



THE EFFECT OF A COMBINATION OF PRENATAL YOGA, RELAXATION MUSIC, AND AGARWOOD AROMATHERAPY ON ANXIETY OF PREGNANT WOMEN IN THE THIRD TRIMESTER

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ABSTRACT

Anxiety disorders in pregnant women are associated with risks such as placental abruption, low birth weight, delayed motor and mental development of the fetus, and premature birth if not properly managed and prolonged. Anxiety in third-trimester pregnancy can be minimized using non-pharmacological interventions such as prenatal yoga, relaxation music, and aromatherapy. This study aimed to determine the effect of a combination of prenatal yoga, relaxation music, and agarwood aromatherapy on anxiety in third-trimester pregnant women at Karang Rejo Health Center. This quantitative study uses a quasi-experimental design without a control group and uses pretest and post-test measurements. The intervention group received a combination of prenatal yoga, relaxation music, and agarwood aromatherapy. Purposive sampling was used following inclusion criteria, with a total of 25 respondents. Data collection was conducted using the Hamilton Anxiety Rating Scale (HARS) questionnaire. Data analysis was performed using univariate and bivariate analyses with the non-parametric Wilcoxon test. The results showed that the anxiety levels of third-trimester pregnant women before and after the intervention had a P value of 0.000 (P value < 0.005). This indicates that the combination of prenatal yoga, relaxation music, and agarwood/ Gaharu aromatherapy can be an effective alternative for reducing anxiety in third-trimester pregnant women.

Keywords: agarwood aromatherapy; anxiety; prenatal yoga; relaxation music

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INTRODUCTION

Pregnancy is one of the historic events in the life of a woman and her family (Davis et al, 2020). This process involves not only physical transformations, but also significant biochemical, physiological and psychological changes in the mother's body (Lupu et al, 2023). The third trimester of pregnancy often causes anxiety in pregnant women, which can have an impact on the well-being of the mother and fetus. This condition is often related to hormonal changes that regulate mood and emotions. (Yuniza et al ., 2021) (Aida , 2022). Anxiety disorders in a pregnant woman are related to the occurrence of such as the risk of placental abruption, low birth weight (BBLR), motor and mental delays of the fetus, and premature birth if the anxiety is not handled properly and occurs for a long time (Yulianti, 2020). According to the World Health Organization (WHO) (2018), in many countries, including Indonesia, the incidence of anxiety in pregnant women reached 373,000. As many as 107,000 or 28.7% of them are moderate anxiety that occurs in pregnant women before the delivery process. (Ferawaty et al, 2023).

Fear and anxiety can cause a release of a hormone called adrenaline, which can cause the cervix to harden, hinder labor, cause the heart to beat faster so that blood pressure will rise higher. When you are free from fear and anxiety, the muscles in your body, including in the uterus, will relax to facilitate the delivery process. (Putri et al., 2022) Anxiety in mothers in the third trimester of pregnancy can be minimized using nonpharmacological treatment measures. Some examples of non-pharmacological actions that can be taken to reduce anxiety and provide a sense of comfort to pregnant women in the third trimester are such as prenatal yoga, relaxation music, aromatherapy, steam therapy, tactile touch, and so on. One of the non-pharmacological techniques to reduce anxiety in pregnant women besides being easy to demonstrate can also be done at home, namely prenatal yoga (Lin et al, 2022). Prenatal yoga is a sport intended for pregnant women, which is useful for reducing anxiety and providing a sense of comfort. (Ferawaty et al., 2023) Prenatal yoga, it can also be accompanied by a musical melody, namely relaxation music which is music with a simple structure, melody, and harmony, as well as instruments that involve the sound of water ripples, wind gusts, and soft piano melodies (Tamplin, et al, 2016). Music with a slow melody and has a meditative nature is heard with the aim of creating a sense of calm and comfort (Aprilia 2020; Wang et al 2023). Music with a frequency of 432 Hertz has been proven to affect the physiology of a person who is stressed by decreasing blood pressure, heart rate, and respiratory rate causing a relaxing effect on the body. (Kriswanto, 2020) (Seprian et al., 2023)

In addition to prenatal yoga during pregnancy, aromatherapy is also often used to improve mood and relax the body (Gunadi and Sari 2019). Agarwood itself is made of resin derived from microorganisms that enter tree wounds and incisions on the trunk, and has many benefits. Agarwood is used in the natural herbal medicine industry, not only as an ingredient in fragrances and cosmetics only, but also in the treatment of anxiety, asthma, rheumatism, gastritis and kidneys, malaria, antibiotics, tuberculosis, liver, cancer, tumor components, and others. (Halim et al., 2019) Agarwood is found in several forests in Indonesia, especially on the islands of Sumatra and Kalimantan. There are many types of agarwood in Indonesia, including *Aquilaria sinensis*, *Aqualira marxensis*, *Aquilaria crassna*, and so on that have many of the same benefits as antioxidants, antibacterial, and antifungal. Types of agarwood that are widely found in natural forests and grow in Kalimantan, especially East Kalimantan and North Kalimantan are *Aquarilla marxensis* and *Malaccensis*. (Hidayat et al., 2020) Based on the results of a preliminary study conducted by researchers in the Karang Rejo Health Center area, namely on the day of ultrasound examination for 3 days on Tuesday, Thursday, and Saturday by the way the researcher animated pregnant women in the third trimester based on questions using the HARS (Hamilton Anxiety Rating Scale) questionnaire, the results of anxiety data from 33 respondents of pregnant women in the third trimester with mild anxiety of 16 pregnant women, moderate anxiety 12 pregnant women, severe anxiety 2 pregnant women. Based on the data from the results of a preliminary study conducted by researchers for 1 week, the average result of pregnant women in the third trimester experienced anxiety. This study aimed to analyze the effect of a combination of prenatal yoga, relaxation music, and agarwood aromatherapy on anxiety of pregnant women in the third trimester.

METHOD

This research method is a quantitative research using the quasi-experimental design method without the control group of the first test and the last test (one group pretest-posttest). The intervention group was given a combination of prenatal yoga, relaxation music, and agarwood aromatherapy. The sampling technique uses purposive sampling according to the inclusion criteria. The number of samples in this study was 25 respondents. Data collection used the

Hamilton Rating Scale (HARS) questionnaire with validity more than 0,323. Based on the analysis of the data used, namely Univariate and Bivariate using the non-parametric statistical test of the Wilcoxon test.

RESULTS

Based on table 1., the results of the analysis of respondent characteristics showed that the average age of respondents was 20-35 years old (88.0%). Respondents recorded that most of the graduates were on average intermediate graduates, there were 16 people (64.0%). The most respondents were a housewife with 21 people (84.0%). Respondents who participated in prenatal yoga were primigravida mothers 9 people (36.0%). Respondents obtained the results that the level of anxiety of pregnant women in the third trimester who participated in prenatal yoga before prenatal yoga was 23 people with moderate anxiety (92.0%), and the level of severe anxiety was 2 people (8.0%). And for the results of the anxiety level of pregnant women in the third trimester who participated in prenatal yoga after prenatal yoga, as many as 16 people were not anxious (64.0%), 7 people were mildly anxious (28.0%), and 2 people were moderately anxious (8.0%).

Table 1.
Characteristics of Respondents (n= 25)

Characteristics of Respondents	f	%
Age		
<20	1	4.0
20-35	22	88.0
>35	2	8.0
Education		
Basis	3	12.0
Middle/Upper	16	64.0
Tall	6	24.0
Work		
Housewives	21	84.0
Work	4	16.0
Parity		
Primigravida	9	36.0
Multigravida	15	60.0
Grandemultigravida	1	4.0
Pre-Test Anxiety Level		
21-27 (Moderate Anxiety)	23	92.0
28-41 (Severe Anxiety)	2	8.0
Post-Test Anxiety Levels		
0-13 (Not Anxious)	16	64.0
14-20(Mild Anxiety)	7	28.0
21-27 (Moderate Anxiety)	2	8.0

Table 2. Shapiro-wilk measurement of anxiety in pregnant women in the third trimester at the Karang Rejo Health Center did not differ from the results of sig before and after doing yoga. That is, before doing yoga 0.00 (p value < 0.05) and after 0.00 (p value < 0.05). So the data is not distributed normally.

Table 2.
Normality test with Shapiro-Wilk

Anxiety	Shapiro-Wilk		
	Statistics	Df	Sig
Pre-Test (Before)	.677	25	.000
Post-Test	.800	25	.000

Table 3. the average results of anxiety measurement using the *Hamilton Rating Scale* (HARS) questionnaire in the measurement obtained the average anxiety score before being given treatment was 25.16 and after being given the intervention treatment there was a decrease in anxiety score to 11.44 with a statistical test value of P value 0.000 (p value = <0.005), meaning that there was a difference in scores before and after the treatment that had been calculated. Thus, it can be concluded that H_0 is rejected and H_1 is accepted, so that there is an effect of a combination of prenatal yoga, relaxation music, and agarwood aromatherapy on the anxiety of pregnant women in the third trimester before and after the intervention.

Table 3.
Test-Wilcoxon

Variables/Groups	Anxiety Frequency Score			
	N	Mean	SD	P-Value
Pre-Test (Before)	25	25,16	2,337	0,000
Post-Test		11,44	2,380	

DISCUSSION

The results of the study in table 1., show that most pregnant women are at the age of 20-35 years, which is as many as 22 people (88%), according to Prawirohardjo (2014) the ideal age of a woman to get pregnant is in the age range of around 20-35 years. This is in line with research from . Assuming that most of the pregnant women at the Karang Rejo Health Center are in the age range of 20-35 years, this shows that there is awareness in the community to undergo pregnancy at a safe and optimal age. (Riyanti et al ., 2021)Based on table 1., it shows that most of the respondents have a middle/upper education level, which is as many as 16 people (64%), according to the mention that a person's education level can affect their behavior. Respondents who have an upper-secondary to higher education will find it easier to receive new information. This is in line with Suryani (2020) saying that the existence of knowledge which is a very important domain in shaping a person's behavior. (Lestaluhu , 2023)

Based on table 1., it shows that most of the respondents are housewives, which is as many as 21 people (84%), according to the mention that working mothers will have a wider scope. In contrast to housewives who often only limit themselves to interacting with the outside world, this will have an impact on the limited friends and information that will be obtained. Various obstacles can cause housewives to participate in outside activities less often than mothers as workers. (Yazia et al ., 2022) The results of the study in table 1, show that most of the respondents with multigravida parity are as many as 15 people (60%), this is in line with the research conducted by has found that there is a significant relationship between parity and anxiety in pregnant women. In the case of multigravida mothers, mothers often feel emotionally disturbed because of fear, tension, and anxiety because they imagine the pain experienced during childbirth before.(Lestaluhu , 2023)

Based on table 1., respondents who participated in prenatal yoga for mothers with anxiety levels before prenatal yoga 23 people were moderately anxious (92.0%). Of the 14 parameters, the average complaint that was most experienced before giving prenatal yoga to

pregnant women was 4 parameters, namely feelings of anxiety, tension, fear, and sleep disturbances. According to dr. Meva Nareza (2021) in, that changes in hormone levels during pregnancy can affect the levels of chemicals in the brain that play a role in regulating emotions and feelings. Therefore, pregnant women tend to be easily anxious, anxious, and easily worried. (Noviana et al., 2022) Based on table 1., respondents who participated in prenatal yoga mothers with anxiety levels after prenatal yoga 16 people were not anxious (64.0%), this study is in line with (Wulansari, 2021), that four of the 14 parameters, namely feelings of anxiety, tension, fear, and sleep disturbances, have decreased after doing prenatal yoga. The decrease in anxiety obtained after the implementation of prenatal yoga was 3 times in 2 weeks. This is evidenced by 4 parameters that are getting smaller and smaller in value in each parameter.

This study obtained the results that there was a difference in scores before and after the treatment. Where the results of measuring anxiety using the Hamilton Rating Scale (HARS) questionnaire in the measurement obtained an average mean rank of 13.00. The average result of the anxiety score before the treatment was 25.16 and after the intervention was given a combination of prenatal yoga, relaxation music, and agarwood aromatherapy, there was a decrease in the anxiety score to 11.44 with a P Value of < 0.05 , meaning that there was a difference in scores before and after the treatment. The results of this study are in line with the research conducted by the results of the study there is a significant influence with a p-value of 0.000 ($\alpha=0.05$) which proves that there is an influence between prenatal gentle yoga and anxiety levels in reducing anxiety levels in pregnant women in the third trimester. The results of the analysis of the Marginal Homogeneity test showed a p-value: 0.000 ($p>0.05$) which can be interpreted that there is an effectiveness of instrumental music therapy with a frequency of 432 Hertz on reducing the academic stress of nursing students in Pontianak city. Agarwood aromatherapy has also been shown to provide antidepressant effects by inhibiting synaptic reuptake of serotonin and norepinephrine (Wangiyana, 2019). This state is interpreted as relaxation and can reduce the risk of sleep disorders and anxiety. (Charla et al., 2019) (Seprian et al., 2023) (Wang et al., 2023)

Respondents in this study said that prenatal yoga is very beneficial and there are differences during childbirth in the first, second, and third children at this time. Because in the third pregnancy at this time, after attending prenatal yoga classes for 3 times within 2 weeks, the delivery process is smooth and can regulate breathing well, control tension correctly, and can follow the instructions of the midwife who guides the delivery process. The difference is that in the previous pregnancy, she could not control her breath properly, could not control the desire to strain and was very draining of the mother's energy.

CONCLUSION

The characteristics of the respondents in this study were mostly 20-35 years old, with housewife work, secondary/high school education, and multigrada parity. The level of anxiety in pregnant women in the third trimester at the Karang Rejo Health Center before being given a combination of prenatal yoga, relaxation music, and agarwood aromatherapy varied, namely mostly moderate anxiety and there was also severe anxiety. This study strengthens the understanding of the importance of managing anxiety during pregnancy and providing appropriate interventions. The anxiety level of pregnant women in the third trimester showed a significant decrease. There was an effect of providing a combination of prenatal yoga, relaxation music, and agarwood aromatherapy on the anxiety of pregnant women in the third trimester in the Karang Rejo Health Center Area, Tarakan City. There were statistical test results obtained a difference between the two samples with a P value of

0.000 (p value = <0.005). This suggests that this intervention can be an effective alternative in reducing anxiety in pregnant women.

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