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EFFECT OF DEEP BREATH RELAXATION ON THE ANXIETY AMONG THIRD TRIMESTER PREGNANT WOMEN IN MOJOKERTO DISTRICT, INDONESIA: A QUASI EXPERIMENT

Relaksasi Napas Dalam Terhadap Kecemasan Ibu Hamil Trimester III Di Kabupaten Mojokerto, Indonesia: Quasi Experiment

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ABSTRACT

Background: Factors that contribute to the occurrence of lengthy labor are power: the strength of the mother when giving birth is ineffective and the mother's psychology is unready for childbirth. **Purpose:** Psychologically, an unrelaxed mother can pass this condition on to her baby so that the baby feels easily agitated. **Methods:** Used a quasi-experimental design with pretest – post-test non-equivalent control group design. The sample was divided into 2 groups (treatment and control), 15 people per group. Sampling was undertaken with purposive sampling technique. An anxiety measurement instrument was the Zung Self-Rating Anxiety Scale (SAS/SRAS). **Results:** The results of the paired t-test with a significance level of α: 0.05 was a significance of 0.007<0.05 with a confidence interval value (95% CI): 8.83 – 13.70, thus Hα was accepted. Results showed that there was an effect of deep breathing relaxation on the anxiety score of pregnant women. **Conclusion:** Deep breathing relaxation has the advantage of reducing anxiety, both physical and emotional stress, relieving pain, and insomnia. The importance of managing deep breathing relaxation non-pharmacological therapy was to reduce anxiety in pregnant women, since deep breathing relaxation therapy can be done independently and relatively easy to do.
Keywords: anxiety, deep breathing relaxation, third trimester pregnant women.

ABSTRAK

Latar Belakang: *Faktor yang berkontribusi akan terjadinya persalinan lama adalah power yaitu kekuatan ibu saat melahirkan tidak efektif dan psikologis ibu yang tidak siap menghadapi persalinan.* ***Tujuan:*** *Secara psikologis, ibu yang tidak tenang dapat menurunkan kondisi tersebut kepada bayinya sehingga bayi mudah merasa gelisah.* ***Metode:*** *Menggunakan quasi experiment desain pretest – posttest nonequivalent control group design. Sampel dibagi 2 kelompok (perlakuan dan kontrol) yaitu 15 orang per kelompok. Sampling dengan tehnik purposive sampling. Instrumen pengukuran kecemasan dengan Zung Self-Rating Anxiety Scale (SAS/SRAS).* ***Hasil:*** *Hasil paired t test dengan tingkat nilai kemaknaan α: 0,05 signifikansi 0,007 < 0,05 dengan nilai confident interval (CI 95%): 8,83 – 13,70, sehingga Hα di terima, ada pengaruh relaksasi napas dalam dengan skor kecemasan ibu hamil.* ***Kesimpulan:*** *Relaksasi napas dalam dalam memiliki suatu kelebihan untuk mengurangi kecemasan, stres baik fisik maupun emosional, menghilangkan nyeri, dan insomnia. Pentingnya penatalaksanaan terapi nonfarmakologis relaksasi napas dalam untuk menurunkan kecemasan pada ibu hamil, karena terapi relaksasi napas dalam dapat dilakukan mandiri, relatif mudah dilakukan.*
Kata Kunci: *kecemasan, ibu hamil trimester III, relaksasi napas dalam.*

INTRODUCTION

Pregnancy, childbirth, and the postpartum period are periods when mental disorders occur in the mother. This mental health condition, apart from being a factor of susceptibility to viral infections, can also be exacerbated by a lack of family and social support during pregnancy, childbirth and the postpartum period. Although it is known that the pandemic situation and the practice of maternal examinations affect the mental status of the mother, there are not many reports or literature detailing these correlations (Kisworo, 2021).

The COVID–19 pandemic period became a challenge for efforts to reduce Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR), because during this period there were restrictions on community activities, making women who would access maternal and child health services were hampered. As a result, there has been a decrease in the coverage of MCH, family planning and nutrition services (Alvaro, Christianingrum, & Riyono, 2021).

One of the factors that prolong labor is the five P's: power, passage, passenger, psychology of mother and helper. The mother's strength during labor and the psychological state of the mother who is not ready greatly influenced the delivery process. Anxiety is a feeling of depression that causes psychological problems (Heriani, 2016).

Anxiety can negatively affect mothers during pregnancy, during and after childbirth. In addition, anxiety increases heart rate and adrenaline secretion, reduces blood flow to the uterus, and prolongs labour. (Novitasari, Budiningsih dan Mabruri, 2013).

The results of several studies explain that pregnant women with high levels of anxiety are at risk of preterm delivery. This can lead to increased morbidity and mortality in pregnant women (Heriani, 2016). Another study by Dwiky (2020) showed that pregnant women are more easily worried about something that could happen to them and their baby, thus can interfere with their mental health, such as anxiety disorders, negative emotions, which are increasing during the COVID-19 pandemic, even to date. Anxiety is characterized by worry when being ignored and separation anxiety after giving birth as well as increased feelings of fear or anxiety during the puerperium. The impact of this pandemic on the mental health of pregnant women has shown various results (Apriliana, P, & Wahyurianto, 2022).

Labor is a physiological process that women go through during pregnancy, but most of the expectant mothers find it difficult to get rid of the fear of labor. Constant anxiety and fear lead to poor concentration and low self-esteem. (Heriani, 2016).

According to (Dusek & Benson, 2009), deep breathing can overcome anxiety, stress, insomnia and relieve pain. Benefits of deep breathing relaxation include increased lung ventilation and blood oxygenation. In addition, it slowly slows down brain waves so that it can relax and calm down, and the effect is to calm and give the body time to rest. Deep breathing relaxation also reduces epinephrine, norepinephrine, and cortisol levels.

Commonly, Integrated ANC services in dealing with maternal anxiety have emphasized more on counseling and providing information to pregnant women and their families, so this study emphasizes actions that can reduce or reduce the anxiety of third-trimester pregnant women. The novelty of this study is to provide an intervention to third trimester pregnant women to overcome the anxiety they feel.

The aim of this study is to analyze the effect of breathing on anxiety in pregnant women in the third trimester of pregnancy in Sumberwono Village Technical

Implementation Unit of Bangsal Public Health Center, Mojokerto Regency.

METHOD

The research design used a quasi-experimental design with a pretest-posttest nonequivalent control group design. The treatment variable was Deep Breathing Relaxation. The dependent variable was the anxiety of third trimester pregnant women.

The population of this study were all third-trimester pregnant women in Sumberwono Village Technical Implementation Unit of Bangsal Public Health Center, Mojokerto Regency which was 45 people.

The research sample was divided into two groups such as Group A (treatment group) and Group B (control group). Pregnant women included in the study sample were in the third trimester who fulfil the inclusion and exclusion criteria.

Inclusion criteria: Normal pregnant women without complications, single live fetus, head presentation, resident of East Java and willing to be a respondent. Exclusion criteria: Uncooperative pregnant women, pregnant women with disabilities such as deaf, blind, speech impaired, and mental disorders.

The sample size for this study was 15 respondents in each group, taken using a purposive non-probability sampling technique.

The collection data used primary data. The instrument used to collect anxiety data was measured by the Zung Self-Rating Anxiety Scale (SAS/SRAS).

This research was ethically approved by the Sekolah Tinggi Ilmu Kesehatan Majapahit Health Research Ethics Commission with ethical approval number 049/KEPK-SM/2022. Informed consent for this study was obtained in writing from each respondent.

RESULT

General Data

Table 1. Frequency Distribution of Respondent Characteristic.

No.	Category	Frequency (f)	Percentage (%)
Age			
1.	< 20 years old	1	3.3
2.	20-35 years old	28	93.4
3.	> 35 years old	1	3.3
Mothers' Education			
1.	Primary (Elementary-JHS)	5	16.7
2.	Middle (SHS)	11	36.7
3.	Higher Education (University/Institution)	14	46.6
Parity			
1.	Prime	8	26.7
2.	1 – 2 children	16	53.3
3.	3 – 4 children	6	20.0
4.	≥ 5 children	0	0
Mothers' Occupation			
1.	Working	13	43.3
2.	Unemployment	17	56.7
Quantity		**30**	**100**

Source: Primary Data

Based on Table 1, the characteristics of the respondents in this study were most respondents aged between 20 to 35 years old which was 28 people (93.4%). Most of the respondents graduated from higher education (University/Institution) which was 14 people (46.6%). Besides that, most of the respondents were multigravidas with 1-2 children which was 16 people (53.3%) and most of the respondents were housewives which was 17 people (56.7%).

Particular Data

Anxiety Score for Third-trimester Pregnant Women Treatment Group

Table 2. Frequency Distribution of Anxiety Scores for the Treatment Group.

	N	Mean ± SD
Before	15	38.73 ± 5.86
After	15	27.47 ± 3.48

Source: Primary Data

Table 2 shows the average anxiety score of third-trimester pregnant women before being given Deep Breath Relaxation

was 38.73 and after being given Deep Breath Relaxation was 27.47.

Anxiety Score for Third-Trimester Pregnant Women Control Group

Table 3. Frequency Distribution of Control Group Anxiety Scores.

	N	Mean ± SD
Before	15	34.60 ± 7.09
After	15	31.73 ± 6.11

Source: Primary Data

Table 3 shows that the average anxiety score of third-trimester pregnant women in the control group was 34.60, and after being given KIE in preparation for delivery was 31.74.

Analysis of the Effect of Deep Breathing Relaxation on the Anxiety of Third-Trimester Pregnant Women

Based on the results of the data normality test with the Kolmogorov – Smirnov Z, it resulted 0.962. Thus, the data distribution was normal.

The calculation used SPSS with a paired t-test with a significance value of α: 0.05. The test results obtained a value of 0.007<0.05 at the confidence interval (CI 95%): 8.83 – 13.70. It means that Hα was accepted and H0 was rejected. Thus, there was an effect of Deep Breathing Relaxation on the anxiety score of pregnant women in Sumberwono Village Technical Implementation Unit of Bangsal Public Health Center, Mojokerto Regency.. This was also reinforced by the independent sample t-test, which showed that between the treatment group and the control group, it was significant at α: 0.05 with a value of 0.026<0.05.

DISCUSSION

Anxiety Score for Third-Trimester Pregnant Women in Sumberwono Village Technical Implementation Unit of Bangsal Public Health Center, Mojokerto Regency

The anxiety score of the treatment group before being given Deep Breathing Relaxation was 38.73 and after being given Deep Breathing Relaxation was 27.47.

The results of this study were in accordance with Townsend's theory (2012) that Deep Breathing Relaxation was a simple relaxation technique in which the lungs inhale as much O_2 as possible. Principally, deep breathing is deep, slow, and relaxed, thus, people felt more relaxed and calm after doing it (Nipa, 2017).

According to (Nipa, 2017), Deep Breathing Relaxation exercises affected changes in the anxiety scores of hemodialysis patients in the treatment group and the control group p = 0.000 (p <0.05). Regular deep breathing exercises will make the baroreceptors more sensitive and release the neurotransmitter endorphin. This will cause the autonomic nervous system to increase the activity of the parasympathetic nerves and inhibit the sympathetic nerves, causing the body to become more relaxed.

The work of the sympathetic nervous system increases in someone who is anxious has an impact on changes in the work of other body systems such as increased heart rate, blood pressure, muscle tension occurred, and even excessive sweating. This was caused by a lot of brain work. Hence, the activity of the respiratory muscles was unstable, the absorption of O_2 from outside and the formation of CO_2 in the body were inoptimal (Smeltzer & G.Bare, 2001; Nipa, 2017).

Analysis of the Effect of Deep Breathing Relaxation on the Anxiety Score of Third-Trimester Pregnant Women

Calculations with SPSS using paired t-test showed that deep breathing relaxation has an effect on the anxiety score of pregnant women in Sumberwono Village Technical Implementation Unit of Bangsal Public Health Center, Mojokerto Regency. These

results were also reinforced by the independent sample t-test, which showed that between the treatment group and the control group was significant at α: 0,05 with a value of 0.026 < 0.05.

Deep breathing relaxation that was conducted routinely and regularly can be felt beneficial, especially when inhaling slowly, abdominal muscle movements occur to increase blood oxygenation, maintain gas exchange, increase alveolar ventilation and prevent lung atelectasis, make coughing more effective, and relieve stress (Nipa, 2017).

Other research conducted by (Kuswaningsih, 2020) stated that there are many advantages of deep breathing relaxation, including: reducing anxiety and stress, reducing pain, and sleeping problems. This is due to the relaxation of deep breathing, brain waves slow down, finally allowing the person to rest comfortably and relax.

The effect of deep breathing relaxation in the intervention group caused a decrease in anxiety scores. Pregnant women reported feeling very satisfied after doing deep breathing relaxation exercises, the reason being that the things that scared them could now be reduced to make them more relaxed.

This research is in line with research from (Safitri, Sunarsih, & Yuliasari, 2020) which stated that there is an effect of deep breathing relaxation on labor pain. Hormonal imbalance during labor can cause physical strain, leading to increased contractions and pain during labour. A good psychological and state of mind gives a good response to the body so that the body works optimally to produce the hormones oxytocin and endorphins. Oxytocin is needed during labor because it increases contractions and endfins can stimulate feelings of pleasure and reduce the body's natural pain. Although breathing relaxation is easy, it still takes practice. Relaxation before delivery makes the mother more prepared (Safitri, Sunarsih, & Yuliasari, 2020).

This research is also in line with the results of research conducted by (Putri & Margaretta, 2022) which showed that the anxiety level criteria (state A) in deep breathing relaxation using the Self Instruction Training (SIT) method reduced anxiety levels by 4.34. Anxiety is a general and inexplicable feeling caused by an unexplained and unidentifiable source of threat or thoughts. Factors that influence anxiety in pregnant women include lack of information about illness, family support, financial resources, environmental stress, high levels of nausea and vomiting (pregnant mother's physical health), attitude towards pregnancy, and ability to deal with pregnancy and how to adapt to pregnancy physically and psychosocial, as well as learning about the fear of childbirth Nurwahyuni Nasir (2015) in (Putri & Margaretta, 2022).

According to the research conducted by (Kuswaningsih, 2020), it was explained that deep breathing relaxes and anxiety affects pregnant women with hypertension. Pregnancy is usually a difficult test for a woman and causes her anxiety and worries. Pregnant women with preeclampsia need ways to manage anxiety before delivery. This includes strategies for dealing with stressful, difficult or threatening situations.

Deep relaxation techniques provide benefits that can maximize lung ventilation, so that blood O2 levels will increase.

CONCLUSION AND SUGGESTION

The conclusion of this study is that deep breathing relaxation affects anxiety scores in pregnant women.

The importance of providing midwifery care with non-pharmacological management of deep breathing relaxation

therapy to reduce anxiety in pregnant women for 30 minutes each session when the mother feels tired, anxious or in an unstable emotional state, because deep breathing relaxation therapy can be done at home and independently by pregnant women, relatively easy to do compared to other non-pharmacological treatments and does not take long.

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AUTHOR CONTRIBUTION

Zulfa Rufaida compiled research proposals, Ratri Istiqomah compiled research instrument, and Sri Wardini Puji Lestari conducted research data collection.

CONFLICT OF INTEREST

The author has no conflict of interest.

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