they live in the world. In the least developed countries, about 8% of women give birth by cesarean section, while in sub-Saharan Africa it is only 5%, indicating a lack of access to this life-saving operation. In contrast, in Latin America and the Caribbean, the rate reaches 4 in 10 (43%) of all births. In five countries (the Dominican Republic, Brazil, Cyprus, Egypt, and Turkey), cesarean sections now outnumber vaginal births. The global cesarean rate has risen from about 7% in 1990 to 21% today, and is projected to continue rising throughout this decade. If current trends continue, by 2030 the highest rates are likely to be in East Asia (63%), Latin America and the Caribbean (54%), West Asia (50%), North Africa (48%), Southern Europe (47%), and Australia and New Zealand (45%), research suggests (WHO, 2021).

According to the 2021 Basic Health Research (Riskesdas) data, the cesarean section (CS) rate in Indonesia was 17.6%. This means that approximately 17.6 out of every 100 deliveries in Indonesia that year were by cesarean section. It should be noted that this figure can vary depending on the data source and geographic region. However, the 17.6% figure from the 2021 Riskesdas is the most widely cited figure representing the cesarean section rate in Indonesia that year.

In 2007, the percentage of Caesarean Sections in Aceh reached 23.6%. This percentage far exceeds the WHO standard which states that deliveries using the Caesarean Section procedure should not exceed 10-15%.Of the total number of deliveries, it is also known that Caesarean sections have a mortality rate of up to 40-80 per 100,000 live births. Data from Caesarean sections conducted at the Aceh Government Mother and Child Hospital in Banda Aceh City, a referral hospital in Aceh Province, showed that the rate of Caesarean sections in 2021 was 69% of a total of 112 deliveries, with 77 deliveries performed by Caesarean section (Razali et al., 2021).

Caesarean section surgery will break the continuity or connection of tissue because the incision will release pain receptors so that the patient will feel pain, especially after the anesthetic effect wears off (Des and Berlian, 2018). *International Association for the Study of Pain*(IASP) defines pain as an unpleasant sensory, emotional, and cognitive experience resulting from actual or potential tissue damage that may occur without injury. Pain is caused by tissue damage, inflammation, surgical procedures, surgical disease, and invasive procedures.

In implementing non-pharmacological therapy, nurses have a primary role, namely providing nursing interventions,One non-pharmacological measure that can reduce pain is early mobilization. Early mobilization is a basic human need required by individuals to perform daily activities, including joint movement, posture, gait, exercise, and activity skills (Nadiya and Mutia, 2018). Early mobilization exercises aim to enable patients to concentrate or focus their thoughts on the movements they are performing rather than the pain they are experiencing (Santiasari, Mahayati, and Sari, 2021).

The smallest consequences of not carrying out early mobilization are that the wound takes longer to heal, the skin on the back becomes sore due to lying down for too long, the body becomes easily tired and sore due to lack of movement, and the length of hospital treatment will increase (Eftani, 2023).

Based on the research results of Sylvia and Rasyada (2023),The difference in the average pain intensity before and after early mobilization was 5.29 to 2.75. After early mobilization, a p-value of 0.00 ($p<0.05$) was obtained, meaning that there was an effect of early mobilization in reducing pain in post-cesarean section patients treated in the obstetrics room of AR Bunda Prabumulih Hospital.

Early mobilization exercises can also make mothers feel healthier, stronger, and can reduce pain, thus mothers gain strength, accelerate healing, improve bowel and bladder function, stimulate intestinal peristalsis to return to normal and mobilization also helps accelerate the body's organs to work as before (Nadiya and Mutia, 2018). In addition, support from health workers is also needed by providing early mobilization exercises to post-cesarean section mothers as one of the non-pharmacological therapy efforts in dealing with post-operative pain (Supriani and Rosyidah, 2024).

In the research results of Ginting, Utami, Novryanthi (2024),Based on the results of statistical tests with the Paired Samples Test, the resulting P value is $0.000<0.05$, meaning that Ha is accepted and H0 is rejected, which can be concluded that there is an effect of early mobilization on the seriousness of pain in post-cesarean section patients at Siloam Hospital Jakarta.

In this research, I chose the Banda Aceh City Maternity and Child Hospital, which is one of the Government Hospitals in the Aceh Government of Banda Aceh City.The difference between Government Hospitals and Private Hospitals can be seen in terms of quality in health services consisting of consumer quality, which is related to whether the services provided are in accordance with what the patient wants, professional quality, which is related to whether the services provided meet the patient's needs according to what is diagnosed by professionals, and management quality, which is related to whether the services provided are carried out without waste and errors, at an affordable price, and comply with official regulations and other regulations (Salim, 2020).

Based on the results of an initial survey conducted at the Banda Aceh City Women and Children's Hospital in the Operating Room, it was found that 47 patients underwent C-section deliveries in January and February 2025, with 40 of those undergoing vaginal deliveries. Furthermore, C-section deliveries may increase or decrease each month.

Regarding the problems encountered by post-cesarean section mothers, namely the lack of early mobilization after surgery, it is hoped that this research will provide the best solution for mothers in carrying out early mobilization after cesarean section surgery to assist the wound healing process. Based on these data, the researcher is interested in conducting a study entitled"The Effect of Early Mobilization in Post-Caesarean Section Mothers on Pain Intensity".

Research Methods

This study used a quantitative research method with a quasi-experimental design. Quasi-experimental research is a study that attempts to establish a causal relationship between independent and dependent variables, where the independent variable is intentionally controlled and manipulated. Experimental research is an experimental activity aimed at understanding a symptom or effect that arises as a result of a particular treatment (Abraham and Supriyati, 2022).

This study aims to reveal the phenomenon of whether there is an influence of early mobilization in mothers after Caesarean section on pain intensity at the Aceh Government Maternity and Child Hospital, Banda Aceh City.

The sample size in this study was 30, using the total sampling method. Total sampling is a sampling technique that uses all members of the population as samples (Melda et al., 2022).

In this study, the analysis was carried out using univariate analysis.aims to define the variables separately, the variables of early mobilization and pain in post-cesarean section patients, while the bivariate analysis in this study isIs there an effect of early mobilization of mothers undergoing caesarean section on pain intensity?

Results and Discussion Results

a. Respondent Characteristics

Table 1: Characteristics of Respondents of Post-Caesarean Section Mothers at the Aceh Women and Children's Hospital (n = 30)

No	Variables	Frequency (F)	Percentage (%)
1	Age		
	<26 Years	7	23.33
	26-35 Years	23	76.67
2	Work		
	Housewife/Student	15	50.00
	Trading/Self-Employment	1	3.33
	Private employees	12	40.00
	civil servant	2	6.67

Source: primary data, 2025

Based on the table above, it shows that most of the respondents are in the 26-35 years age group, amounting to 23 respondents (76.67%) and very few are in the <26 years age group, amounting to 7 respondents (23.33%). In the occupation variable, most of them work as housewives/students, amounting to 15 respondents (50.00%) and very few are traders/entrepreneurs, amounting to 1 respondent (3.33%).

b. Pain Frequency

Table 2: Frequency of Pain Intensity Before Mobilization of Mothers After Caesarean Section at the Aceh Women and Children's Hospital (n = 30)

No	Pain Scale Before	Frequency (f)	Percentage (%)
1	Light	7	23.33
2	Currently	23	76.67
	Amount	30	100.00

Source: Primary data, 2025

Based on the table above, the largest number of respondents were on the moderate pain scale, amounting to 23 (76.67%) and a small number on the mild pain scale, amounting to 7 (23.33%).

Table 3: Frequency of Pain Intensity After Mobilization of Mothers After Caesarean Section at the Aceh Women and Children's Hospital (n = 30)

No	Post-Pain Scale	Frequency (f)	Percentage (%)
1	Light	25	83.33
2	Currently	5	16.67
	Amount	30	100.00

Source: Primary data, 2025

Based on the table above, the largest number of respondents were on the mild pain scale, amounting to 25 (83.33%) and a small number on the moderate pain scale, amounting to 5 (16.67%).

c. Univariate Analysis

Table 4: Pain Intensity in Post-Caesarean Section Mothers before and after early mobilization at the Aceh Mother and Child Hospital (n = 30)

Pain Intensity	Mean	Elementary School	Min-Max
Pretest	4.06	0.90	2-6
Posttest	2.86	0.77	1-4

Source: Primary data, 2025

Based on the analysis above, the average pain intensity before mobilization was 4.06 with the lowest intensity scale being 2 and the highest being 6. The average pain intensity after mobilization was 2.86 with the lowest intensity scale being 1 and the highest being 4.

d. Bivariate Analysis

Table: 5 Effect of Early Mobilization on Pain Intensity in Post-Caesarean Section Mothers at the Aceh Government Maternity and Children's Hospital (n = 30)

Pain Intensity	Mean	Min-Max	Elementary School	95%CI	p-Value
Pretest	4.06	2-6	0.90	3.72-4.40	0.000
Posttest	2.86	1-4	0.77	2.57-3.15	

Source: Primary data, 2025

Based on the table above, it shows that the average value of pain intensity of respondents before early mobilization was 4.06 and after early mobilization was 2.86. The results of the Paired T-Test obtained a P value = 0.000 <0.05 so that Ho was rejected and it can be concluded that there is an effect of early mobilization on pain intensity in Post Sectio Caesarea mothers.

Discussion

a. Pain Intensity in Post-Caesarean Section Mothers Before Early Mobilization Intervention

Based on the analysis above before carrying out early mobilization,Most respondents had a moderate pain scale of 23 (76.67%) withThe average pain intensity was 4.06. Before early mobilization, respondents experienced pain intensity on a scale of 2 to 6.The average pain was 4.06.

Field findings in the early postoperative phase indicate that mothers experience significant discomfort, particularly when attempting basic activities such as changing sleeping positions, breastfeeding, or urinating. This reflects the body's normal response to surgical trauma, with the central nervous system sending pain signals in response to tissue damage. However, if this pain is not properly managed, it can hinder recovery, increase stress, and prolong hospitalization.

This research is in line with (Metasari et al., 2018)This study shows that before mobilization intervention, the majority of post-cesarean section patients experience moderate to severe pain. This is due to the surgical procedure involving incisions in the abdominal and uterine tissues, which generally causes significant pain in the early postoperative phase. This level of pain is a major barrier to patient mobility, necessitating an appropriate pain management approach to support early mobilization and faster recovery.(Metasari et al., 2018).

Post-section pain also often triggers limited movement which, if not immediately intervened, will increase the risk of secondary complications due to immobility.(Sulistiawati et al., 2024)Therefore, before early mobilization, it is important for health workers to provide education and an empathetic approach to prepare mothers mentally and physically for mobilization interventions. Effective communication-based interventions can reduce maternal anxiety about movement and increase their active participation in the mobilization process.(Indriani et al., 2023).

Based on the research results above, the researchers assume that mothers experience moderate to severe pain due to tissue trauma and post-surgical inflammation, which causes discomfort and limited mobility. This pain is assumed to be localized to the surgical wound area and may increase when the mother tries to move or change position, thus causing a fear of mobilization. Furthermore, maternal pain perception is also influenced by psychological factors such as anxiety and fatigue, which can lower the threshold for pain tolerance. Therefore, before early mobilization, it is assumed that mothers require effective pain management so that the mobilization process can be carried out safely and comfortably.

b. Pain Intensity in Post-Caesarean Section Mothers After Early Mobilization Intervention

Based on the analysis above, it was obtained after carrying out early mobilizationMost respondents experienced mild pain intensity, amounting to 25 (83.33%) on a scaleThe average pain intensity was 2.86. After mobilization, the pain scale decreased to 1 to 4.The reduction in mean pain from 4.06 to 2.86 after early mobilization intervention strengthens the hypothesis that early mobilization contributes significantly to managing postoperative pain.

The results of this study are the same as the research(Sulistiawati et al., 2024)showed that after early mobilization intervention, there was a significant decrease in pain levels in post-cesarean section patients. Patients who mobilized early, such as sitting or walking lightly within the first 6–12 hours after surgery, reported less pain compared to those who were not mobilized immediately. These results indicate that early mobilization

is not only safe but also effective in accelerating recovery and reducing dependence on analgesics, thereby improving the comfort and quality of postoperative maternal care.(Sulistiawati et al., 2024).

These findings are also supported by previous studies showing that mobilization improves tissue perfusion and accelerates surgical wound healing. Light activity by mothers after surgery can inhibit fluid accumulation and inflammation in the surgical area, which can cause pain, and prevent secondary complications from immobilization.(Arnstein et al., 2023).

Reducing pain intensity can also positively impact breastfeeding and bonding between mother and baby. Mothers who feel more physically comfortable tend to be better prepared to exclusively breastfeed and care for their babies. This reinforces the importance of early mobilization not only for pain management but also as part of a holistic recovery strategy after a cesarean section.(Turisna and Panjaitan, 2021).

Based on the research results above, researchers assume that pain intensity after early mobilization can help gradually reduce pain intensity compared to mothers who are not mobilized early. This is assumed because the reduction in pain intensity scale reaches an average of 2.86 after early mobilization. Early mobilization improves blood circulation, prevents muscle stiffness, and accelerates the tissue healing process, thereby reducing the perception of pain. In addition, mobilization carried out with guidance and proper techniques can increase the mother's confidence to move, reduce muscle tension, and improve pain tolerance. Therefore, although pain may increase slightly at the beginning of mobilization, in the short term the pain intensity tends to decrease compared to before mobilization.

c. The Effect of Early Mobilization in Post-Caesarean Section Mothers on Pain Intensity

Based on the research results, it showsthat the average value of pain intensity of respondents before early mobilization was 4.06 and after early mobilization was 2.86. The results of the Paired T-Test obtained a P value = 0.000 <0.05 so that Ho was rejected and it can be concluded that there is an effect of early mobilization on pain intensity in Post Sectio Caesarea mothers.

This research is in line with research conducted byBerkanis (2020)which found a significant decrease in post-cesarean section pain intensity in mothers who mobilized early within 6 to 12 hours after surgery compared to those who did not. This study used a quasi-experimental approach and measured pain using the Numeric Rating Scale (NRS), which supports the accuracy of the resulting data.(Berkanis, 2020).

Similar results were also found in research byCahyawati and Wahyuni (2023)at Nuraida General Hospital, Bogor. In the study, early mobilization was shown to significantly reduce pain intensity within the first 48 hours after surgery. They explained that active movement can help improve blood circulation, reduce muscle tension, and accelerate the elimination of metabolites that contribute to pain.(Cahyawati and Wahyuni, 2023). In line with these results,Kumalasari et al. (2023)also noted that mothers who mobilized early experienced accelerated recovery and reduced pain compared to mothers who mobilized late.(Kumalasari et al., 2023).

Early mobilization after a cesarean section significantly helps reduce pain levels in patients. By engaging in light movement or activity early after surgery, patients experience a faster recovery and minimize the need for analgesics. Therefore, it is important to support the implementation of early mobilization as part of post-cesarean pain management in healthcare settings.(Sulistiawati et al., 2024).

The results of this study are also in line with research conducted bySantoso et al. (2022)that all respondents after being given early mobilization intervention experienced mild pain, namely 15 respondents (100%) on a pain scale of 2 and 3. Early mobilization that is carried out quickly, appropriately, and with good supervision, can increase joint mobility and improve metabolism and blood circulation better.(Santoso et al., 2022).

However, this is different from the research conducted byRatnasari (2024)showed that early mobilization did not significantly reduce pain intensity in post-cesarean section mothers. In the study, although there was a decrease in average pain in the early mobilization group, the p-value obtained was 0.078 (> 0.05), making it statistically insignificant.(Ratnasari, 2024).

Based on the results of this study, which showed a significant effect of early mobilization on pain reduction in post-cesarean section mothers, the researchers assume that early mobilization intervention provides a beneficial physiological stimulus for the healing process and pain reduction. Light physical activity after surgery, such as sitting, standing, or walking slowly, can improve blood circulation, accelerate tissue metabolism, and help reduce the buildup of inflammatory substances in the surgical wound area. This will physiologically have an impact on reducing pain intensity.

Researchers also assumed that respondents' active participation in early mobilization and support from healthcare workers played a crucial role in the intervention's effectiveness. Education provided by nurses and midwives about the importance of early mobilization likely increased mothers' motivation to move, even if they still experienced mild pain. This support has the potential to reduce fear or anxiety, which typically inhibit early mobilization. This is consistent with research.Agustin et al. (2022)which explains that nurses play a crucial role in early mobilization of post-cesarean section patients with impaired physical mobility. Nurses act as companions and facilitators, providing physical and emotional support during the mobilization process, including education, motivation, and technical assistance for safe and gradual movement.(Agustin et al., 2022).

Furthermore, previous birth experiences also influence the mother's psychological background, and her level of knowledge about postoperative care also influences pain perception and willingness to mobilize. These factors can strengthen or weaken the effect of early mobilization on pain reduction. Therefore, a holistic and personalized approach to care is highly recommended when implementing early mobilization as part of post-cesarean section pain management. This is consistent with research.Widayati et al. (2023)explained that mothers with a history of previous births by Caesarean section tend to have developed coping mechanisms for recurrent pain, which impacts their readiness to undergo early mobilization after subsequent surgery.(Widayati et al., 2023)Therefore, a holistic and personalized approach to care is highly recommended in implementing early mobilization as part of post-cesarean pain management.

Researchers believe that early mobilization has significant physiological and psychological effects in reducing postoperative pain intensity. Gradual body movement after a cesarean section can improve blood circulation, reduce muscle spasms, and stimulate the release of endorphins, which act as natural analgesics. This is consistent with research findings.Agustin et al. (2022)which shows that early mobilization in post-cesarean section patients physiologically, early mobilization helps accelerate the recovery of body organ function such as blood circulation, respiration, and the digestive system, as well as reducing the risk of complications such as thrombosis and constipation.(Agustin et al., 2022).

Meanwhile, from a psychological perspective, early mobilization increases self-confidence, reduces anxiety, and helps patients feel more independent in the healing process, thus speeding up recovery and improving the patient's quality of life.(Idawati et al., 2023)This is supported by Dorothea Orem's self-care theory, which states that patients will improve their function in meeting their needs, thus requiring early mobilization in the initial stages of meeting their needs. Furthermore, Dorothea Orem's theory also mentions the nursing system theory, which explains that patient needs also need to be assisted by health workers, so that health workers can provide support and education to patients regarding early mobilization so that patients can do it themselves.

However, it is different from researchKruse et al. (2021)found that although the average pain (NRS scale) on the first day post-cesarean section was lower in the intervention group, there was no significant difference in pain progression over the 7-day follow-up (P = 0.22). In conclusion, early mobilization had no impact on reducing physiological pain intensity or increasing feelings of psychological safety during the first week post-cesarean section.(Kruse et al., 2021)

However, researchers believe that not all mothers will respond positively to early mobilization. Fear of pain, concerns about stitches coming loose, and a lack of education or motivation can prevent mothers from mobilizing as recommended. Furthermore, certain clinical conditions, such as anemia, hypotension, or other postoperative complications, can also limit a mother's ability to move early. Researchers assume these factors may contribute to variations in study results, as some mothers may not experience significant pain relief despite early mobilization.

Respondent characteristics have an influence on early mobilization in post-cesarean section mothers which influences the intensity of pain felt.(Kumalasari et al., 2023)Age is an important factor, as younger mothers generally have better recovery abilities and are more mobile than older mothers.(Turisna and Panjaitan, 2021).

Conclusion

Based on the research findings, it can be concluded that early mobilization can reduce pain intensity in post-cesarean section patients at the Aceh Government Women and Children's Hospital in Banda Aceh City. The results of this study indicate that patients who underwent early mobilization experienced decreased pain intensity compared to before early mobilization.

The average pain intensity in post-cesarean section patients before early mobilization was 4.06, while the average pain intensity in post-cesarean section patients after early mobilization was 2.8, so there was a change in the pain scale in post-cesarean section patients with the results of statistical tests obtained a p value of 0.000. Therefore, early mobilization can be used as a nursing intervention to help reduce pain in post-cesarean section patients and improve the quality of care.

Suggestion

1. For Patients and Families

   Mothers undergoing cesarean section and their families are expected to play an active role in the early mobilization process, by following the recommendations and guidance of health workers, and not being afraid to move too quickly.

2. For the Maternal and Child Hospital Agency in Banda Aceh City
   Hospitals are expected to develop and implement standard operating procedures (SOPs) for early mobilization after caesarean section, including routine training for medical staff to ensure consistent and evidence-based implementation.
3. For the Bina Bangsa Getsempena University Institution
   It is expected to support applied research related to the effect of mobilization on pain intensity, by providing adequate research facilities and strengthening collaboration with healthcare institutions to improve the quality of education, enrich student experience, and produce findings that are useful for clinical nursing practice.
4. For Further Researchers
   Further research with larger sample sizes and using experimental designs is needed to strengthen the scientific evidence on the effect of early mobilization on pain, as well as evaluating other factors such as anxiety levels, type of anesthesia and others.

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