Quantum Wellness : Jurnal Ilmu Kesehatan
Volume 2, Nomor 4, Desember 2025
e-ISSN :3046-4633; p-ISSN :3046-4641; Hal 373-383
DOI: https://doi.org/10.62383/quwell.v2i4.2517
Tersedia: https://journal.lpkd.or.id/index.php/QuWell

The Effect of The Eracs Sectio Caesaria Method on Early Mobilization in Mothers Post-Sectio Caesaria

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Abstract. *Caesarean section (CS) is a major surgical procedure frequently performed for childbirth with specific medical indications. Early mobilization after CS is crucial to accelerate recovery and prevent complications. The Enhanced Recovery After Caesarean Surgery (ERACS) method is a modern approach aimed at enhancing recovery through multimodal pain management and early mobilization. This study aimed to investigate the effect of the ERACS method on early mobilization in post-caesarean section mothers. This research employed a quantitative design with a one-group post-test only approach. The study population comprised postpartum mothers following CS at Islamic Hospital (RSI) Al-Ikhlas Pemalang. A total of 50 respondents were selected using purposive sampling. Data were collected using observation sheets and analysed using a one-sample t-test. The results showed that the majority of respondents (78%) achieved independent early mobilization, with a statistically significant p-value of 0.000, indicating a meaningful effect. This study consists of viii (8) pages of introduction, 72 pages of main discussion, 5 data tables, 2 conceptual framework diagrams, and 8 supporting appendices. In conclusion, the ERACS method has a positive effect on early mobilization in post-caesarean section mothers.*

Keywords: *Caesarean Section, Early Mobilization, ERACS, Islamic Hospital, Postoperative*

1. BACKGROUND

A woman in labor is a woman undergoing labor, either vaginally or through medical procedures such as a cesarean section (CS). Childbirth is a significant event in a woman's life that requires intense medical and emotional attention. For mothers requiring medical intervention, a cesarean section is often the primary option. A cesarean section is a major surgical procedure that involves making an incision in the abdominal wall and uterus to deliver the baby. This procedure is performed to ensure the safety of the mother and baby in pregnancies with certain medical complications, such as preeclampsia, diabetes mellitus (DM), breech presentation, or failed vaginal delivery. (Wulandari, Z and Octaviani, 2019).

Global statistics show that the birth rate continues to increase annually. According to a 2022 World Health Organization (WHO) report, there are more than 130 million births worldwide each year, with approximately 21% of these occurring by Caesarean section. In Asia, the CS rate is even higher, reaching 30%. In Indonesia, the 2018 Basic Health Research (Riskesdas) data reported that the percentage of deliveries by Caesarean section reached 17.6%. (Zeranika, Suprihatin, and Indrayani, 2022).

Postpartum mothers often face various physical and psychological challenges. One of the most common impacts is disruption to daily activities, known as Activities of Daily Living (ADL). Early mobilization includes basic skills such as bathing, dressing, eating, and moving

Naskah Masuk: 17 Oktober 2025; Revisi: 31 Oktober 2025; Diterima: 15 November 2025; Tersedia: 18 November 2025.

around. Many postoperative mothers experience limited mobility due to intense pain, fatigue, and dependence on assistance from others. This condition can affect overall recovery time and reduce their quality of life (Astriana, 2019).

Enhanced Recovery After Cesarean Surgery (ERACS) is beginning to be implemented in various hospitals. The ERACS Caesarean Section method is a modern approach that focuses on rapid recovery through multimodal pain management, early mobilization, and reduced hospital stay. This method aims to accelerate postoperative recovery and improve patients' quality of life (Theofika, 2023). The ERACS Caesarean Section method has several advantages, such as reducing the risk of complications due to prolonged bed rest, accelerating the recovery of bodily functions, and allowing mothers to interact with their babies immediately. Furthermore, the use of multimodal pain management can reduce dependence on opioids, which often have side effects. However, this method also has challenges, such as the need for trained healthcare professionals and patient compliance with early recovery procedures. If ERACS is not implemented, patients are at risk of slower recovery, higher postoperative pain, and increased hospital stay, which can result in increased healthcare costs and the risk of complications such as deep vein thrombosis. Therefore, this study is important to evaluate the effectiveness of ERACS in accelerating maternal recovery after Caesarean Section and improving the quality of healthcare services.

Previous research has demonstrated the effectiveness of the ERACS Caesarean section method. For example, Pujiwati (2023) reported that the implementation of ERACS Caesarean section at Kartini General Hospital, Jakarta, significantly improved postoperative patient mobility. Theofika (2023) from the University of Indonesia stated that this method has a positive impact on patient independence. Furthermore, a literature review by Zuleikha (2022) highlighted that the ERACS Caesarean section method has a lower risk of side effects than conventional Caesarean sections. Meanwhile, Rudiantoro (2024) found that the implementation of this method can accelerate recovery time and reduce patient hospitalization length.

Pemalang Regency, the incidence of Sectio Caesaria shows an increasing trend from year to year, especially in mothers with medical complications that require special intervention, such as hypertension or gestational diabetes Based on a preliminary study at the Islamic Hospital (RSI) Taman Pemalang, five post-Sectio Caesaria patients reported difficulty in performing daily activities, such as bathing, dressing, and moving. Patients also complained of intense pain and anxiety related to their recovery process. This condition indicates that the SC ERACS method can be an effective solution to increase mobilization, accelerate recovery, and reduce

patient dependence on the help of others. Based on the preliminary study and the theory above, researchers are interested in conducting research with the title of the effect of the Sectio Caesaria ERACS method on early mobilization in post-Sectio Caesaria mothers?.

2. THEORETICAL STUDY

The postpartum period is the six-week period after childbirth, during which the mother's body adapts to return to its pre-pregnancy state. During this phase, physiological changes occur, such as uterine involution, hormonal changes, and psychological adaptation to motherhood. The postpartum period is crucial for preventing complications and ensuring the health of both mother and baby. For mothers who undergo cesarean sections, the postpartum period requires special attention due to the presence of surgical wounds that require optimal care. The wound healing process progresses through several phases—inflammation, proliferation, and remodeling—which are influenced by nutritional factors, health conditions, early mobilization, medical facilities, culture, and genetic factors. Adequate protein intake, especially from sources such as snakehead fish, eggs, and meat, supports the formation of new tissue. Meanwhile, measured early mobilization can accelerate the recovery of body functions and reduce the risk of complications such as thrombosis.

The Enhanced Recovery After Caesarean Surgery (ERACS) method is a modern approach that combines multimodal pain management, early mobilization within the first six hours postoperatively, and rapid oral recovery. This method has been proven to accelerate recovery, reduce hospital stays, and increase maternal independence in activities. The success of ERACS is greatly influenced by medical team coordination, patient compliance, and sound preoperative education.

Post-CS management includes pharmacological therapy such as administration of analgesics (paracetamol, ketorolac), prophylactic antibiotics, NSAIDs, and oxytocin, as well as non-pharmacological therapy in the form of gradual mobilization exercises, breathing techniques, pain management with relaxation, and fulfillment of high-protein nutrition. Signs of good surgical wound healing include shrinking stitches, changes in wound color to become paler, dry skin, and the emergence of mild itching. Monitoring with the REEDA scale (Redness, Edema, Ecchymosis, Discharge, Approximation) helps health workers assess the progress of healing.

Research at Al-Ikhlas Islamic Hospital in Pemalang showed that the implementation of the ERACS method significantly influenced early maternal mobilization after a cesarean section, with the majority of respondents (78%) able to mobilize independently within a short

time (p-value 0.000). These findings confirm that the combination of comprehensive care, early mobilization, and psychological support can accelerate the postpartum recovery process in mothers undergoing cesarean sections.

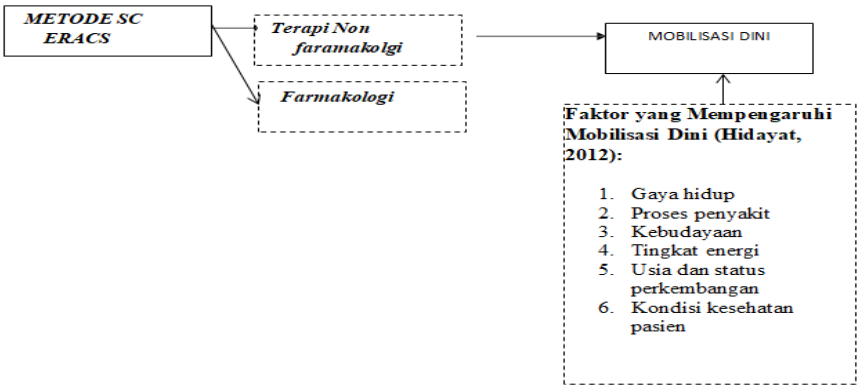

Figure 1. Theoretical Framework.

3. RESEARCH METHODS

This study used a quasi-experimental method with a One-Group Post-Test Only Design. The study population was mothers giving birth at RSI Al-Ikhlas Pemalang who underwent cesarean section with the Enhanced Recovery After Caesarean Surgery (ERACS) method. The sample size was 50 respondents selected using a purposive sampling technique based on inclusion and exclusion criteria. Data were collected using an observation sheet on the level of early mobilization, then analyzed using descriptive statistics for frequency distribution and a One-Sample T-Test to determine the effect of the ERACS method on early mobilization of mothers after cesarean section.

4. RESULTS AND DISCUSSION

Research Characteristics

The research subjects were mothers who gave birth by Caesarean section at Al-Ikhlas Islamic Hospital, Pemalang, from May to July, with a total of 50 respondents who met the inclusion and exclusion criteria. The sampling technique used was non-probability sampling with a random sampling technique.*Purposive Sampling*

1. The Characteristics of the Research Subjects by Age are Shown in the Table

Table 1. Frequency Distribution of Age Characteristics of Research Subjects Respondents.

Characteristics	Subject	Amount	Present
Age	< 20 Years	0	
	20-35 Years	38	76.0

	> 35 Years	12	24.0
Amount		50	100

Based on the table above, it can be seen that the majority of respondents were in the 20–35 age range, amounting to 38 respondents (76.0%). Meanwhile, there were 12 respondents aged >35 years (24.0%), and 0 respondents aged <20 years (0%). This indicates that the majority of respondents in this study were in the productive age range, namely 20–35 years.

2. The Characteristics of the Gravida Research Subjects are Shown in the Table.

Table 2. Frequency Distribution of Gravida Characteristics of Research Subjects Respondents.

Characteristics	Subject	Amount	Present
Pregnant	Primigravida	13	26.0
	Multigravida	27	54.0
	Grandmultigravida	10	20.0
Amount		50	100

Based on the table above, it can be seen that the majority of respondents were multigravida, totaling 27 (54.0%). There were 13 primigravida respondents (26.0%), while 10 grandemultigravida respondents (20.0%). This indicates that the majority of respondents in this study were pregnant women who had been pregnant more than once (multigravida).

Early Mobilization Rate After Application of the ERACS Sectio Caesaria Method

Table 3 Results of Early Mobilization Levels.

		Early mobilization		
		Not Independent	Independent	Total
Operation	Fault	11	39	50
Total		11	39	50

Based on the table above, it can be seen that of the total of 50 post-cesarean section respondents, the majority were in the independent early mobilization category, namely 39

respondents (78.0%), while the remaining 11 respondents (22.0%) were in the non-independent category.

Bivariate Analysis

The effect of the ERACS Caesarean Section method on early mobilization in mothers giving birth after Caesarean Section.

Table 3 Statistical Test Results.

	N	Mean	Std. Deviation	Std. Error Mean	Sig. (2-tailed)
mobilization	50	1.78	.418	.059	.000

Based on the results of the one-sample t-test in Table 4.3, the number of respondents (N) was 50 with an average value of early mobilization of 1.78 and a standard deviation of 0.418. The standard error of the mean was 0.059. The one-sample t-test showed a significance value (Sig. 2-tailed) of 0.000 (<0.05), so it can be concluded that there is an influence of the SC method.*ERACS*on early mobilization in mothers giving birth after CS

Discussion

Based on the research results, it can be seen that the majority of respondents were in the age range of 20–35 years, namely 38 people (76%), while respondents aged over 35 years were 12 people (24%) and there were no respondents aged under 20 years. This shows that the majority of mothers in this study were in their productive age which is the safest period for pregnancy and childbirth. According to WHO (2022), the age of 20–35 years is considered a healthy reproductive age because in this age range the risk of complications such as preeclampsia, premature labor, and fetal growth disorders is relatively lower compared to pregnancies at the age of <20 years or >35 years. At this age, the mother's physical condition is generally stable, mental readiness is more mature, and coping skills are better in facing the process of pregnancy and childbirth.

This is in line with the opinion of Lowdermilk et al. (2020), who stated that mothers of productive age are more cooperative in following recommended health interventions such as routine prenatal checkups, nutritional education, and early mobilization after delivery, resulting in a more optimal recovery process. This research finding is also supported by Sukma and Sari (2020), who reported that mothers of reproductive age have better physical and psychological adaptation abilities in carrying out early mobilization after a cesarean section. Similarly, Sari's (2020) research found that mothers aged 20–35 years are more independent and compliant with

health care provider instructions, thus minimizing postoperative complications and shortening the length of stay.

Another study by Handayani et al. (2021) also showed that productive-age mothers have higher compliance with physical exercise and postpartum education because they are more receptive to information and have physical conditions that support mobilization activities. Yuliani and Amelia (2022) added that the reproductive age group experiences faster recovery and less pain during the early mobilization process compared to other age groups. Rachmawati et al. (2020) also emphasized that compliance with early mobilization is influenced by age and cognitive level, where mothers aged 20–35 years are more likely to understand the importance of early mobilization and are able to overcome fear or pain. Fitriana et al. (2023) also explained that productive-age mothers have better health literacy levels, making it easier for them to receive education and perform self-care after surgery. Based on these findings, it can be concluded that a healthy reproductive age plays a crucial role in the success of early mobilization because mothers in this age range are more physically, mentally, and cognitively prepared.

In addition to age, this study also found that the majority of respondents were multigravida (27 women) (54%), followed by primigravida (13 women) (26%), and grandemultigravida (10 women) (20%). These results indicate that the majority of mothers had previous pregnancy and childbirth experience. According to Potter and Perry (2023), previous childbirth experience influences a mother's readiness to face the postpartum period and postoperative recovery process, including readiness for early mobilization. Multigravida mothers generally have a better understanding of their body condition, are more confident, and have lower anxiety than primigravida mothers. This is in line with the statement of the Indonesian Ministry of Health (2023) which states that multigravida mothers are more easily able to adapt physiologically and psychologically to body changes during pregnancy and the postpartum period.

The results of this study align with Hakim's (2020) findings, which stated that primigravida mothers require more intensive support and education to perform early mobilization due to their lack of experience and higher anxiety about postoperative pain. Firdiana (2021) also found that multigravida mothers adapt more quickly and are more confident in performing early mobilization, while Wulandari and Sulastri (2021) reported that primigravida mothers have higher levels of anxiety about postoperative physical activity. Research by Hidayati et al. (2022) and Lestari & Astuti (2023) confirms that previous childbirth experience positively influences maternal motivation and independence in self-care. Therefore,

although multigravida mothers tend to adapt more quickly, health workers still need to provide special education and support for primigravida mothers to increase their confidence and independence in performing early mobilization.

The study found that the majority of post-cesarean section respondents were in the independent early mobilization category, with 39 respondents (78%), while 11 respondents (22%) were in the non-independent category. Early mobilization is an important step to accelerate the post-operative recovery process, prevent complications such as deep vein thrombosis and pneumonia, and help improve blood circulation (Potter & Perry, 2017). Research by Daulay et al. (2019) confirmed that providing structured early mobilization education can increase maternal independence and reduce the risk of complications. These results are also supported by research by Yanti & Astuti (2020), which found that mothers who received early mobilization education in the recovery room were able to move more quickly, namely within 6–12 hours after surgery.

Research by Nursanti et al. (2021) shows that maternal knowledge levels are significantly associated with early mobilization independence, with mothers with good knowledge being more confident and less dependent on healthcare professionals. Rahayu et al. (2022) added that emotional support from nurses also plays a crucial role in increasing mothers' sense of security and comfort in postoperative mobility. Furthermore, Rahmadani & Puspita (2023) emphasized that family support is a crucial factor encouraging mothers to actively engage in early mobilization. Thus, early mobilization independence is influenced not only by physical condition but also by knowledge, education, family support, and effective communication between nurses and patients.

The results of the one-sample t-test in this study showed that there was a statistically significant difference in the level of early mobilization of respondents after cesarean section (Sig. 0.000 < 0.05). The average early mobilization value of 1.78 with a standard deviation of 0.418 indicates that most mothers have achieved the independent category in early mobilization. These results are consistent with research by Puspitasari (2023) which states that previous birth experiences encourage multigravida mothers to move more quickly to accelerate healing and reduce pain. Maryatun (2023) also explains that early mobilization has a positive effect on maternal pain and anxiety control, thereby increasing cooperation in self-care.

Pujiwati (2023) added that implementing early mobilization according to nursing protocols has been shown to improve maternal functional status, accelerate surgical wound healing, and reduce the risk of complications. Research by Handayani et al. (2022) demonstrated that pre- and postoperative education consistently plays a crucial role in the

success of early mobilization. Sari & Fauziah (2021) also emphasized the importance of nurse support in providing verbal motivation and direct assistance during early mobilization. These results align with research by Utami et al. (2022), which concluded that early mobilization is associated with faster organ function recovery and reduced length of hospital stay. Nurhidayah & Rachmawati (2023) emphasized that family support plays a crucial role in the success of early mobilization, especially in the early hours postoperatively when the mother is still experiencing pain.

5. CONCLUSION AND SUGGESTIONS

The results showed that of the 50 respondents after cesarean section surgery, the majority were aged 20–35 years (76.0%) and multigravida (54.0%). Most respondents (78.0%) were able to perform early mobilization independently, while 22.0% still needed assistance. The one-sample t-test produced an average early mobilization value of 1.78 (SD = 0.418) with a significance value of 0.000 (<0.05), indicating a statistically significant difference in the level of early mobilization of postoperative mothers. The results of this study indicate that early mobilization after a cesarean section effectively accelerates recovery, so patients are expected to actively implement it gradually to prevent complications. The ERACS method has been proven to increase independence in early mobilization, so medical personnel need to optimize it as part of the standard of care. For hospitals, these findings can be a reference for developing policies or SOPs that support early mobilization programs to improve the quality of postoperative care. Furthermore, this study can serve as a basis for further research to explore factors influencing the success of early mobilization and develop more comprehensive, evidence-based protocols for pain management and postoperative care.

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