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The Effect of Finger-Grip Relaxation Technique on Post Cesarean Section Pain

Shinta Novelia[1], Tommy J. Wowor[1], Novia Mulia[2]

[1] *Department of Midwife Professional Education, Faculty of Health Sciences, Universitas Nasional, Indonesia*
[2] *Department Nursing Undergraduate Program, Faculty of Health Sciences, Universitas Nasional, Indonesia*

Correspondence should be addressed to:
Shinta Novelia
shinta.novelia@civitas.unas.ac.id

Abstract:
Background: Complications that occur during pregnancy are one of the triggers for mothers to undergo surgical procedures, one of which is SC surgery. Post-SC surgery patients experience pain due to the incision made during surgery. The aim of this research is to determine pain management using the finger grip relaxation technique. This research was conducted at RSU Prikasih in 2018. A quasi-experiment method with a pre-test and post-test control group design, sampling using accidental sampling of 20 people (10 people in the control group and 10 people in the experimental group). The pain was measured using the Wong Baker Face Rating Scale. Statistical tests use the independent t-test and the paired sample T-Test. Research results show that there was a significant effect of finger grip relaxation on pain in post-SC surgery patients in the experimental group (t=15.05, p=0.000). Finger grip relaxation can reduce pain in post-SC patients. It is hoped that after this research, health workers can use this therapy to reduce pain.

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INTRODUCTION

One of the most common operations is caesarean section. This surgery aims to deliver the fetus by opening the abdominal wall and uterus. The World Health Organization (WHO) survey reports that the incidence of ILO in the world ranges from 5% to 15% (WHO, 2015). WHO data shows that around 5% -34% of total nosocomial infections are ILO (Haryanti, et al, 2013). In general, the number of caesarean section (SC) deliveries in Indonesia is around 30-80% of total deliveries (Sari et al., 2021). Cesarean section is an operation to deliver the baby through the mother's womb (Duffet & Smith, 1992). A caesarean section (c-section) is considered major abdominal surgery to deliver a baby (Yimyam & Pattamapornpong, 2022). Post cesarean section pain is a prevalent cause of obstetrical acute pain. Pain after Caesarean section activities are induced by tissue incision resulting in tissue discontinuity, nerve ending activation by chemicals released during surgery, and the existence of ischemic tissue due to cessation of blood supply to one part of the tissue. The duration of the discomfort can range from 24 to 48 hours, but it can last longer depending on the client's ability to tolerate and respond to pain (Sloman et al., 2005). Women have higher degrees of pain intensity within the first 24 hours following a cesarean section (Karlstrom et al., 2007). Some mothers feel unable to complete the birthing process because pain is a source of frustration and hopelessness (Dahlan et al., 2023).

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Various analgesic treatments are currently in use; nonetheless, pain alleviation and patient satisfaction are often insufficient. This could be owing to insufficient analgesia due to challenges in pain evaluation, differences in pain severity estimation between patients and medical staff, and variability of reported pain across different patients due to physiologic and psychologic factors. Several studies have demonstrated the value of sufficient postoperative analgesia on patient well-being, mobilization, rehabilitation, and reducing hospital stay length.

Pharmacologically, it can be overcome by using analgesic drugs, for example, morphine sublimaze, stadol, demerol, and others (Akhlagi et al, 2011; Abasi, 2015). The advantage of pharmacological treatment is that the pain can be overcome quickly, however, giving chemical drugs for a long time can cause bad side effects such as kidney problems. Pain can be managed with non-pharmacological therapy, which is often applied, including breathing techniques, audionelgesia, acupuncture, transcutaneous electric nerve stimulation (TENS), cold-hot compresses, massage touch and aromatherapy (Gondo et al., 2011). Nonpharmacological pain relief methods usually involve very low risks. As explained above, massage touch can reduce pain, one of which is the finger-hold relaxation technique. The finger hold relaxation technique is an easy way to manage emotions and develop emotional intelligence (Cane, 2013). Where the reflection points on the hand provide reflex (spontaneous) stimulation when gripping. This stimulation will send a kind of shock wave or electricity to the brain. These waves are received by the brain and processed quickly and passed to the nerves in the body organs that are experiencing problems, so that blockages in the energy pathways become smooth (Pinandita, 2012). Potter & Perry (2006) suggest that relaxation techniques enable patients to control themselves when discomfort or pain, physical and emotional stress arise. Based on research conducted by Pinandita (2012) regarding the effect of finger-hold relaxation techniques on reducing pain intensity in post-laparotomy surgery patients, the data showed that there was a difference between pre and post with finger-hold relaxation treatment on reducing pain intensity.

According to data obtained, Prikasih RSU is located on Jalan RS. Fatmawati No.74 Cilandak, Pondok Labu, South Jakarta 12450. Which is a type "C hospital and consists of 2 operating rooms, 7 inpatient rooms and consists of 155 patient beds, there are 7 obstetrician gynecology doctors, one of whom is an oncology doctor and is one of the referral hospitals, there are a large number of SC incidents every month. And according to observations made by researchers, the greater the number of cesarean section incidents, the more patients experience pain intensity due to post-SC surgical wounds. So, based on the description above, researchers are interested in researching the effect of finger grip relaxation on pain in post caesarean section patients in the inpatient room at RSU Prikasih in 2018.

METHOD

This study is a quasi-experimental study with pre-test and post-test and control group. The population is all post cesarean section women who had pain at RSU Prikasih which consisted of 162 women during January to March 2018. Sample was selected accidentally and got 20 post cesarean section women out of 162. They were divided into experiment group (10 women) and control group (10 women). The inclusion criteria are post CS women who were given corticosteroid and had pain 2 hours post-operation. The exclusion criteria are women who had infectious disease and other obstetric complications. This study was conducted in RSU Prikasih Pondok Labu Cilandak South Jakarta on May 2018. The variables are pain and finger-grip relaxation intervention. Pain was measured using the Wong Baker Face Rating Scale. Statistical tests used the independent t-test and the paired sample t-test. This research has gained permission from

Volume 01 Number 05
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Universitas Nasional and RSU Prikasih. There is no conflict of interest in conducting this research. An informed consent was made before intervention.

RESULT

Respondent Characteristics Based on Demographic Data

Table 1. Demographic Data

Characteristics	Experiment group		Control group	
	Frequency	Percentage	Frequency	Percentage
Age				
< 20	0	0	1	5
20-30	8	80	14	70
>30	2	20	5	25
Formal Education				
No education	0	0	0	0
High school	6	60	10	10
Graduate	4	40	10	10
Parity				
Primiparous	7	70	3	30
Multiparous	3	30	7	70
Total	10	100	10	100

Based on table 1, it can be concluded that majority of women are 20-30 years old in both experiment and control group. Majority of respondent had high school education in both experiment and control group. Furthermore, majority of them are primiparous in experiment and multiparous in control group.

The Univariate Analysis

Table 2. Distribution of Respondents based on Pain Levels

Characteristics	Experiment group		Control group		Total	%
	Frequency	Percentage	Frequency	Percentage		
Pain Levels Before intervention						
No hurt	0	0	0	0	0	0
Hurts little bit	0	0	0	0	0	0
Hurts little more	0	0	0	0	0	0
Hurts even more	4	40	2	20	6	30
Hurts whole a lot	5	50	7	70	12	60
Hurt worst	1	10	1	10	2	10
Pain Levels After intervention						
No hurt	0	0	0	0	0	0
Hurts little bit	0	0	0	0	0	0
Hurts little more	5	50	0	0	5	25
Hurts even more	5	50	1	10	6	30
Hurts whole lot	0	0	7	70	7	35
Hurt worst	0	0	2	20	2	10

Table 2 shows the distribution of respondents based on the pain levels before and after intervention. A half of women had hurts whole a lot pain levels in the experiment group while 70%

women had the same levels in the control group. After intervention, a half women had hurts little more pain levels in the experiment group while 70% women had hurts whole lot level of pain.

The Bivariate Analysis

Table 3. The differences of pain scale between experiment and control group after intervention

Variable	Mean	SD	p	N
Experiment group Pain score	5.60	1.174	0.005	10
Control group Pain score	8.6	0.96		10

Based on the results in the table 3, it can be concluded that pain mean score in the experiment group is 5.6 (SD=1.174) which lower than in the control group which is 8.6 (SD= .96). The independent t test shows that there is a significant differences of pain score between experiment and control group (p= .005) which means that the finger-grip relaxation technique has an effect on decreasing pain post cesarean section.

Table 4. The differences of pain scale before and after intervention in the experiment group

Variable	Pretest		Posttest		p	t
	Mean	SD	Mean	SD		
Experiment group Pain score	7.9	1.97	5.6	1.174	0.005	-6.24

Based on the results in table 4, it can be concluded that the pain mean score before intervention is 7.9 (SD=1.97) and the pain mean score after intervention is 5.6 (SD=1.174). There is a significant difference of mean score of pain between pre and post intervention in the experiment group (p= 0.005).

DISCUSSION

Cesarean section is frequently performed in Indonesia when there are medical indications, such as the way of terminating a pregnancy with problems. One of the complications after surgery is pain. Postoperative patient pain can be managed with proper pain management. The side effects of long-term analgesic use are not good, requiring nurses as providers of nursing care to post-operative patients to provide independent intervention to deal with pain. The results of this study show that between the intervention group and the control group there are differences in changes in pain perception. The results of this study are supported by Sofiyah (2014) which states that there is a significant difference in the results of the pain scale after being given the finger grip relaxation technique.

According to Hill (2011), holding your fingers can open locked energy flows called safety energy locks so that the energy flow becomes smooth. The two gate control theory states that there is another "gate" in the thalamus that regulates pain impulses from the trigeminal nerve. With relaxation, pain impulses from the trigeminal nerve will be inhibited and result in the closing of the "gate" in the thalamus. The closing of the "gate" in the thalamus causes stimulation to the cerebral cortex to be blocked so that the intensity of pain is reduced a second time (Pinandita, 2012). Non-pharmacological interventions which are part of comfort technical interventions can be given to

Volume 01 Number 05
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reduce the patient's perception of pain. Providing analgesic therapy is a standard procedure that can reduce pain perception. Side effects from giving analgesics can be minimized by providing non-pharmacological therapy.

The results of this study showed that between the intervention group and the control group there were differences in changes in pain perception in pre and post measurements. The results of this study were supported by Pinandita (2012) who stated that there was a difference between pre and post with finger grip relaxation treatment in reducing pain intensity in the experimental group at the hospital. PKU Muhammadiyah Gombong. Liana (2008) suggests that holding your fingers while taking a deep breath (relaxation) can reduce and heal physical and emotional tension, because holding your fingers will warm the points of exit and entry of energy on the meridians located on the fingers. The reflection points on the hand will provide reflex (spontaneous) stimulation when gripping. This stimulation will send a kind of shock wave or electricity to the brain. These waves are received by the brain and processed quickly, then transmitted to the nerves in the body organs that are experiencing problems, so that the blockage in the energy pathway becomes smooth, so no pain is felt, or the pain decreases/disappears (Puwahang, 2011).

CONCLUSION

This study shows that there is an effect of the finger-grip relaxation technique on pain of post cesarean section women at RSU Prikasih. This intervention has been proven as a non-pharmacological intervention in reducing post-surgery pain. The health care provider including doctors, midwives and nurses need to improve their knowledge and skills in providing nonpharmacological intervention to the patients such as finger-grips relaxation techniques to reduce pain after surgery. Further study needs to examine variables that might contribute to post-operative pain.

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CONFLICT OF INTEREST

There is no conflict of interest in conducting this study.

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