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Determinants of Mobilization Speed Among Post-Caesarean Mothers in Sidoarjo

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Abstract

A Caesarean section (CS) is a surgical procedure that delivers a fetus through an incision in the abdominal wall and uterus . Important aspects to consider include surgical wound care, meeting the mother's fluid and nutritional needs, pain management, and early mobilization. In postpartum cesarean section patients who do not undergo early mobilization, possible effects include increased body temperature, abnormal bleeding, thrombosis, poor involution, obstructed blood flow, and increased pain intensity. This study aims to identify the characteristics and speed of maternal mobilization after cesarean section at Rahman Rahim Hospital, Sidoarjo. This study used an analytical observational design with a cross-sectional approach. The study sample consisted of 60 respondents. The independent variables were maternal characteristics, including age, occupation, and pain intensity, while the dependent variable was the speed of mobilization in post- cesarean section mothers. The results of the Chi-square test showed that maternal age and occupation were not significantly related to the speed of mobilization. However, pain intensity had a significant relationship with the speed of mobilization, with a p-value of 0.000, indicating a statistically significant relationship between pain intensity and the speed of maternal mobilization after a cesarean section.

Keywords: *postpartum mother, caesarean section, early mobilization, pain intensity, maternal characteristics*

INTRODUCTION

A cesarean section is a surgical procedure performed when a normal delivery, which involves opening the mother's abdomen, is not possible. *A cesarean section* carries a five-fold higher risk of complications than a normal delivery (Fitriah Jumatrin et al., 2022). Indications for *a cesarean section* are categorized into three categories: relative indications, absolute indications, and social indications. Absolute indications may include placenta previa, pelvic rigidity, uterine rupture, etc (Bischof & Geissler, 2023). Relative indications may include a history of previous pregnancies, breech presentation, etc. Social indications include the mother's request for *a cesarean section* (Hardiyanti, 2020).

The World Health Organization (WHO) states that the global rate of *cesarean section* deliveries ranges from 5% to 15% of every 1,000 births. In various developing countries, government hospitals record approximately 11% of cesarean section cases, while in private hospitals the figure exceeds 30% (Yuhana et al., 2022).This trend indicates an annual increase in the practice of cesarean sections. *Cesarean sections* have now become one of the most frequently performed delivery procedures in various countries. In Indonesia, the prevalence of cesarean section deliveries was reported to have reached 17.6% in 2021 (Novita Dwi Safitri & Annisa Andriyani, 2024). The results of the study based on secondary data from the medical records of the delivery room at Rahman Rahim Hospital, Sidoarjo, in August 2023 there were 98 cases of childbirth, of which 85 (86%) cases were deliveries by caesarean section.

Mothers who give birth *by caesarean section* naturally require a longer recovery period than mothers who give birth vaginally. The average recovery time ranges from 3-4 weeks or more (Suaner & Paulina, 2024). Care for mothers who give birth by *caesarean section* requires close supervision. Several important points to consider include surgical wound care, adequate fluid and nutritional support, pain management, and early mobilization (Liawati[l] & Novani, 2019).

Mobilization is a movement or activity carried out by a mother after giving birth. In several developed countries in the world, such as Germany, the Netherlands, Canada, the United Kingdom, and the United States, early mobilization has become an important element and the main standard of care after a *Caesarean section.* Early mobilization has been shown to reduce the risk of complications and shorten the duration of hospitalization for mothers after *a Caesarean section* (Mansour et al., 2025).

After childbirth, many mothers complain about their condition, ranging from post-operative pain, difficulty moving and meeting personal needs, to the demands of caring for a baby. Based on preliminary survey data by AT Kusumaningrum et al. (2020) in the Melati Room, Doctor Soegiri At Lamongan Regional Hospital, in 6 postpartum mothers after 24 hours of Caesarean section, 2 (33.3%) were not able to do early

mobilization and 4 (66.6%) postpartum mothers after Caesarean section were able to do left and right tilts. Lack of mobilization causes joint stiffness, poor posture, muscle contractions and pain, slow wound healing, length of patient care, and increased medical costs and other social problems. Possible effects include increased body temperature, abnormal bleeding, thrombosis, poor involution, obstructed blood flow, and increased pain intensity. Based on the above background, it is very important to know the characteristics of mothers that can affect the speed of mobilization after Caesarean section (Sulistiawati et al., 2024).

METHODOLOGY

Types of research

This study used an observational analysis method with a cross -*sectional approach.* The instruments used were a mobilization observation checklist and a National Health Survey (NRS). The independent variables in this study were maternal characteristics, including age, occupation, and pain intensity, while the dependent variable was the speed of mobilization in post-cesarean mothers. This study used an observational analysis method with a cross-*sectional approach.* The independent variables were maternal characteristics, including age, occupation, and pain intensity, while the dependent variable was the rate of mobilization in post-cesarean section mothers.

Time and Location

Data collection was conducted from December 1, 2023 to January 5, 2024 in the postpartum ward of Rahman Rahim Hospital, Sidoarjo.

Sampling Techniques, Sample Size, and Inclusion Criteria

The research subjects consisted of 60 respondents. The sample criteria were inclusion criteria for postpartum caesarean section patients who did not experience postpartum emergencies, received Subarachnoid Block (SAB) anesthesia, were fully conscious, and respondents who were willing to sign informed consent. While the exclusion criteria for postpartum caesarean section patients with postpartum emergencies, uncooperative patients, and patients with mental disorders. The sampling technique was carried out by accidental sampling.

Data analysis

The research data collected using the mobilization observation sheet and the Pain Numeric Rating Scale (PNRS) questionnaire to assess the pain scale after CS were analyzed using SPSS software for Windows version 25. Data analysis was carried out univariately to describe the characteristics of each variable, then bivariate analysis was carried out using the chi-square test with a significance level of $\alpha \leq 0.05$. This research has been declared ethically appropriate by

Ethical Consideration

The Research Ethics Committee of the Chakra Brahmanda Lentera Institute (No. 143/022/XII/EC/KEP/LCBL/2023) has obtained permission to take research samples at Rahman Rahim Hospital, and has obtained the respondents' consent to be research subjects.

RESULT AND DISCUSSION

Table 1. Distribution of Respondent Characteristics

Variables	Frequency (n)	Percentage (%)
Age		
20-30 Years	43	71.7
31-35 Years	8	13.3
>35 Years	9	1 5
Work		
Work	29	48.3
Housewife	31	51.7
Pain Intensity		
Scale 1-3	3	5
Scale 4-6	36	60
Scale 7-10	21	35

Source: Main Data, 2024

Based on the analysis above, 60 respondents found that the highest prevalence was in the 20-30 age group, at 71.7%. This aligns with research (Ida A, 2021), which found that a healthy and low-risk reproductive age ranges from 20-35 years, which is a favorable period for pregnancy, childbirth, and breastfeeding. The above analysis also shows that the majority of the 60 respondents were housewives (51.7%). This aligns with 2019 data from the Ministry of Women's Empowerment and Child Protection, which shows that approximately 51.88% of women in Indonesia are employed, and 70.96% of them are married. Furthermore, the above analysis shows that the pain intensity of the 60 respondents after *cesarean section* was mostly on a scale of 4-6, or 60%.

Table 2. Relationship between maternal characteristics and speed of mobilization

Independent Variables	Dependent Variable (Mobilization Speed)				Total	pvalue
	Good	Presentation	Not good	Presentation		
Age						
20-30 Years	26	65%	18	90%	44	0.411
31-35 Years	7	17.5%	2	10%	9	
>35 Years	7	17.5%	0	0%	7	
Work						
Housewife	19	50%	11	50%	30	0.743
Work	19	50%	11	50%	39	
Pain Intensity						
Scale 0-3	3	9.3%	2	7.1%	5	0,000
Scale 4-6	24	75%	4	14.2%	28	
Scale 7-10	5	15.7%	22	78.7%	27	

Source: Main Data, 202 4

Based on *the Chi Square Test cross tabulation table* above, the following results were obtained: For the Re variable, it was found that *the P value* was 0.411, which means there is no relationship between maternal age and the speed of mobilization. For the maternal occupation variable, *the P value was* 0.743, which means there is no relationship between working/unworking mothers and the speed of mobilization, and for the pain intensity variable, *the P value was* 0.000, which means there is a relationship between pain intensity and the speed of maternal mobilization after a *Caesarean section* (Kusumaningrum & Kartikasari, 2020) .

In the variables of age and occupation with the speed of mobilization, the results of the study showed no relationship between maternal age and occupation with the speed of maternal mobilization after *a Caesarean section* (Ali et al., 2020). This is in line with Riandari's (2020) research on factors that influence the wound healing process in *post-Cesarean section patients*, which states that age is not related to healing in *post-Cesarean section patients*. Usually, younger mothers can accelerate mobilization compared to older mothers (Lema et al., 2019). Age development is in line with the maturity of locomotor function. For example, a decrease in activity occurs in middle age which continues into old age. Meanwhile, according to (Roslianti et al., 2020), women who have jobs tend to be more independent than women who do not have jobs. Mothers who work outside the home have wider access to information about the importance of accelerating mobilization after a Caesarean section, and working mothers tend to be more independent. Regardless of age, the speed of mobilization can still run well because the speed of mobilization is influenced by many factors, not just age and occupation (Ningsih, 2023).

The results of the pain intensity variable test, *the P value is* 0.000, which means there is a relationship between pain intensity and the speed of maternal mobilization after a *Caesarean section.* The results of this study are in line with the research of Satus et al (2023) entitled "The Relationship between Pain Levels in Surgical Wounds and Early Mobilization in Post-Caesarean Section Mothers at the Melati Pavilion of Jombang Regional Hospital" which states that there is a relationship between pain levels and early mobilization in post-SC mothers in the postpartum room of Jombang Regional Hospital (Anggraeni et al., 2024). The results of this study are in line with the research of Lega et al (2022) entitled "The Relationship between Pain Levels and Early Mobilization Ability in Post-Caesarean Section Mothers at Assalam Hospital in 2022", from 73 respondents, most of the respondents had mild pain and were able to perform early mobilization as many as 67 (91.8%). The results of the Spearman Rank statistical test p = 0.008 < 0.05 and a correlation coefficient of 0.306. This means that there is a "low/weak but definite" relationship between the independent variable and the dependent variable. Recommendations for post-CS patients continue to perform early mobilization at home so that pain is reduced) (Kintu et al., 2019).

Surgical procedures such as *Caesarean sections* often trigger a pain response. Pain is an unpleasant sensory and emotional state that can be influenced by tissue damage (Paemboan & Ilmiah, 2025). Pain is subjective, like our five sensory perceptions of taste or smell, although sensory stimuli and pain stimuli are very different (Rachman et al., 2023). The sensory experience of pain is caused by noxious stimuli that travel from the periphery through the spinal cord, brainstem, thalamus, and cerebral cortex (Damayanti et al., 2021).

Pain intensity is a measure of the severity of pain a person experiences. A common problem after *a Caesarean section* is pain caused by the incision. Postoperative pain usually occurs after the effects of anesthesia wear off (Amir & Yulianti, 2020) . One impact of a *Caesarean* section is that pain at the incision site is 27% higher than a vaginal delivery, which has a lower pain level of around 9% (Aisyah et al., 2023). *Post-caesarean section* can have an impact on the mother's post-natal period, namely reducing the quality of breastfeeding because the mother delays early breastfeeding due to discomfort/pain that arises after surgery, post-natal depression, speed of mobilization and length of hospitalization (Zuleikha et al., 2022).The results of the study showed that pain intensity significantly affects the speed of maternal mobilization *after a Caesarean section.* Although acute pain due to surgical incisions after *a Caesarean section* is normal, this can impact several things, one of which is the speed of maternal mobilization (Ristanti Agustina, 2023). Many mothers still appear afraid and reluctant to do early mobilization because of the sensation of pain (Bahrudin, 2018). Meanwhile, age and occupation are not directly related to the speed of maternal mobilization after *a Caesarean section. Early mobilization is more influenced by* postoperative physical conditions, pain management, and support provided during the treatment period (Siagian et al, 2023).

CONCLUSION

Based on the research results, it appears that the mother's age and occupation are not related to the mother's speed of mobilization after *a cesarean section*, but the intensity of pain is related and can influence the mother's speed of mobilization *after a cesarean section.*

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