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THE INFLUENCE OF BENSON RELAXATION TECHNIQUE ON PAIN REDUCTION IN PATIENTS AFTER CESAREAN SECTION SURGERY

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Abstract

A Caesarean Section (C-section) is a surgical procedure in which a fetus is delivered through an incision made in the abdominal and uterine walls, provided that the uterus is intact, and the fetus weighs more than 500 grams. Abdominal incisions can cause pain. One non-pharmacological therapy that can be employed to alleviate post-operative abdominal pain in C-section patients is Benson Relaxation Therapy. This study aims to investigate the impact of Benson Relaxation Therapy on Pain Reduction in Post-Operative C-Section Patients. This research is categorized as a quasi-experimental study using a one-group pretest-posttest design approach. Data collection took place from August 15th to 26th, 2022, involving a population of 15 post-C-section mothers. Data were collected using both primary and secondary sources and analyzed using the Wilcoxon test, as well as univariate and bivariate analysis techniques. The study results showed a significant difference in pain levels before and after the administration of Benson Relaxation Therapy, with a p-value of 0.000 (<0.05). It is hoped that this research will enhance postpartum mothers' awareness of pain-reduction therapies, prompting them to consult healthcare professionals (doctors and nurses) and participate in seminars or workshops organized by relevant institutions.

Keywords: *Benson Relaxation, Caesarean Section, Postpartum*

1. INTRODUCTION

The trend of Caesarean section (C-section) surgery has been on the rise and is often the choice for pregnant women in developed countries due to advancements in science and technology, particularly in the field of healthcare. The incidence of C-sections has been increasing worldwide (Warsono et al., 2019). This high incidence is influenced by various factors and is not limited to developed nations; significant increases have also occurred in developing countries. Medical indications for C-sections include placenta previa, preeclampsia, fetal distress, fetal malposition, and macrosomic fetuses (Ernawati, 2019).

According to the World Health Organization (WHO), the average standard rate of C-section surgery is around 5-15%. Data from the WHO Global Survey on Maternal and Perinatal Health indicates that 46.1% of all births are delivered via C-section. Statistics from a compilation of 3,509 C-section cases by Peel and Chamberlain reveal indications for C-sections as follows: fetal pelvic disproportion 21%, fetal distress 14%, placenta previa 11%, previous C-section 11%, fetal malposition 10%, pre-eclampsia and hypertension 7%. In China, a country with a dramatic increase in C-section rates, rising from 3.4% in 1988 to 39.3% in 2010 (Warsono et al., 2019). This trend has raised

important questions and discussions about the factors contributing to the surge in C-section deliveries and their implications for maternal and infant health.

According to *Riskesdas* (Basic Health Research), the number of deliveries by C-section among women aged 20-54 in Indonesia reaches 17.6% of total deliveries. There are also various complications in deliveries among women aged 20-54 in Indonesia, with 23.2% experiencing conditions such as transverse fetal position 3.1%, bleeding 2.4%, seizures 0.2%, premature rupture of membranes 5.6%, prolonged labor 4.3%, umbilical cord entanglement 2.9%, placenta previa 0.7%, retained placenta 0.8%, hypertension 2.7%, and others 4.6% (Kemenkes, 2018). These statistics underscore the need for further research and interventions to address the prevalence and associated complications of C-section deliveries in Indonesia.

According to data from Aceh province, the rate of Caesarean section deliveries in Aceh remains high, and efforts should be made to reduce this rate through performing Caesarean sections based on medical indications and increasing pregnant mothers' awareness of appropriate Caesarean section indications. The incidence of Caesarean sections in Aceh was 23.6% in 2019 (Razali et al., 2021). Data obtained from Tk. II Iskandar Muda Hospital reveals that the number of patients undergoing Caesarean section deliveries amounted to 640 individuals from January to December 2021. In January, there were 44 cases; February, 60 cases; March, 61 cases; April, 62 cases; May, 62 cases; June, 57 cases; July, 51 cases; August, 39 cases; September, 62 cases; October, 39 cases; November, 56 cases; and December, 47 cases.

This study is related to research by Morita et al. (2020), which suggested that while pharmacological therapy can reduce pain intensity, it may not provide comfort and tranquility to clients, affecting their psychological well-being. Pharmacological interventions may also hinder clients' ability to control their pain, as they might rely on medications whenever they experience discomfort, unaware of the potential long-term effects. Combining pharmacological and non-pharmacological therapies is more effective in reducing post-Caesarean section pain compared to using either approach in isolation. The Benson Relaxation technique for pain reduction essentially combines relaxation with a philosophical or religious belief system adhered to by the individual (Morita et al., 2020). This highlights the importance of a comprehensive and patient-centered approach to pain management in post-operative care.

This study aims to investigate the high rate of Caesarean section (C-section) surgeries in Aceh and the impact of Benson Relaxation Therapy on reducing post-operative pain in patients. The research is expected to contribute to reducing the incidence of C-sections, enhancing pregnant women's understanding of appropriate indications for the procedure, and providing a more comfortable solution for post-operative patients while improving their psychological well-being.

2. RESEARCH METHODS

This research belongs to the category of quasi-experimental studies with a one-group pretest-posttest design approach. The term "quasi-experiment" is used because this study falls under the quasi-experimental research category, which aims to understand and identify cause-and-effect relationships under investigation. On the other hand, the one-

group pretest-posttest design approach details how the research is conducted with one group of subjects who undergo an initial test (pretest) before they receive the tested treatment, and then they are given a final test (posttest) after the treatment is administered (Astutiningrum & Fitriyah, 2019).

The research sample consists of 15 individuals who serve as the research subjects. In the context of this study, researchers will collect data from this group both before and after the Benson Relaxation Therapy intervention to understand the therapy's effects on reducing post-operative pain in Caesarean section patients. With this approach, the research is expected to provide a deeper understanding of the therapy's effectiveness and how its use can help enhance the well-being of post-operative patients.

3. RESULTS AND DISCUSSION

3.1. Research Results

According to the findings obtained from a study involving 15 respondents, it is evident that the distribution of pretest and posttest results related to post-Caesarean section pain, assessed using the Numeric Rating Scale (NRS), is presented in the following table:

Table 1. Frequency Distribution of Pretest NRS Pain Scale among Mothers who underwent a Post-Caesarean Section procedure

No	Pretest Pain Scale NRS	f	%
1	Moderate pain	15	100
	Total	15	100

As shown in Table 1, based on the data from 15 respondents, the pretest results for post-Caesarean section pain predominantly indicate moderate pain, with all 15 respondents (100%) falling into this category.

Table 2. Frequency Distribution of Posttest NRS Pain Scale among Mothers with Post-Caesarean Section

No	Pretest Pain Scale NRS	f	%
1	Mild pain	9	60
2	No pain	6	40
	Total	15	100

According to the data presented in Table 2, it is clear that among the 15 respondents, the majority of them, comprising 9 respondents (60%), reported mild pain levels in the post-Caesarean section posttest.

3.1.1. Results of Normality Test Analysis

Based on the research conducted on 15 respondents, the results of the normality test analysis can be observed in the following table:

Table 3. Normality Test Analysis of NRS Pain Scale Scores among Mothers

with Post-Caesarean Section

No	Description	P Value
1	Pretest I	0,005
2	Posttest I	0,005
3	Posttest II	0,050
4	Posttest III	0,097

From Table 3, it is evident that the majority of the data shows a p-value < 0.05, indicating that the data is not normally distributed. Based on this table, it can be concluded that the test to be used in this research is the Wilcoxon test.

3.1.2. Bivariate Analysis Results

Based on the normality test conducted, it is revealed that the data is not normally distributed. Therefore, this study employs a non-parametric test, namely the Wilcoxon test. The results of the research conducted on 15 respondents using the Wilcoxon test can be observed in the following table:

Table 4. The Impact of Benson Relaxation Technique on Pain Reduction in Post-Caesarean Section Patients

	Intervention Group					p value
	N	Mean	Std. Deviation	Maximum	Minimum	
Pretest	15	4,27	1,223	6	1	0,000
Posttest	15	0,8	0,862	3	0	

Based on Table 4, the findings indicate that the pretest NRS pain scale has an average value of 4.27 with a standard deviation of 1.223. The maximum recorded score is 6, while the minimum is 0, with a total of 15 respondents. In contrast, the posttest NRS pain scale has an average value of 0.8 with a standard deviation of 0.862. The highest score observed is 6, and the lowest is 1. The statistical analysis resulted in a p-value of 0.000. Notably, the p-value is less than 0.05, signifying the rejection of the null hypothesis (H0). Hence, it can be concluded that the Benson relaxation technique has a significant impact on reducing pain in post-Caesarean section patients both before and after the intervention.

3.2. Discussion

The Influence of the Benson Relaxation Technique on Pain Reduction in Post-Caesarean Section Patients at Tk. II Iskandar Muda Hospital in Banda Aceh. Based on the existing research findings, the measurement of pain in post-Caesarean section mothers using observation sheets and the Numeric Rating Scale (NRS) pain scale revealed that the majority of pretest post-Caesarean section pain was moderate, with 15 respondents (100%), while after the Benson Relaxation intervention, a small portion of posttest post-Caesarean section pain reported no pain, with 6 respondents (40%).

Caesarean section is a surgical procedure for delivering a baby through an incision in the abdominal and uterine walls, with the condition that the uterus is intact and the fetal

weight is above 500 grams. It involves the surgical delivery of a fetus through an abdominal incision (laparotomy) and a uterine wall incision (hysterotomy). Caesarean section delivery is performed when there is an abdominal and uterine incision with an intact uterus and a fetal weight of >1,000 grams or a gestational age of >28 weeks (Ahsan et al., 2019).

Pain that occurs after a Caesarean section is typically felt after the surgery is completed, and the patient begins to regain consciousness as the effects of anesthesia wear off. Many mothers experience pain at the site of the surgical incision, which is a common complaint because the body undergoes trauma. Pain at the incision site can be distressing and uncomfortable for patients. It involves unpleasant sensations, both sensory and emotional, related to tissue damage, causing individuals to feel distressed, ultimately affecting their daily activities (Astutiningrum & Fitriyah, 2019).

After undergoing a Caesarean section, patients are typically administered pharmacological therapy, such as analgesic medications to alleviate pain resulting from the incision and the fading effects of anesthesia. Pain relief medications, such as intravenous injection of ketorolac, may be given when the patient arrives in the recovery room. On the second day after the Caesarean section, patients are provided with Benson Relaxation therapy to alleviate or reduce the pain they experience. Benson Relaxation is an extension of the relaxation response method, involving the patient's belief factors, which can create an internal environment to help patients achieve higher levels of health and well-being (Ratnawati & Utari, 2022).

Based on the statistical analysis, a p-value of 0.000 was obtained, indicating the significant influence of the Benson Relaxation Technique on pain reduction in post-Caesarean section patients before and after the intervention. This aligns with the theory that Benson Relaxation is a combination of relaxation, relaxation response, and individual belief systems. It involves relaxation through breathing and is employed in hospitals for patients experiencing pain. Benson Relaxation incorporates belief elements by using words to suggest to patients who are experiencing pain or anxiety and is administered for 10 minutes in three treatment sessions.

The results of this study align with the research titled "The Influence of the Benson Relaxation Technique on Pain Reduction in Post-Caesarean Section Patients at Dr. Achmad Mochtar Bukittinggi Hospital." The method employed in this research is Quasi-Experimental Research, aiming to reveal a cause-and-effect relationship by involving both an experimental group and a control group. The average pain scale values of respondents in the intervention group before receiving Benson relaxation were found to be 6.60, while after receiving Benson relaxation, the average pain scale values for the same group were 3.40. This signifies a decrease in the average pain scale values within the intervention group before and after Benson relaxation, with a difference of 2.20. For the control group, the average pain scale values (pretest) were 7.10, and the average pain scale values for the control group, which received only pharmacological therapy without non-pharmacological intervention (posttest), were 5.40. This indicates a decrease in the average pain scale values within the control group before and after, with a difference of 1.70. Furthermore, there is a difference in the reduction of average pain scale values between the intervention and control groups, with an average difference of -2.000 and p = 0.001 (Morita et al., 2020).

Based on the results of this research, there is a change in pain perception among post-Caesarean section patients. This change is supported by the application of the Benson Relaxation technique, which was administered three times for 10 minutes each to 15 respondents. The observed effect of the treatment is the suggestion given to patients experiencing pain or anxiety. As a result, patients do not feel excessive pain or anxiety that disrupts their comfort. Additionally, this research found that there is a significant influence between the pretest and posttest values before and after the treatment. This is due to the fact that the posttest pain scale values are significantly better compared to the pretest values for post-Caesarean section pain before the intervention. Therefore, Benson Relaxation has a strong impact in helping improve or reduce pain levels in patients with post-Caesarean section pain.

The researcher's assumption is that patients with post-Caesarean section pain experience mild, moderate, or severe pain, which limits their mobility and can disrupt their comfort. Benson Relaxation is an effective therapy for reducing pain in patients with post-Caesarean section pain, making them feel more comfortable and alleviating excessive anxiety. After receiving Benson Relaxation therapy three times for 15 respondents, the pretest and posttest results indicate mild or no pain. Based on the analysis of the data's normality, it was found that the data did not follow a normal distribution, and therefore, the Wilcoxon test was employed. The results show that the p-value is <0.05. Thus, it can be concluded that Benson Relaxation has an influence on changes in pain perception among post-Caesarean section patients.

4. CONCLUSION

Based on the comprehensive study involving 15 respondents, the research findings reveal a significant impact of the Benson relaxation technique on the reduction of pain experienced by post-operative Caesarean section patients. The statistical analysis unveiled a remarkably low p-value of 0.000, clearly falling below the standard threshold of 0.05. This outcome unequivocally leads to the rejection of the null hypothesis (H0), thereby affirming the effectiveness of the Benson relaxation technique as an influential factor in alleviating post-operative pain in individuals who have undergone Caesarean sections.

This research endeavor holds the potential to contribute substantially to the knowledge base of the respondents, enabling them to gain a deeper understanding of the therapeutic benefits of the Benson relaxation technique. Moreover, the implications of this study extend beyond its immediate scope, as it offers invaluable insights for healthcare institutions, particularly hospitals. By shedding light on the positive influence of Benson relaxation, hospitals can consider incorporating this non-pharmacological approach into their post-operative care protocols, ultimately enhancing the well-being and comfort of patients recovering from Caesarean section procedures. Furthermore, this study's findings establish a strong foundation for future researchers who aspire to delve deeper into the subject matter, serving as a well-documented reference point for exploring the multifaceted dimensions of pain management in the context of post-operative Caesarean section patients.

REFERENCES

Ahsan, A., Lestari, R., & Sriati, S. (2019). The Factors Affecting Pre-Surgery Anxiety of Sectio Caesarea Patients. *Jurnal Keperawatan*, *8*(1), 138375.

Astutiningrum, D., & Fitriyah, F. (2019). Penerapan Tehnik Relaksasi Benson untuk Menurunkan Nyeri pada Pasien Post Sectio Caesarea. *Prosiding University Research Colloquium*, 934–938.

Ernawati, N. (2019). *Buku Ajar Keperawatan Maternitas Asuhan Keperawatan Kehamilan Resiko Tinggi Dengan Pendekatan Kasus*.

Kemenkes, R. I. (2018). Hasil riset kesehatan dasar tahun 2018. *Kementrian Kesehatan RI*, *53*(9), 1689–1699.

Morita, K. M., Amelia, R., & Putri, D. (2020). Pengaruh Teknik Relaksasi Benson Terhadap Penurunan Nyeri Pada Pasien Post Operasi Sectio Caesarea di RSUD Dr. Achmad Mochtar Bukittinggi. *Jurnal Riset Hesti Medan Akper Kesdam I/BB Medan*, *5*(2). https://doi.org/10.34008/jurhesti.v5i2.197

Ratnawati, R., & Utari, K. (2022). Efektifitas Tehnik Relaksasi Benson dalam Menurunkan nyeri Post Sectio Cesarea Ibu Pospartum. *Jurnal Ilmiah JKA (Jurnal Kesehatan Aeromedika)*, *8*(1), 49–51.

Razali, R., Kulsum, K., Jasa, Z. K., Indirayani, I., & Safira, M. (2021). Profil pasien Sectio Caesarea di rumah sakit umum daerah dr. Zainoel Abidin Banda Aceh tahun 2019. *Jurnal Kedokteran Syiah Kuala*, *21*(1).

Warsono, W., Fahmi, F. Y., & Iriantono, G. (2019). Pengaruh Pemberian Teknik Relaksasi Benson terhadap Intensitas Nyeri Pasien Post Sectio Caesarea di RS PKU Muhammadiyah Cepu. *Jurnal Ilmu Keperawatan Medikal Bedah*, *2*(1), 44–54.

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