The Correlation of Early Mobilization and The Wound Healing Process of Post Sectio Caesaria in The Maternity Room of RSUD Kabupaten Kediri

Sripi Ulandari¹, Eva Nur Azizah², Ratna Feti Wulandari³
¹,²Nursing Practitioner, RSUD Kabupaten Kediri, Indonesia
³Midwifery Department, STIKes Pamenang Kediri, Indonesia

Article Information

History Article:
Received, 08/02/2022
Accepted, 27/07/2022
Published, 15/08/2022

Keywords:
early mobilization, post Sectio caesarea, wound healing

Abstract

Sectio caesarea is an artificial labor where the fetus was born through an incision in the abdominal wall and the uterus' wall on the condition of the uterus intact and fetal weight above 500 grams. Labor by Sectio caesarea caused sores and pain. The presence of wounds and pain causing the mother to be lazy or afraid to mobilize. Early mobilization is a rehabilitative action that is carried out after the patient is awake from anesthesia and after surgery. This study aimed to analyze the correlation between early post-sectio caesarea mobilization and the wound healing process of post operative sectio cesaria. This study used a cross sectional method and the sample was collected as many as 40 respondents using simple random sampling technique. The research data was taken using a questionnaire and then analyzed using the contingency coefficient test. The results showed that almost all of them as many as 35 respondents (87.0%) did early mobilization. The wound healing process of Sectio Caesarea was almost entirely in the good category, namely 35 respondents (87.0%). Contingency coefficient test results obtained = 5% = 0.05, p<α Positive correlation, postpartum mothers often did early mobilization, the better the wound healing. C = 0.611 means a strong correlation level. From the results of these studies, it is necessary to increase the knowledge of post partum mothers about the factors that accelerate the wound healing process of post sectio Caesarea.

© 2022 Journal of Ners and Midwifery

Correspondence Address:
STIKes Pamenang Kediri – East Java, Indonesia
Email: regianaia2014@gmail.com
DOI: 10.26699/jnk.v9i2.ART.p154-161
This is an Open Access article under the CC BY-SA license (http://creativecommons.org/licenses/by-sa/4.0/)
INTRODUCTION

Labor is a process of expulsion of the products of conception (fetus and uri) that can live in the world outside the womb through the birth canal (Sulisian, 2019). Childbirth is a life experience that can lead to positive and negative potential for the mother's psychology (Bryanton, et al., 2008). The experience of labor in primiparous mothers will affect perceptions, responses, needs and support in dealing with childbirth (Nurlaela, 2008). Delivery baby can be done in two ways, namely vaginal delivery and delivery by cesarean section (SC). Vaginal delivery is the discharge of the products of conception through the birth canal that can be performed without the aid of a device (spontaneous delivery) and with the aid of a device (operative obstetrics). Delivery sectio caesarea is artificial birth where the fetus was born through an incision in the abdominal wall and the wall of the uterus on the condition of the uterus intact and fetal weight above 500 grams which is often called sectio caesarea (SC) (Mitayani, 2011; Green, 2012).

Sectio Caesarea (SC) is a risky procedure, the effects are included bleeding, infection, anesthesia, pulmonary embolism, kidney failure due to prolonged hypotension. Patients who undergo delivery by Sectio Caesarea (SC) method usually has various discomforts such as pain from abdominal incision and side effects of anesthesia. The labor process of mothers with Sectio Caesarea (SC) will also affect the physiological response after giving birth (Reeder, 2011).

Sectio Caesarea (SC) is one of the most commonly performed surgical operations in the world. According to the World Health Organization (WHO) (2014), 99% maternal deaths due to labor or birth problems occur in developing countries. One of the main indicators of a country's health status is the maternal mortality rate (MMR). WHO (2012) explained that 16 % Sectio Caesarea (SC) which exceeds the recommended limit. The Sectio Caesarea (SC) indicator was 5–15% for each country (Suryati, 2012). Surgery performed in an attempt to remove the baby will leave an incision wound condition. According to Smeltzer & Bare (2002), explaining that the incision was made with a clean cut using a sharp instrument as an example; Wounds had made by the surgeon in any surgical procedure, such as in Sectio Caesarea (SC) sterile wounds (aseptic wounds) were usually closed with sutures after all bleeding vessels have been carefully ligated. As a result of this incision will cause the breakdown of body tissue and make wounds on people who had surgery.

Early mobilization was a rehabilitative action that is carried out after the patient was awake from anesthesia and after surgery. Mobilization was useful to assist in the course of wound healing. Mobilization or movement is a person's ability to move freely by using the coordination of the nervous and musculoskeletal systems (Sarwono, 2008). Early mobilization is a prominent factor in accelerating postoperative recovery and preventing postoperative complications. Many benefits can be gained from bed and walking exercises in the early postoperative period. Mobilization will be very useful for all body systems, especially the function of the intestines, bladder, circulation and lungs. It also helped prevent the formation of blood clots (thrombosis) in the veins of the legs and helped the mother progress from a sick role dependence to a healthy and independent role, but some patients were reluctant to mobilize early after a few hours of delivery (Hamilton, 2005).

The concept of early mobilization originally came from early ambulation which is a gradual return to the previous stage of mobilization to prevent complications (Roper, 1996). While early mobilization is wisdom to guide the patient out of bed as soon as possible and guide him as soon as possible to walk (Soelaiman, 2003). Mobilization after Sectio Caesarea (SC) was a movement, position or activity carried out by the mother after a few hours of giving birth with Sectio Caesarea (SC) (Reeder, 2011).

Sectio Caesarea (SC) continued to increase worldwide, especially in middle and high income countries, and had become a major and controversial public health problem (Betran, et al., 2014). According to data from the World Health Organization (WHO), the standard for cesarean delivery in the UK from 2008 to 2009, the number of Sectio Caesarea (SC) increased by 24.6% which in 2004 was around 24.5% and in Australia in 2007 there was an increase of 31% which in 2007 was in 1980 was only 21%. Meanwhile, in 2014, several other countries, such as Australia the incidence of Sectio Caesarea (SC) was 32%, Brazil was 54%, and Colombia was 43% (WHO, 2014).

The incidence of Sectio Caesarea (SC) in Indonesia is generally carried out when there are
certain medical indications, as an action to end a pregnancy with complications. In addition, Sectio Caesarea (SC) is also an alternative to childbirth without medical indications because it is considered easier and more comfortable. As much as 25% of the number of births are carried out to mothers who do not have a high risk for normal delivery or other birth complications are by Sectio Caesarea (SC) (Depkes, 2012). Data from the World Health Organization (WHO) in 2015 for almost 30 years, the rate of delivery by cesarean section was 10% to 15% of all deliveries in developing countries (Sherly & Erina, 2016). The World Health Organization (WHO) sets the standard for sectio caesarea in a country is around 5-15% per 100 births in the world. The average birth rate by sectio caesarea in a country is 5-15%, in government hospitals it is 11% while in private hospitals it is more than 30% (Dwijayanti, 2014). In East Java, caesarean section in 2011 amount to 3,401 cases (20%) out of 170,000 total deliveries (East Java Provincial Health Office, 2012). Meanwhile, for the Kediri Regency General Hospital during 2020, the number of deliveries by sectio caesarea was 1,288 cases (85.47%) out of 1507 total deliveries.

Based on a preliminary study conducted by researchers that every post sectio caesarean mother must be mobilized gradually but out of 10 post sectio caesarea mothers there are 7 (70%) mothers who did not carry out the early mobilization stage until the end of the 4 stages of mobilization because they felt pain in the post sectio caesarea wound and generally makes the mother lazy to mobilize or move the body for the reason that the stitches come off which results in the stomach becoming bloated and the mother unable to fart, in practice this action is not fully implemented by nurses because some mothers refuse to mobilize, while mothers do mobilization easier to recover and only requires 3 days to be hospitalized. Therefore, there is a need for research on "The Correlation of Post Sectio Caesarea Early Mobilization and the Process of Healing Surgical Wounds in the Maternity Room of RSUD Kediri in 2021”.

**METHODS**

The research design was cross sectional. The time of this research was from July to September 2021. There were two research variables, namely the independent variable; early mobilization of post sectio caesarea, and dependent variable; the surgical wound healing process. The population was all post partum mothers with SC in the maternity room of RSUD Kabupaten Kediri. The research sample was 40 post partum mothers. The sampling technique used simple random sampling. The instrument used a questionnaire developed by researchers who had tested the validity and reliability. This study used Contingency coefficient test for data analysis.

**RESULT**

**Table 1: Frequency distribution of respondents by age in the maternity room of RSUD Kabupaten Kediri in 2021**

<table>
<thead>
<tr>
<th>Age category</th>
<th>Frequency (n)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>16-20 years old</td>
<td>4</td>
<td>10,0</td>
</tr>
<tr>
<td>21-25 years old</td>
<td>8</td>
<td>20,0</td>
</tr>
<tr>
<td>26-30 years old</td>
<td>13</td>
<td>32,5</td>
</tr>
<tr>
<td>31-35 years old</td>
<td>7</td>
<td>17,5</td>
</tr>
<tr>
<td>36-40 years old</td>
<td>8</td>
<td>20,5</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100</td>
</tr>
</tbody>
</table>

Based on table 1. It shows that from 40 respondents, the age group is 26-30 years old, namely 13 respondents (32.5%).

**Table 2. Frequency Distribution of Respondents by Education in the maternity room of RSUD Kabupaten Kediri in 2021**

<table>
<thead>
<tr>
<th>Education</th>
<th>Frequency (n)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD</td>
<td>5</td>
<td>12,5</td>
</tr>
<tr>
<td>SMP</td>
<td>6</td>
<td>15,0</td>
</tr>
<tr>
<td>SMA</td>
<td>23</td>
<td>57,5</td>
</tr>
<tr>
<td>PT</td>
<td>6</td>
<td>15,0</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100</td>
</tr>
</tbody>
</table>
Based on table 2. It shows that of the 40 respondents, most of them were 23 respondents (57.5%) with high school education.

Table 3. Frequency Distribution of Respondents by Occupation in the maternity room of RSUD Kabupaten Kediri in 2021

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Frequency (n)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRT</td>
<td>28</td>
<td>70,0</td>
</tr>
<tr>
<td>Karyawan</td>
<td>10</td>
<td>25,0</td>
</tr>
<tr>
<td>PNS</td>
<td>2</td>
<td>5,0</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100</td>
</tr>
</tbody>
</table>

Based on table 3. It shows that of the 40 respondents, most of them are 28 respondents (70.0%) as housewives.

Table 4. Frequency Distribution of Early Mobilization for Postpartum Mothers in the maternity room of RSUD Kabupaten Kediri in 2021

<table>
<thead>
<tr>
<th>Mobilization</th>
<th>Frequency (n)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do</td>
<td>35</td>
<td>87,0</td>
</tr>
<tr>
<td>Do not do</td>
<td>5</td>
<td>12,5</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100</td>
</tr>
</tbody>
</table>

Based on table 4. shows that almost all of the 40 respondents, namely 35 respondents (87.0%) did early mobilization.

Table 5. Frequency distribution of Sectio Caesarea wound healing respondents in the maternity room of RSUD Kabupaten Kediri in 2021

<table>
<thead>
<tr>
<th>Wound healing</th>
<th>Frequency (n)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>35</td>
<td>87,0</td>
</tr>
<tr>
<td>Enough</td>
<td>5</td>
<td>12,5</td>
</tr>
<tr>
<td>Bad</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100</td>
</tr>
</tbody>
</table>

Based on table 5. shows that of the 40 respondents the wound healing process of Sectio Caesarea is almost entirely in the good category, namely 35 respondents (87.0%).

Table 6. Correlation of Early Mobilization and Post Sectio Caesarea Wound Healing in the maternity room of RSUD Kabupaten Kediri in 2021

<table>
<thead>
<tr>
<th>Early mobilization</th>
<th>Wound healing</th>
<th>Total</th>
<th>Contingency Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Good</td>
<td>Enough</td>
<td>N</td>
</tr>
<tr>
<td>Do</td>
<td>34</td>
<td>30,6</td>
<td>1</td>
</tr>
<tr>
<td>Do Not Do</td>
<td>1</td>
<td>4,4</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>35,0</td>
<td>5</td>
</tr>
</tbody>
</table>

Based on table 6. It can be seen that respondents who mobilized well early with good wound healing were 34 people (30.6%), whereas, those who had poor early mobilization with good wound healing were 1 person (4.4%). Contingency coefficient test results obtained = 5% = 0.05, p <α, then Ho is rejected, meaning that there is a correlation between early mobilization and the healing process of post sectio Caesarea wounds in RSUD Kabupaten Kediri. Positive correlation, postpartum mothers often do early mobilization, the better the wound healing. C = 0.611 means a strong correlation level.

DISCUSSION

Early Mobilization

The results showed that almost all of the 40 respondents, as many as 35 respondents (87.0%) did early mobilization. This showed that almost all respondents understand the importance of the benefits of early mobilization after sectio caesarea surgery. Understanding the importance of early mobilization is based on the knowledge of the respondents. Good knowledge will affect the
mother's attitude in carrying out early mobilization, this is in accordance with the research of Citrawati, et al. (2021) explained that post sectio caesarean mothers in the Dara Room of Wangaya Hospital Denpasar have a good level of knowledge about early mobilization and most of them have a good attitude in early mobilization, using the Rank spearmen test with p value = 0.000 which shows that there is a correlation between the level of knowledge and the attitude of the mother in early mobilization after sectio caesarean.

Based on the research conducted, the results showed that the respondents were in the age category 26-30 years, namely 13 respondents (32.5%), most of the respondents, namely 23 respondents (57.5%) had high school education and most of them were 28 respondents (70.0 %) as a housewife. Productive age, educated mothers and mothers as housewives are factors that make it easy for mothers to get information about early mobilization and the direction from health workers, namely midwives in the delivery room, causes mothers to understand the importance of early mobilization. There are several factors that influence the implementation of mobilization in postoperative caesarean section mothers. According to Susilowati (2015) the factors that influence the implementation of early mobilization in postpartum mothers are working mothers, not following culture, multipara, age and education, while according to Citrawati, et al. (2021) maternal knowledge about early mobilization is good because all respondents get information related to mobilization. From the midwife, besides the mother's age, most of whom are private employees and have higher education, making it easy to get and receive information from midwives regarding early mobilization.

The benefits of mobilizing the postpartum mother are increasing circulation and preventing the risk of venous thrombophlebitis, improving peristalsis and bladder function; preventing constipation, clients feeling better, healthier and stronger, not urinary retention, accelerating uterine involution, facilitating lochia, accelerating optimal return. reproductive organs, avoiding infection and mothers can be taught to care for their babies (Susilowati, D. 2015). Early mobilization has an important role for postoperative healing, reducing pain and preventing complications, reducing chemical mediator activity and reducing pain nerve transmission to the center (Yulisetyaningrum, et al. 2021).

Mobilization of postpartum mothers post sectio caesarea can be done after 6 hours of surgery is completed according to Galagher and Mundy in Mustakim (2013) in Putri, (2019) Gradual mobilization can be carried out since 6 hours postoperatively and after day 3 the mother can be expected to walk alone without the help of others. The form of early mobilization that can be done within 24 hours of postpartum mothers after childbirth according to (Susilatyawati.A, 2009) in Siregar and Panggabean, (2018) is to move their hands and feet and body a little, sit in bed using a backrest, can sit, and walk when you can.

The results showed that from 40 respondents, 5 respondents (12.5%) did not do early mobilization. The cause of the post sectio caesarea mother not wanting to do early mobilization is the fear that the stitches will come off. This is also supported by the results of Siregar and Panggabean's research (2018) the reason mothers do not want to do early mobilization is the most important and most obtained from mothers, namely fear of loose stitches and mothers not daring to change position. Another study, Mustakim (2013) in Putri (2019), explained that postoperative clients are reluctant to move because of pain in the wound when moving, feeling weak after surgery, the client is afraid the wound will open or the stitches break so that it can cause bleeding.

**Post sectio caesarean wound healing process**

Based on the results of the study, it was found that from 40 respondents the wound healing process of Sectio Caesarea was almost entirely in the good category, namely 35 respondents (87.0%). Wound healing is the process of replacing and repairing the function of damaged tissue. The post sectio caesarean wound healing process is influenced by several factors. The factor that can hinder the wound healing process is infection. Other factors that influence the wound healing process are age, personal hygiene, nutrition, comorbidities and early mobilization. Based on the research conducted, it was found that the respondents were in the age category of 26-30 years, namely 13 respondents (32.5%), and almost all of them, namely as many as 35 respondents (87.0%) did early mobilization. The age of the respondents who are in the productive age category affects the fast wound healing. Aging can interfere with all stages of wound healing because there are vascular changes that interfere with circulation to the wound area, decreased liver function interferes
with clotting factor synthesis, slow inflammatory response, decreased antibody and lymphocyte formation, less soft collagen tissue, less elastic scar tissue (Potter and Perry, 2003; 2006).

Several research results on the factors that influence the wound healing process are research by Hamdayani and Yazia (2021) explaining that there is a correlation between age, nutritional status and early mobilization with the post sectio caesarean wound healing process. Research by Nurani et al (2015) Age, anemia and comorbidities (Diabetes Mellitus) are related to the post-SC wound healing process, which is different from the research by Sihotang and Yulianti (2018) which explained that age is not related to the wound healing process, there is a correlation between anemia and the wound healing process and there is a correlation between anemia and wound healing.

Effect of early mobilization on the surgical wound healing process

The results of this study indicate that respondents who mobilized well early with good wound healing were 34 people (30.6%), whereas, those who had early mobilization were less with good wound healing 1 person (4.4%). Contingency coefficient test results obtained = 5% = 0.05, p <α then Ho is rejected, meaning that there is a correlation between early mobilization and the healing process of post sectio Caesarea wounds in RSUD Kabupaten Kendiri. Positive correlation, postpartum mothers often do early mobilization, the better the wound healing. C = 0.611 means a strong hub level. Research that supports this study is the research of Yulisetyaningrum, et al (2021) there is a correlation between early mobilization and wound healing in post-laparotomy patients at dr. Loekmonohadi Kudus with a value (P=0.000) Odd Ratio 53.6. Wound healing after laparotomy determined full early mobilization of 53 compared to partial mobilization. Putri's research (2019) also explained that there was a correlation between early post SC mobilization and the wound healing process at the Kendari City Hospital in 2019. There was a significant correlation between early mobilization and the surgical wound healing process in the Obstetrics Room of Abdul Wahab Sjahtanie Hospital Samarinda (P<0.05 ; OR = 0.500) (Fauziah and Fitriana, 2018). There is a correlation between early mobilization and wound healing after sectio caesarea at PKU Muhammadiyah Karanganyar Hospital (Cahyaningtyas and Rahmawati, 2020). The results of this study were supported by previous studies, which the researchers argued that the early mobilization which carried out by mother after Sectio Caesarea surgery made the wound healing process better even though there are other factors that influence it, but early mobilization can be used as a determining factor to accelerate the process of wound’s healing.

Mobilization will be very useful for all body systems, especially the function of the intestines, bladder, circulation and lungs. It also helps prevent the formation of blood clots (thrombosis) in the veins of the legs and helps the mother progress from a disease dependent role to a healthy and independent role (Hamilton, 2005). Early mobilization has an important role for post-surgical healing, reducing pain and preventing complications, reducing chemical mediator activity and reducing pain nerve transmission to the center (Yulisetyaningrum, et al 2021). Early mobilization that is done well during the recovery period speeds up the wound healing process, reduces hospital stay, reduces costs and can reduce psychological stress. Simangunsong, R et al (2018) in their research explained that there was a significant correlation between early mobilization and the post sectio caesarea wound healing process at GMIM Pancaran Kasih Hospital, Manado (p = 0.001). The percentage of wound healing is that almost all wound healing is fast.

Respondents who do not mobilize early but have good wound healing, it is possible that there are other factors such as personal hygiene and nutritional status, so it can be assumed that not only early mobilization accelerates the post sectio caesarea wound healing process but there are other factors that affect the wound healing process. This is in accordance with the research of Puspitarsi et al. (2011) the most dominant factor influencing postoperative SC wound healing at PKU Muhammadiyah Gombong Hospital is personal hygiene then nutritional status and the last is DM (Diabetes Mellitus). The results of another study explained that there was a correlation between the initial mobilization of the mother's wound healing process in the post sectio caesarea inflammatory phase at the PMI Bogor Hospital with a p value of 0.000. Early mobilization is important to help accelerate wound healing after caesarean section, lack of mobilization can hinder recovery after caesarean section (Naziyah et al., 2022).
Implementation of early mobilization is very effective in post-caesarean recovery (Ningsih & Rahmadhani, 2022). Prior ambulation and proper pain controlled by the right personnel and patient education can improve the mobility of caesarean delivery patients (Ganer Herman et al., 2018). Post-partum mothers need support from their husbands and families, especially mothers who gave birth by sectio caesarea. Support from husband and family will motivate mothers to carry out early mobilization after sectio caesarea surgery. Then support will help mothers speed up post partum recovery. Helping women identify their own needs and expectations around support can reduce symptoms of early postpartum depression but can also improve maternal postpartum recovery (Negron et al., 2013).

CONCLUSION
There is a correlation between early mobilization and the post sectio Caesarea wound healing process in Maternity Room of RSUD Kabupaten Kediri. Contingency coefficient test results obtained \( \alpha = 5\% = 0.05, p<\alpha \). Positive correlation, postpartum mothers often mobilize early, the better the wound healing. \( C = 0.611 \) means a strong correlation level. From the results of these studies, it is necessary to increase the knowledge of post partum mothers about the factors that accelerate the wound healing process of post sectio Caesarea. For further research, factors that influence the wound healing process of post sectio Caesarea can be investigated.

SUGGESTION
Suggestions for Midwives in the Hospital is to continue the enthusiasm about providing motivation and encouragement to post Sectio Caesarea patients to practicing early mobilization because of the great benefits. This study was entirely funded by the Kediri District Branch of the Indonesian Midwives Association. We would like to thank the RSUD Kabupaten Kediri for facilitating the implementation of this study.

ACKNOWLEDGEMENT
We would like to give appreciation to Kediri District Branch of the Indonesian Midwives Association which provides financial support to conduct research and/or article preparation is Kediri District Branch of the Indonesian Midwives Association. IBI's role is to provide support for research progress, both in terms of funding, facilitating in the form of licensing administration and consultation.

FUNDING
This study is entirely funded by The Kediri District Branch of the Indonesian Midwives Association with contract number :107/PCIBI/VIII/2021.

CONFLICTS OF INTEREST
There was no conflict of interest in this article. The research process went smoothly both in terms of funding and the research proces.

REFERENCES


