

## **ANALYSIS OF ANXIETY LEVEL IN MOTHER'S PRE OPERATION SECTIO CAESAREA WITH DIAPHRAGMA BREATHING RELAXATION**

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### **ABSTRACT**

*One of the psychological problems experienced by mothers before caesarean section surgery is anxiety. If anxiety is not treated immediately, it can hinder the birthing process. A non-pharmacological technique for reducing anxiety is the diaphragmatic breathing relaxation technique, which is a relaxation technique that causes oxygen to flow into the blood vessels, causing a pleasant sensation. The aim of the research was to determine the effect of diaphragmatic breathing relaxation techniques on reducing anxiety in patients before caesarean section surgery. This type of research is quasi-experimental with a one group pre and post test design. The population is patients who will undergo caesarean section, a total of 44 samples using incidental sampling technique. The tool for measuring anxiety uses the Zung-Self Anxiety Rating Scale (ZSAS) observation sheet which is carried out before and after the intervention is given. Data analysis used the paired samples t-test. The average pre-test anxiety level was 58.93, the post-test average was 27.23 with a difference value of 31.7 and a p value of 0.002, meaning that there was an influence of diaphragmatic breathing relaxation techniques on reducing anxiety. The conclusion of this study is that the diaphragmatic breathing relaxation technique can reduce the anxiety of pre-caesarean section patients where the anxiety level of respondents who have been given the diaphragmatic breathing relaxation technique is known to have decreased significantly. The suggestion for hospitals is to prepare an SOP regarding diaphragmatic breathing relaxation therapy so that nurses can independently help reduce anxiety in pre-caesarean section patients.*

*Keywords: diaphragmatic breathing, anxiety, preoperation, caesarean section*

### **INTRODUCTION**

Childbirth is a natural process for a mother in which the products of conception (fetus and placenta) are expelled at term (37-42 weeks). There are

two methods of delivery, namely vaginal delivery known as natural delivery and caesarean delivery or Sectio Caesarea (Garry F Cunningham, 2018). Based on World Health Organization statistical data, the use of caesarean sections continues to increase globally, now accounting for more than 1 in 5 (21%) of all deliveries. This number will continue to increase over the next decade, with almost a third (29%) of all births likely to occur via Caesarean section (WHO, 2022). The incidence of caesarean sections in Indonesia, according to data from the Ministry of Health of the Republic of Indonesia, is 927,000 out of 4,039,000 births. The number of caesarean section deliveries in Indonesia reaches around 30% to 80% of the total births (Yuniwati et al., 2024).

Mothers who give birth by caesarean section not only cause physical disorders but also cause psychological disorders, one of which causes anxiety (Suliswati et al., 2021). Based on data, anxiety for pregnant women facing childbirth in developed countries is around 7-20% and in developing countries it is around more than 20% (Dol et al., 2024). Meanwhile, according to the Ministry of Health of the Republic of Indonesia in Indonesia, around 28.7% of pregnant women experience anxiety in the third trimester (Kemenkes, 2021).

The impact of pregnant women's anxiety that is not treated will affect the physical and psychological aspects of both the mother and the fetus. Mothers who suffer from stress and anxiety during the third trimester of pregnancy will experience an increase in the release of stress hormones, causing disruption of blood flow in the uterus and resulting in weak uterine muscle contractions. This incident causes the labor process to take longer (long labor) and the risk of caesarean section is 54.8%. Meanwhile, the risk for babies can cause premature birth, giving birth to babies with low birth weight (LBW), fetal distress and in the long term, it is related to behavioral and emotional disorders in children (Dewita et al., 2023).

Pre-section caesarea (SC) anxiety is a feeling of anxiety that varies from mild to severe levels experienced by mothers who will undergo caesarean section surgery (Kristiani et al., 2024). Pre-Sc patients who have maladaptive coping result in increasingly severe anxiety, which can hinder the birth process or the post-operative recovery process (Rissa, 2024).

There are two types of ways to deal with anxiety, namely pharmacological and non-pharmacological. Meanwhile, methods that use non-pharmacology to overcome anxiety in pregnant women before caesarean section surgery include supportive group therapy, relaxation therapy, pregnancy exercise, classical music therapy, diaphragmatic breathing techniques, lavender aromatherapy, progressive muscle relaxation, spiritual remembrance therapy (Wulandari et al., 2023).

Deep breathing relaxation involves the patient's belief factors which can create a calm environment so that it can help the patient achieve a higher state of health and well-being. This relaxation is carried out by combining deep breathing relaxation with the client's beliefs. Benson relaxation in this study

was managed using Muslim beliefs, where the patient would be asked to say the name of Allah repeatedly in a reverent attitude. The aim of this therapy is to minimize the level of anxiety in surgical patients (Arif et al., 2022).

## METHODS

This research is method research *pre experimental design* with one group pre-test post-test design. The population in this study was 44 SC surgical patients for the period May-June 2024 at Langsa Regional Hospital. The sampling technique in this study used the *accidental sampling* namely a technique in which sampling is not determined first but directly collects data from the sampling units found, once the number is sufficient, data collection can be stopped (Mertha Jaya, 2020). The instruments in this research are the instruments in this research, namely equipment prepared for carrying out the research such as stationery, surgical masks as standard PPE, SOP sheets for diaphragmatic breathing relaxation techniques and questionnaire sheets to obtain data regarding pre-SC patient anxiety using *Zung-Self Anxiety Rating Scale* (ZSAS). Univariate analysis was used for frequency, distribution and proportion. After the normality test, the diaphragmatic breathing relaxation technique data was obtained, it was found that all data were normally distributed ( $> 0.05$ ) so the test used was the *paired t-test* with a confidence level of 95%. All statistical tests are carried out computerized.

## RESULTS AND DISCUSSION

Table 1.  
Frequency Distribution of Characteristics Based on Age Category, Education Level, SC Incidence

Characteristics	f	%
Age Category		
< 20	5	11,4
20-25	21	47,7
26-30	10	22,7
> 30	8	18,2
Education Level		
Junior High School	3	6,8
Senior High School	10	22,7
Diploma	19	43,2
S1	12	27,3
Incident SC		
1 kali	17	38,6
2 kali	21	47,7
3 kali	6	13,7

Table 2.  
Shapiro Wilk Normality Test on Anxiety Levels in Patients Before and After Diaphragmatic Breathing Relaxation

Shapiro Wilk			
	f	statistics	P-value
Anxiety Level (Pre-Test)	44	,185	,001
Anxiety Level (Post-Test)	44	,152	,101

Tabel 3.  
Differences in Anxiety Levels in Patients Before and After Relaxation of Diaphragmatic Breathing

Paired T-Test					
	Mean	SD	SE	P-value	N
Anxiety Level (Pre-Test)	58.93	13.709	2.067	0,002	44
Anxiety Level (Post-Test)	27.23	6.775	1.021		

### **Anxiety Level of Pre Sectio Caesarea Patients Before Being Given Diaphragmatic Breathing Relaxation**

The results of the research, before being given diaphragmatic breathing relaxation technique treatment, the majority were moderately anxious, 21 (47.7%) of the respondents. This shows that the level of anxiety among respondents was still high before being given diaphragmatic breathing relaxation technique treatment. All respondents experienced different levels of anxiety when facing a caesarean section operation. Respondents felt afraid, uncomfortable, helpless, had no idea about the implementation of the operation and various negative feelings that influenced them.

Anxiety is usually related to threats to life safety due to anesthesia procedures, experiencing or undergoing procedures that patients with anxiety will experience confusion, insomnia, restlessness, crying easily and not sleeping soundly (Sulaiman & Amrullah, 2019). The process of giving birth using the Sectio Caesarea method can make mothers worry when they experience fear such as being afraid of having to undergo surgery (sectio caesarea), incurring a lot of money because of the costs, and not being able to take care of the birth, and fear that the baby will die, so that if this fear is not overcome it will cause anxiety. . This situation will cause disruption to the fetus because stress hormones will disrupt blood flow from the mother to the fetus (Manurung et al., 2022).

According to research (Pardede, et al, 2018) on average, individuals who will undergo surgery or surgery experience anxiety, whether mild anxiety, moderate anxiety, or severe anxiety depending on the individual's own

response. The majority of preoperative patients experienced moderate anxiety. The anxiety experienced by preoperative patients was in accordance with existing statements, where most respondents felt excessively worried, accompanied by fear and seemed anxious because they were going to have surgery. This is something that often happens to individuals who are about to undergo surgery because they have the perception that surgery is threatening and scary (Pardede et al., 2018).

### **Anxiety Level of Pre Sectio Caesarea Patients After Being Given Diaphragmatic Breathing Relaxation**

The results of the research after being given diaphragmatic breathing relaxation technique treatment were that the majority of 33 (75%) respondents were not anxious. The results of the research show that reducing the anxiety level of pre-caesarean section patients can be done using diaphragmatic breathing relaxation techniques.

Relaxation techniques will increase parasympathetic nerve activity and help reduce sympathetic nerve activity and improve the balance between these two systems. The main aim of this technique is to improve the work of the parasympathetic nervous system in the body and reduce the effects of stress, anxiety and pain in the body. Relaxation techniques can be useful for patients who are about to undergo surgery or are dealing with anxiety or stress (Ross et al., 2023).

By taking deep breaths slowly, the body will become more relaxed. The feeling of relaxation will be transmitted to the hypothalamus to produce Corticotropin Releasing Factor (CRF) and then stimulate the pituitary gland to increase the production of Proopiomelanocortin (POMC) so that enkephalin production by the adrenal medulla increases and also produces the neurotransmitter endorphin which makes you relax (Donsu & Amini, 2017). Research by Vivid and Frisca (2017) shows that before deep breathing relaxation was given, the average level of anxiety of respondents was in the severe anxiety category with a percentage of 55.3%, after deep breathing relaxation was given, the average level of respondents' anxiety was in the moderate anxiety category. with a percentage of 56.3%. The results of statistical tests show that the p-value in the study is 0.000, which is smaller than the alpha value (0.05), meaning that there is an effect of breathing relaxation techniques on reducing pain.

According to researchers, the intensity of pain after the intervention decreased because the deep breathing relaxation technique intervention was able to control or eliminate pain in caesarean section patients. This is due to the provision of the deep breathing relaxation technique itself, if the deep breathing relaxation technique is carried out correctly it will result in a reduction in pain which is felt to be very reduced/optimal and the patient will feel more comfortable than before, on the contrary if the deep breathing relaxation technique is carried out incorrectly, then the pain felt is slightly

reduced but it is still painful and the patient feels uncomfortable with his situation. This can affect the intensity of pain, because if the deep breathing relaxation technique is done repeatedly it will create a feeling of comfort which will ultimately increase perception tolerance and reduce the pain experienced. If someone is able to increase their tolerance for pain, then someone will be able to adapt to pain, and will also have good self-defense as well.

### **The Effect of Relaxing Diaphragmatic Breathing on the Anxiety Level of Pre-Section Caesarea Patients**

The results of the Wilcoxon test showed that there was a significant effect of diaphragmatic breathing relaxation techniques on preoperative patient anxiety at Langsa Regional Hospital with a p value = 0.002 ( $p < 0.005$ ). From the results of this study, after being given diaphragmatic breathing relaxation, 47.7% of respondents who were moderately anxious changed to 75% who were not anxious.

Other research states that when doing deep breathing relaxation therapy exercises, respondents can train the body by regulating the rhythm of breathing properly and correctly so that focusing the mind and appreciation will speed up healing. and eliminate anxiety, stress, depression or maintain and improve health. Deep breathing relaxation is basically a breathing exercise, proper breathing exercises are an antidote to anxiety or stress (Andriyana et al., 2021).

Changes resulting from deep breathing relaxation techniques include lowering blood pressure, decreasing heart rate, reducing cardiac dysrhythmias, reducing oxygen demand and oxygen consumption, reducing muscle tension, reducing metabolic rate, increasing brain alpha waves, which occur when the client is conscious, not focusing attention, and relax, increase the sense of fitness, increase concentration improve the ability to cope with stressors. The deep breathing relaxation technique allows patients to control themselves when there is discomfort or pain, physical and emotional stress (Rahmawati & Barkah, 2023).

Researchers concluded that the diaphragmatic breathing relaxation technique or what is often called deep breathing is an effective way to reduce anxiety levels in pre-caesarean section mothers.

### **CONCLUSION**

From the results of research regarding the effect of deep breathing relaxation techniques with diaphragmatic breathing relaxation techniques on the anxiety of pre-operative cesarean section patients, it can be concluded that before the diaphragmatic breathing relaxation technique was carried out on pre-operative cesarean section patients, the majority were moderately anxious,

after the diaphragmatic breathing relaxation technique was carried out on pre-operative patients the majority of caesarean sections are not worried. And there is a significant influence of the breath relaxation technique in the diaphragmatic breathing relaxation technique on the anxiety of pre-operative cesarean section patients with a p value = 0.002 ( $p < 0.005$ ), meaning that there is an influence of the diaphragmatic breathing relaxation technique on the anxiety of pre-operative cesarean section patients.

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## REFERENCES

- Andriyana, M., Tahiruddin, & Mien. (2021). Perbedaan Efektivitas Terapi Zikir dan Relaksasi Nafas dalam Terhadap Penurunan Tingkat Kecemasan Pasien Pre Sectio Caesarea. *2021, 02*(May 2020), 1–9.
- Arif, S. H. H., Listyaningrum, T. H., ST, S., Kes, M. H., & Vita Purnamasari, S. K. (2022). *Faktor-faktor yang berhubungan dengan tingkat kecemasan pada pasien pre operasi: literature review*.
- Dewita, D., Nora, V., Julidar, J., & Cut, M. (2023). Perbedaan Efektivitas Rendam Kaki Dan Metode Birth Ball Terhadap Tingkat Kecemasan Pada Ibu Bersalin. *Femina: Jurnal Ilmiah Kebidanan*, *3*(1), 177–184. <https://doi.org/10.30867/femina.v3i1.350>
- Dol, J., Campbell-Yeo, M., Leahy-Warren, P., LaPointe, C. H., & Dennis, C.-L. (2024). Bibliometric analysis of published articles on perinatal anxiety from 1920 to 2020. *Journal of Affective Disorders*, *351*, 314–322.
- Donsu, J. D., & Amini, R. (2017). Perbedaan teknik relaksasi dan terapi musik terhadap kecemasan pasien operasi sectio caesaria. *Jurnal Vokasi Kesehatan*, *3*(2), 57.
- Garry F Cunningham. (2018). *Obstetri Williams (Williams Obstetri)* (Edisi 23). EGC.
- Kemenkes, R. I. (2021). Kemenkes Perkuat Upaya Penyelamatan Ibu Dan Bayi. *Kemenkes RI (Issue September)*.
- Kristiani, A. D., Setiani, F. A. R., & Mahayanti, A. (2024). *FAKTOR-*

*FAKTOR KECEMASAN PASIEN PRE OPERASI SECTIO CAESAREA DI INSTALASI KAMAR BEDAH RUMAH SAKIT SWASTA YOGYAKARTA.*

- Manurung, M. E. M., Purnamasari, N., Ashri, A. Al, Megasari, A. L., Rahmawati, V. Y., Oktafia, R., Fatmawati, D. A., Yuliana, D., Rahmayanti, R., Praseyorini, H., Mareti, S., & Darmayanti. (2022). *Keperawatan Martenitas* (M. J. F. Sirait (ed.)). Yayasan Kita Menulis.
- Mertha Jaya, I. M. L. (2020). *Metode Penelitian Kuantitatif Dan Kualitatif. Anak Hebat Indonesia.*
- Pardede, J. A., Sitepu, S. F. A., & Saragih, M. (2018). Pengaruh Teknik Relaksasi Nafas Dalam Dengan Terapi Hipnosis Lima Jari Terhadap Kecemasan Pre Operatif. *Jurnal Kesehatan Jiwa, 1*(1).
- Rahmawati, S. A., & Barkah, A. (2023). Perbedaan Penggunaan Distraksi (Mendengarkan Musik) dan Nafas dalam Terhadap Tingkat Kecemasan pada Ibu Pre Operasi Seksio Sesaria di Ruang Kebidanan Rsia Tiara Kabupaten Tangerang. *MAHESA : Malahayati Health Student Journal, 3*(8), 2532–2546. <https://doi.org/10.33024/mahesa.v3i8.10887>
- Rissa, R. W. H. (2024). Determinan Kecemasan Pre Operasi Pada Pasien Sectio Caesarea: Literatur Review Determinant Of Preoperative Anxiety In Caesarea Section Patiens. *Jurnal Kesehatan Madani Medika (JKMM), 15*(1), 1–13.
- Ross, P. M., Scanes, E., & Locke, W. (2023). Stress adaptation and resilience of academics in higher education. *Asia Pacific Education Review, 1–21.*
- Sulaiman, L., & Amrullah, M. (2019). Pengaruh Kombinasi Terapi Murottal Al-Quran dengan Relaksasi Nafas Dalam Terhadap Penurunan Tingkat Kecemasan Pada Pasien Pre Operasi Bedah Umum di RSUD Provinsi NTB. *Jurnal Kesehatan Qamarul Huda, 7*(1), 18–26. <https://doi.org/10.37824/jkqh.v7i1.2019.65>
- Suliswati, Payapo, T. A., Maruhawa, J., Sianturi, Y., & Sumijatur. (2021). *Konsep Dasar Keperawatan Kesehatan Jiwa.* EGC.
- WHO. (2022). WHO recommendations on maternal and newborn care for a positive postnatal experience. In *World Health Organization.*
- Wulandari, S., Viridula, E. Y., Purnani, W. T., & Yulinda, V. (2023). Effectiveness of Preoperating Teaching with Anxiety Levels in Preoperating Sectio Caesarea Patients. *Journal for Quality in Public Health, 6*(2), 352–364.

Yuniwati, C., Ramli, N., Dewi, S., Kebidanan, J., & Kemenkes, P. (2024). *Perbedaan perubahan intensitas nyeri ibu post seksio sesarea menggunakan teknik distraksi dan relaksasi Differences of change in pain intensity on mother post caesarean section using distraction techniques and relaxation PENDAHULUAN melakukan persalinan* ., 4(1), 267–275.