

The Effect of Foot and Hand Massage on Pain Reduction in Post Caesarea Sectio Patients in Rajawali Room 2 Banten Regional General Hospital 2024

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ABSTRACT

Sectio caesarea is a surgical procedure on the abdominal wall and uterus which aims to give birth to a child. Indications that do not support a mother having a normal delivery are narrow pelvis, experiencing pre-eclampsia, premature rupture of membranes and several other factors. The World Health Organization (WHO) predicts that deliveries by caesarea sectio account for 10% to 15% of all births. The sensation of labor pain can be treated pharmacologically and non-pharmacologically. There are various ways to treat pain in post partum mothers using SC procedures, one of which is the foot hand technique massage, where stimulation is given by massaging the soles of the feet and hands. The aim of this community service is to determine the effect of Foot Hand Massage on pain in after sectio caesarea. The method used is a quantitative method with quasi experiment a sample of 30 people, one group pre-test and post-test. The instrument used is the Numeric Rating Scale (NRS). Data were analyzed using the Wilcoxon test. The results show data before being given the Foot technique Hand Massage has a pain scale of mild to moderate, whereas after being given the Foot Hand Massage technique it has a scale of mild to no pain, and the p value = 0.000 is obtained, so it is concluded that there is an influence of the Foot Hand Massage technique on the level of pain in clients post caesarea sectio surgery.

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INTRODUCTION

Sectio Caesarea is a surgery use give birth to child on abdominal wall and uterus, and also by making an incision in the wall front of stomach (Amru Sofian, 2012).

Sectio Caesarea is give birth to fetus through incision on wall abdomen (laparotomy) and uterine wall (hysterotomy). This definition does not includes expulsion of the fetus and abdominal cavity in cases of uterine relapse or on case pregnancy abdomen (Willianms, 2012).

Delivery by SC operation is usually carried out due to several indications. Indications that do not support a mother having a normal delivery are narrow pelvis, experiencing pre-eclampsia , premature rupture of membranes and several other factors (Purwoastuti, E & Walyani, 2021). Childbirth, whether normal or surgical, will not deny the emergence of pain. Childbirth with SC surgery will cause severe pain on the first day when the anesthesia wears off and is more pronounced when the suture wound dries (Sitorus, 2021).

Many factors can influence the onset of pain, both physical and psychological, such as age, level of mobility, internal and external self-motivation, the mother's experience and the mother's preparation for childbirth (Harnis, 2019). The World Health Organization (WHO) predicts that deliveries by caesarean section account for 10% to 15% of all births (Syahida and Jannah, 2020). Post-surgical pain will cause physical and psychological reactions to post partum mothers such as disturbed mobility, lazy to do activities, difficulty sleeping, no appetite, don't want to look after the baby so there needs to be a way to control pain in order to adapt to post-operative pain sectio caesarean .

Massage According to Pamungkas (2010) reflexology massage is a form of treatment that adopts the body's own resilience and strength, by massaging an area that has been mapped according to the location of the therapy zone. The reflexology massage mechanism is to stimulate relaxation in the area related to the nerves that have been massaged (Wijayakusuma, 2006). Based on studies over the last three to four decades, it has repeatedly confirmed that 20-80% of those undergoing surgery experience pain that is not treated adequately and that pain is classified as a serious public health problem in both developing and developed countries. The same study reported that as many as 78.4% to 92% of mothers giving birth by CS experienced moderate to severe pain. Post-SC pain can be caused by preoperative anxiety, history of previous caesarean section, incision, and lack of regional analgesia (Demelash et al., 2022).

Based on the Initial Survey conducted at Banten Regional Hospital in Rajawali 2 Room on April 1 2024, data obtained from interviews with the head of Rajawali 2 Room showed that the data for caesarean section patients in 2023 in January – December was 809 people with a monthly average of 67 person. Meanwhile, in 2024 the number of caesarean section patients will be 266 people with a monthly average of 54 people, and data for the last 5 months from January - May 2024 with observations obtained 30 patients, 30 of these patients said that nurses only recommended deep breathing relaxation during If the patient experiences pain and is given medication. The patient said the pain was slightly reduced but a moment later the pain returned, the pain scale was 7 for the second day post sc (scale 0-10), the pain came and went, around the bottom of the caesarean section, the pain often came when going to sleep and the patient had never received therapy foot and hand massage relaxation technique.

METHOD

The type of research carried out is quantitative research using quasi experiment methods, one group pre test and post test to see the effect of foot hand massage on pain in mothers post sectio Caesarea in the Rajawali 2 room at the Banten Regional General Hospital. Data collection method Total sampling, with a population of 266 in one year, the sample used was 30 people who met the inclusion and exclusion criteria. Inclusion Criteria: Patients who are willing and willing to be respondents, post sectio caesaera patients who are fully conscious, post surgery day two and day three.

This research used an instrument, namely the Numeric Rating Scale (NRS), data collection was carried out by measuring the pain scale before treatment (pre-test), then respondents were given treatment in the form of foot and hand massage which was carried out once every day with a duration of 20-60 minutes. minutes for 2-3 days, the foot and hand massage activity was carried out by the room nurse and the research team, then the pain scale was measured after being given foot and hand massage carried out for 10 minutes. The data that has been obtained is then processed, and data analysis is carried out using the Wilcoxon test because the data distribution is not normal.

RESULTS AND DISCUSSION

1. Pain Level Before and After *Foot and Hand Massage*

TABLE 1 Pain Level Before *Foot and Hand Massage*

Pain Scale and Level Before	f	%
2 (Mild pain)	19	63.3
4 (Moderate pain)	11	36.7
Total	30	100

Based on **table 1**, on a scale of looking for Post *Sectio Caesarea patients* before having *Foot and Hand Massage*, more than half of the sample (63.3%) or 19 patients were on a pain scale of 2 or on a mild pain scale.

TABLE 2. Pain Levels After Foot and Hand Massage

Pain Scale and Level After	f	%
0 (No pain)	19	63.3
2 (Mild pain)	11	36.7
Total	30	100

Based on **table 2**, the scale of looking for Post *Sectio Caesarea patients* after having *Foot and Hand Massage*, more than half of the sample (63.3%) or 19 patients were on a pain scale of 0 or no longer felt pain.

2. Wilcoxon test

The Wilcoxon test is a non-parametric test that can be used when the data is not normally distributed. This test is used to determine whether there is a difference in the averages of two paired samples.

TABLE 3. Wilcoxon Test

Measurement	N	Mean Rank	Sum Of Rank	p-value	z
After-Before	30 ^a	15.50	465,000	0,000	-5,477 ^b
Negative Ranks					
Positive Ranks	0 ^b	0.00	0.00		
Ties	0 ^c				
Total	30				

Based on table 3, it can be seen that the results of the Wilcoxon test which was carried out on the research data, obtained a p-value of 0.000 (p value < alpha value 0.05) which shows that there is a significant effect of giving *Foot and Hand Massage* on reducing pain in patients. Post *Sectio Caesarea* at the Banten Regional General Hospital.

In research that was carried out at the Banten Regional General Hospital in Rajawali 2 room regarding the provision of *Foot and Hand Massage to reduce pain in Post Sectio Caesarea* Patients which was carried out on 30 patients as a sample who had previously agreed to be respondents in this research, Apart from that, the respondents used as samples were respondents who had met the inclusion and exclusion criteria of the research that had been determined. This research was conducted on the second and third days of mothers who had undergone a *Cesarean section* (SC).

Section Caesarea (SC) is a method of delivery by making an incision in the stomach (laparotomy) and an incision in the uterus (hysterotomy). The factor in selecting a *cesarean* delivery is because it is impossible for the mother to give birth in a normal way through the vagina, generally it can also occur due to disturbances that occur in the mother and baby (Haryani, Sulistyowati, and Ajiningtiyas 2021). Disorders that can occur due to maternal factors such as premature rupture of membranes, *cephalopelvic disproportion*, severe pre-eclampsia, and due to obstructions in the birth canal. Meanwhile, factors that occur due to influence by the fetus are fetal distress, malpresentation, malposition of the fetus, failure of vacuum delivery or extraction forceps and many other factors (Dila et al. 2022).

Choosing the SC delivery method allows for the effect of pain after the birth process, which is caused by an incision in the abdomen which releases pain mediator compounds such as acetylcholine, bradykinin, etc. which increase the sensitivity of neuroreceptors to pain. The resulting pain can be reduced through the provision of pharmacological and non-pharmacological therapy. There are several pharmacological and non-pharmacological treatments to reduce pain. Currently, various non-pharmacological methods have been developed to reduce acute post-SC pain, one of which is massage. Massage is believed to be effective in relieving acute post-operative pain (Wijayanti, Sulastri and Nurlaili, 2024) . Meanwhile, pharmacological therapy can be carried out, one of which is by administering 2 mg Ketorolac. Ketorolac is a non-narcotic analgesic drug which has anti-inflammatory and antipyretic benefits so it can be an option for cesarean section patients. The way ketorolac works is as an inhibitor of the formation of prostaglandins which play a role in inflammation, pain, fever and as a peripheral pain reliever (Octasari & Inawati, 2021).

Researchers chose *Foot and Hand Massage* as a non-pharmacological alternative in an effort to reduce the pain scale and be able to reduce pain complaints. *Massage* is a light touch and massage technique that can improve the relaxed condition in the body by triggering feelings of comfort through the surface of the skin and reducing pain, this is because massage stimulates the body to release endorphin compounds (Kuswandi, 2011 in Nurrochmi, 2014). Meanwhile, neat can have an effect on the pain response by reducing or alleviating the pain scale. Massage is said to produce more stimulation that reaches the brain more quickly and produces serotonin and dopamine . *Foot and hand massage* focuses on concentrating on muscles and soft tissue so that it can provide physical and psychological calm for post-SC mothers. Massaging the hands and feet can stimulate the body to return to balance. Massaging the hands and feet can also provide several benefits for the health of post-partum mothers, namely improving blood circulation and reducing muscle tension (Wijayanti, Sulastri and Nurlaili, 2024).

Based on the research that has been carried out, the description of the level of pain before *the Foot and Hand Massage was carried out* was obtained on a pain scale of 2 (mild pain) and 4 (moderate pain) which was measured using a measuring instrument (pain scale) *Numeric Rating Scale* (NRS). These results are in line with research that has previously been carried out, namely research by Mauliani Rizki et al., 2020 regarding the effect of *Foot Massage on the pain level of Post Sectio Caesarea* clients which stated that the pain scale intervention felt by respondents was on a scale of 4-6 (moderate pain) . Pain with a mild to moderate level will generally make you feel disturbed, uncomfortable, troublesome, and you can do some activities with rest time. In this study, it was carried out after *Post Sectio Caesarea* clients , namely on the second to third day after SC, so that no respondents complained of severe pain. At the time of the research, the respondent was not yet able to do too many or heavy activities, the client was only able to sit up in bed. Pain after *caesarean section surgery* is caused by tissue damage which will stimulate the release of

chemical mediators (prostaglandins, protons, serotonin, histamine, bradykinin, cytokines and neuropeptides) which will produce a local pain sensation. Local pain sensations have a systemic effect on pain receptors, nerve impulses which will be transmitted via Delta A and C nerve fibers to the central nervous system which has a gate control system. Next, it will activate T-cells which will open the gate to the central nervous system so that pain is perceived (Potter & Perry, 2010). Meanwhile, after being given *the Foot and Hand Massage*, it was found that the pain scale level of each respondent had decreased, namely at the level of no pain to mild pain (scale 0-2). The decrease in the pain scale in clients after being given *foot and hand massage* mostly experienced a decrease in the pain scale of 2 points. *Foot and hand massage* is emphasis on specific areas of the feet and hands which makes energy flow through those parts of the body so that at the right points of the feet and hands that are massaged can overcome the symptoms that occur in these organs.

The benefits of *Foot and Hand Massage* are numerous, apart from opening blood flow and increasing blood and oxygen circulation in the body, it can also reduce discomfort and relieve pain, thereby speeding up healing and making post-SC mothers better. (Nazmi, 2018). The research is in line with research conducted by (Hamdan Hariawan, Martini Tidore, 2020), where pain treatment is carried out pharmacologically and non-pharmacologically with the aim of treating the pain by eliminating the symptoms that appear. *Foot and Hand Massage* is useful for improving blood flow, relaxing the body, reducing pain or soreness and speeding up recovery from illness (Devi Permata Sari, Supardi, 2019). This *massage* is a non-pharmacological therapy that has been proven to be able to reduce pain in post- *Caesarean section mothers* so that they can feel relaxed and adapt to the pain (Nazmi, 2018).

Based on statistical tests using the Wilcoxon test, the test results showed a p-value of 0.000 (p value < alpha value 0.05) which shows that there is a significant effect of providing *Foot and Hand Massage* on reducing pain in post- *cesarean section patients* at regional general hospitals. Banten. Apart from that, from the test results it is known that there is a negative difference between *the pre-test* and *post-test*, namely with an N value of 30, a mean rank of 15.50 and a sum of rank value of 465,000, it can be said that this value shows a decrease or reduction in the *pre-test value* to the *post-test*. So it can be seen from the results of this statistical test that there is a significant difference in reducing pain intensity. This research shows that there is an effect of *Foot Hand Massage* in reducing pain for mothers after *Sectio Caesarea* because the function of the *Foot and Hand Massage technique* can reduce the intensity of pain after *Sectio Caesarea*.

In this research, it can be seen that there is a relationship that occurs because the better *Foot and Hand Massage* is applied as a non-pharmacological therapy, the more the level of pain will be reduced and resolved. Pain is physical pain that is communicated subjectively by the person experiencing it. When someone experiences pain, they are said to be affected by the condition. Even though there is no known physical cause or source of the pain, the pain is still considered real. Patients actually experience pain in various ways and do not just imagine it, despite the fact that some pain is related to mental or psychological health. However, it is physical, mental or emotional stimulation that causes pain (Nuraeni et al., 2024).

CONCLUSION

On average, patients who received therapy responded that their pain scale decreased after using the Foot and Hand Massage technique. Thus, the Foot and Hand Massage technique is effective in reducing pain in post -caesarean section surgery patients. The results of the study showed that the data before being given the Foot and Hand Massage technique had a mild to moderate pain scale, whereas after being given the Foot and Hand Massage technique the pain scale had mild to no pain, and the p value = 0.000 was obtained, so it was concluded that there was an influence of the Foot and Hand technique Massage on the level of pain in post -caesarean section clients .

AUTHOR'S NOTE

This activity involves teams working together so that this service runs smoothly. Cucu Nurhasanah, Meynur Rohmah, Denida Mahasari, Neng Yeni acts as an activity proposer, writer, idea initiator, carries out community service and compiles activity results. Mrs. Meynur Rohmah plays a role in providing direction and suggestions.

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