



Reducing anxiety in pregnant women by prenatal gentle yoga

Reducir la ansiedad en mujeres embarazadas a través del yoga prenatal suave

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Abstract

Introduction and Objective: Pregnancy often brings both physical and psychological changes that can last throughout the nine months. Many pregnant women experience anxiety and fear about the labor process. Anxiety during pregnancy can lead to complications for both the mother and baby. Prenatal Gentle Yoga, a non-pharmacological treatment, has been suggested as a way to help pregnant women manage stress and anxiety, while preparing them mentally and physically for childbirth. The purpose of this study is to determine whether Prenatal Gentle Yoga can reduce anxiety levels in pregnant women in the third trimester, specifically primigravida women, in preparation for childbirth.

Methodology: This study utilized a pre-experimental design with a one-group pretest-post-test setup. The study involved 15 participants who were assessed before and after the intervention of Prenatal Gentle Yoga. The independent and dependent variables were studied simultaneously through purposive sampling. Anxiety levels were measured using the Pittsburgh Sleep Quality Index questionnaire. The data were analyzed using univariate and bivariate analysis with the paired t-test.

Results: The results showed that Prenatal Gentle Yoga had a significant effect in reducing anxiety levels among primigravida pregnant women in their third trimester when facing childbirth. **Conclusion:** This study concludes that Prenatal Gentle Yoga is an effective non-pharmacological approach to help reduce anxiety in pregnant women, particularly in preparation for labor. It is recommended for midwives to incorporate this method into prenatal care to support women before childbirth. Additionally, yoga serves as a safe and beneficial exercise for pregnant women, contributing to their physical and psychological readiness for delivery.

Keywords

Gentle yoga, anxiety, level, pregnancy.

Resumen

Introducción y Objetivo: El embarazo a menudo trae consigo cambios tanto físicos como psicológicos que pueden perdurar durante los nueve meses. Muchas mujeres embarazadas experimentan ansiedad y miedo sobre el proceso de parto. La ansiedad durante el embarazo puede provocar complicaciones tanto para la madre como para el bebé. Se ha sugerido que el Yoga Suave Prenatal, un tratamiento no farmacológico, puede ayudar a las mujeres embarazadas a manejar el estrés y la ansiedad, mientras las prepara mental y físicamente para el parto. El propósito de este estudio es determinar si el Yoga Suave Prenatal puede reducir los niveles de ansiedad en las mujeres embarazadas en el tercer trimestre, específicamente en las primíparas, en preparación para el parto.

Metodología: Este estudio utilizó un diseño pre-experimental con un diseño de pretest-post-test en un solo grupo. El estudio involucró a 15 participantes que fueron evaluadas antes y después de la intervención de Yoga Suave Prenatal. Las variables independientes y dependientes se estudiaron simultáneamente mediante un muestreo intencional. Los niveles de ansiedad se midieron utilizando el cuestionario del Pittsburgh Sleep Quality Index. Los datos fueron analizados mediante análisis univariado y bivariado con la prueba t para muestras relacionadas.

Resultados: Los resultados mostraron que el Yoga Suave Prenatal tuvo un efecto significativo en la reducción de los niveles de ansiedad entre las mujeres embarazadas primíparas en su tercer trimestre cuando se enfrentan al parto.

Conclusión: Este estudio concluye que el Yoga Suave Prenatal es un enfoque no farmacológico efectivo para ayudar a reducir la ansiedad en las mujeres embarazadas, particularmente en la preparación para el parto. Se recomienda que las parteras incorporen este método en la atención prenatal para apoyar a las mujeres antes del parto. Además, el yoga es un ejercicio seguro y beneficioso para las mujeres embarazadas, contribuyendo a su preparación física y psicológica para el parto.

Palabras clave

Yoga suave, ansiedad, nivel, embarazo.



Introduction

A woman who is pregnant often experiences many changes, both physical and psychological. This will continue to happen during the 9 months of pregnancy (Atkinson & Teychenne, 2022). This condition will always cause physical discomfort for pregnant women, coupled with thinking about the birth process, what the condition of the baby is like and the condition after birth. This kind of shadow usually appears in pregnant women who are about to give birth (Facchin et al., 2021). Conditions like this can cause feelings of anxiety in pregnant women, especially in women who are pregnant for the first time (primigravida) (Nirwana et al., 2021). Most pregnant women often experience fear and anxiety about the labor process due to the pain caused by childbirth. This can cause mental and physical strain that will result in muscles and joints becoming unnaturally stiff. Stress or anxiety is related to various pregnancy outcomes, pain, and other somatic complaints that often occur in mood disorders in pregnant women (Bjelica et al., 2018).

Psychological disorders that occur can have a negative effect on fetal development and result in prolonged stress that can have an impact on inhibiting fetal development, including emotional disorders after birth, if not handled properly even with good nutritional intake. Psychological disorders can increase the risk of complications during childbirth, so prevention is needed with several methods to alleviate and prepare the mother in maintaining pregnancy and the birth process (Taheri et al., 2018). Research conducted by (Numanović et al., 2017) showed that out of 158 respondents, 47.5% of pregnant women did not experience anxiety and 52.5% of pregnant women experienced anxiety. The proportion of pregnant women who experienced anxiety was higher in the first pregnancy group (primigravida), which was 66.2% compared to the group of pregnant women with more than one child (multigravida) who experienced anxiety at 42.2%. Anxiety is a feeling of worry, fear that has no clear reason (Sinesi et al., 2019). Pregnancies are relatively common, with about 10-15% of all pregnant women experiencing some level of anxiety or stress during a major transitional phase in a person's life. Based on data from the Anxiety and Depression Association of America (ADAA), it is stated that 52% of pregnant women report an increase in anxiety or depression during pregnancy (Stress, 2017).

Anxiety is related to a state of worry in the form of fear or feelings of uncertainty or helplessness, as well as an unclear emotional state about a particular object (Borgogna et al., 2024). Anxiety, as defined in the DSM-5-TR, is characterized by excessive fear and worry, leading to significant distress or functional impairment. It includes disorders like Generalized Anxiety Disorder, Panic Disorder, Social Anxiety Disorder, and Specific Phobias, with cultural considerations in diagnosis (First et al., 2021). In the first pregnancy, this fear is often felt, especially when facing childbirth (McCarthy et al., 2021). The psychological burden on pregnant women is more common in the third trimester of pregnancy (Wu et al., 2021). Women who experience anxiety during pregnancy will experience more abnormal labor and can even experience complications that result in the death of the mother and fetus. Psychological conditions with anxiety and depression in pregnant women will affect the appearance of diseases and complications of pregnancy and childbirth, both in mothers and babies (Bjelica et al., 2018). Anxiety problems always arise in primigravida's mothers, therefore this anxiety problem must be overcome immediately, one of which can be done by exercising. Exercise for pregnant women aims to distract attention, reduce anxiety and stress, calm the mind, improve sleep quality, help reduce constipation and stimulate appetite. The recommended types of exercise are walking, cycling and swimming (Saglam & Orsal, 2020).

In addition to types of sports such as walking, cycling and swimming, currently there are exercise intended for pregnant women, one of which is known as gentle prenatal yoga (Rizo et al., 2024; Purnani & Mu'alimah, 2021). Prenatal yoga exercises are modifications of basic yoga exercises whose movements are adjusted to the condition of pregnant women. Yoga is a body, mind and mental exercise that greatly helps pregnant women in flexing their joints and calming their minds, especially for pregnant women in the second and third trimesters (Vaamonde et al., 2022; Zanada et al., 2024). The movements in prenatal yoga are made at a slower tempo and adapt to the movement capacity of the pregnant woman. Yoga is not just about moving or even folding the body, but yoga is a philosophy when our daily mindset, along with all the desires, worries, fears and confusion that we have, can finally rest (Luarte-Rocha et al., 2022; Solomon, 2022). Yoga is a way of saying that when we become one with our true selves, we will begin to understand who we are and the purpose of our existence. This yoga practice is very necessary because when facing childbirth, mothers are usually hit by anxiety and panic (Barrientos



et al., 2021; Campbell & Nolan, 2019). Prenatal yoga has five methods, namely physical exercise, yoga, breathing (pranayama), positioning (mudra), meditation, and deep relaxation that can be used to get benefits during pregnancy so that it can help facilitate pregnancy and birth naturally and help ensure a healthy baby. The elements in yoga that are said to help reduce anxiety are relaxation and meditation (Hagen et al., 2023; Kwok et al., 2023). Yoga during pregnancy can help women focus on the birth process, prepare to tolerate pain and turn stress and anxiety into energy.

Based on the results of research conducted by Vaamonde et al. (2022) showing the beneficial effects of doing yoga on pregnant women, namely it can reduce stress and anxiety. Another study by Indrayani et al. (2023) a woman who is pregnant for the first time do prenatal yoga showed a decrease in anxiety related to the birth process, an increase in confidence and childbirth-related abilities, and a decrease in physical complaints. Yoga has a positive effect in reducing stress, anxiety, pregnancy-related disorders and increasing women's mental health index. In another study, (Veronica et al., 2020) regarding the effectiveness of pregnancy yoga practice on reducing anxiety in pregnant women in the third trimester showed that there was an average difference in anxiety reduction with paired sample test before and after pregnancy yoga practice on the first day by 6.86%, on the second day by 3.60% and on the third day by 1.46% with bivariate analysis showing a value of $P = 0.000$, anxiety on the first and third days before and after being given pregnancy yoga exercises. This means that practicing with yoga can reduce the level of anxiety that is common in pregnant women.

However, from some research data that has been studied, there is still very little data related to research that uses prenatal yoga as a form of non-pharmacological therapy to overcome anxiety. In addition, anxiety can have a significant impact on sleep quality and the childbirth process. Therefore, the hypothesis in this study is that the prenatal practice of gentle yoga will be able to reduce the level of anxiety of pregnant women, especially in the third trimester. With the existence of gentle yoga prenatal therapy, it is hoped that it can reduce anxiety levels in pregnant women.

Method

Study Design

The method used in this study is a quasi-experimental method with the aim of seeing the effectiveness of prenatal yoga exercises by involving a group of subjects, so that no control group is used as a comparison. The research design used is one group pre-test and post-test. Samples are first given a pretest (initial test) before being treated and after being given a post-test (final test). This design was used in accordance with the goal to be achieved, which was to analyze the effectiveness of the influence of prenatal gentle yoga on the anxiety level of primigravid pregnant women in the third trimester.

Participants. The sample in this study is patients registered at one of the Health Centers (Sungai Limau) in West Sumatra with a total of 15 pregnant women who have entered the third trimester, and are included in the group of primigravida pregnant women.

Procedure

For the first step, we obtained all the permits and prepared the necessary equipment and infrastructure for the research. The participants will undergo a pre-test. However, before conducting the pre-test, they were already required to sign a research consent form. In addition, before the implementation of the treatment given, each participant is carried out a health examination and fills out a form of willingness and full responsibility for their health. Next, an initial test will be carried out to find out the level of anxiety. Pretest and post-test are carried out using questionnaires Pittsburgh Sleep Quality Index (PSQI) (Buysse et al., 1989).

Figure 1. Research Design

Pretest	Treatment	Posttest
T1	X	T2



Information:

T1: Pretest before doing prenatal soft yoga

X: Treatment: giving pregnancy for 60 minutes

T2: Post-test after doing prenatal gentle yoga

Data collection and statistical analysis

Data collection is carried out by conducting tests on all eligible samples as predetermined. After doing the test, and knowing the level of anxiety, the next step is to provide a treatment in the form of gentle prenatal yoga during 8 meetings that are carried out together in one special place so that each participant can be well controlled, including in the safety. The analysis of the results was carried out univariate and bivariate using paired t-test statistics using the help of the Statistical Product and Service Solutions (SPSS) version 26.0 application, Statistical significance was set at $p < 0.05$.

Results

Frequency distribution of anxiety levels before (pretest) carrying out prenatal gentle yoga in pregnant women with gestational age in the 3rd trimester or with a gestational age of 7 months.

Table 1. Frequency distribution before (pretest) prenatal gentle yoga in pregnant women on the anxiety level of Primigravida pregnant women in the third trimester.

Anxiety Level	f	%
Heavy	3	20
Keep	7	46.7
Light	5	33.3
Normal	0	0
Total	15	100

Based on Table 1, it can be seen that the majority (46.7%) of respondents experienced moderate levels of anxiety, namely 7 people, and 5 respondents (33.3%) experienced mild anxiety. None of the respondents showed normal levels of anxiety. These results reflect a fairly high level of anxiety in most pregnant women in the third trimester. Measuring sleep quality using the PSQI includes several components, such as sleep duration, sleep efficiency, sleep disturbances, and daytime sleepiness. High scores on the PSQI (which indicate poor sleep quality) are often found in individuals with high levels of anxiety, as anxiety can lead to difficulty sleeping (insomnia) or fragmented sleep. Frequency distribution of stress levels after (posttest) carrying out prenatal gentle yoga.

Table 2. Frequency distribution after (post-test) prenatal gentle yoga in pregnant women on the anxiety level of third trimester primigravida pregnant women

Anxiety Level	f	%
Normal	5	33.3
Light	7	46.7
Keep	3	20
Total	15	100

Based on Table 2, after doing prenatal gentle yoga, the majority (46.7%) of respondents experienced mild anxiety levels, and 33.3% of respondents experienced normal anxiety levels. This showed a decrease in anxiety in most respondents after participating in the yoga intervention.

Table 3. Gentle yoga prenatal normality test for anxiety levels in third trimester pregnant women, pretest and post-test

Group	Shapiro-Wilk		
	Statistic	df	Sig.
Pretest	.925	15	.226
Posttest	.945	15	.443



Based on Table 3, the results of the Shapiro-Wilk normality test showed that the significance value in the pretest (0.226) and posttest (0.443) was greater than 0.05, which indicates that the anxiety data before and after the yoga intervention were normally distributed. Therefore, it can be concluded that the anxiety data on both measurements are normally distributed.

Table 4. Frequency distribution before (pretest) prenatal gentle yoga in pregnant women on the anxiety level of Primigravida pregnant women in the third trimester.

Group	N	%	Mean	SD	T	P
Pretest	15	100	11.53	3.137	8.629	0.000
Posttest	15	66.7	8.20	2.366		

Based on Table 4, it can be seen that the average level of anxiety before the intervention (pretest) is 11.53 with a standard deviation of 3,137, while after the intervention (posttest) the average decreases to 8.20 with a standard deviation of 2,366. The T-test showed significant results with a $p < 0.05$ ($p = 0.000$), indicating that there was a significant difference between the level of anxiety before and after prenatal gentle yoga in pregnant women in the third trimester

Discussion

Anxiety Levels of Pregnant Women Before Doing Prenatal Gentle Yoga

The results of the study showed that the anxiety level of pregnant women in the third trimester before doing prenatal gentle yoga averaged 20% mild to moderate anxiety to 46.7%. After the intervention was carried out, the results of observations on prenatal gentle yoga showed that the anxiety level of 15 respondents showed an average anxiety level of all respondents and all respondents experienced moderate anxiety levels. Factors that tend to affect the level of anxiety of pregnant women are the mother's gestational age, which is more than 30 weeks on average and all of them are included in the third trimester (Madhavanprabhakaran et al., 2015). The level of anxiety of pregnant women can be influenced by various factors, both physical, psychological, and environmental (Branecka-Woźniak et al., 2018). Similarly, previous pregnancy experience factors can be a trigger in anxiety. In addition, high levels of stress, a history of anxiety disorders or depression can worsen anxiety during pregnancy (Mancuso et al., 2024).

Recent research states that as gestational age approaches delivery, questions and thoughts about whether you can give birth normally, how to push, whether something will happen during birth, or whether the baby will be born safely, will become more frequent in the mind of a pregnant woman. Pain during childbirth has long been a topic of conversation among women (Baghirzada et al., 2018). Dealing with worry and anxiety is a normal part of pregnancy, and with the right support and preparation, pregnant women can feel calmer and prepared for labor (Bäckström et al., 2017; Rodríguez Bernal & Padilla Moledo, 2022). Facing the end of pregnancy and preparing for labor is a time full of anticipation and emotions (Kuebelbeck & Davis, 2023). With good preparation and adequate support, pregnant women can feel more prepared and calm in welcoming the birth of their baby.

Anxiety Levels of Pregnant Women After Doing Prenatal Gentle Yoga

Based on the results of research conducted on pregnant women who experienced normal anxiety levels as many as 5 people (3.33%), 7 pregnant women who experienced mild anxiety (46.7%). The results of this study are in line with the research (Adnyani et al., 2024) regarding the effect of prenatal gentle yoga on the anxiety level of pregnant women in the third trimester, where the results of the study Recommend that pregnant women (96.0%) experience normal stress levels. Prenatal gentle yoga has many positive benefits, including reducing anxiety levels in pregnant women (Sulastri et al., 2021). Some of the positive effects of prenatal gentle yoga on pregnant women's anxiety include physical and mental relaxation. The deep breathing and meditation techniques taught in yoga help calm the mind and relax the body (Hepburn & McMahon, 2017). This helps reduce stress and anxiety. In addition, it can help increase body and mind awareness. Pregnant women become more aware of the changes in their bodies and are better able to listen to their body's needs, which can reduce anxiety (Marc et al., 2011).

This is in accordance with the theory (Andriani et al., 2021), Primigravida is a woman who gets pregnant for the first time because primigravida mothers (first-time pregnant women) pregnancy is the first



experience in her life period. This situation can cause drastic changes both physically and psychologically (Widyastuti, 2024). Pregnancy anxiety, especially in primigravida pregnant women, arises from thinking about whether she is able to give birth, how the baby will be treated, and whether she will be able to take care of the baby. So by undergoing treatment through prenatal yoga, pregnant women can relieve anxiety and calm down negative thoughts that often arise during pregnancy.

From these results, data was obtained that there was a significant difference in the change in anxiety levels in pregnant women before and after doing prenatal yoga exercises in pregnant women. Where before the pregnancy gymnastics was carried out, it showed that 5 pregnant women experienced normal levels of anxiety (3.33%), while 7 pregnant women experienced mild anxiety (46.7%) and 3 pregnant women experienced moderate anxiety (20%), and pregnant women who experienced mild stress levels as many as 7 people (46.7%). This means that Prenatal yoga is a form of exercise designed specifically for pregnant women, with a focus on the safety and comfort of mothers and babies. Prenatal yoga exercises help strengthen the muscles used during childbirth, such as the pelvis, abdomen, and lower back muscles (Khotimah et al., 2023; Wilis et al., 2023). This can make the labor process easier and reduce the risk of injury. As you get older, body changes can affect posture. Prenatal yoga helps improve posture, reduce back pain, and other discomforts (Bolanthakodi et al., 2018). The breathing techniques taught in yoga help pregnant women breathe deeper and calmer (Mindarsih et al., 2019), which can reduce anxiety and stress and prepare mothers to deal with contractions during labor.

Gentle prenatal Yoga can improve the balance of the pregnant woman's body and improve fitness so that the mother does not experience anxiety levels. Gentle prenatal yoga is a form of yoga that is specifically designed to support and calm the body and mind of pregnant women (Bakri et al., 2021). The focus is on the safety, comfort, and health of the mother and baby. Gentel Prenatal Yoga can practice deep breathing techniques that help calm the nervous system and increase oxygen supply. Therefore Gentle prenatal yoga is a safe and effective approach to help pregnant women maintain physical and emotional health, reduce anxiety, and prepare for labor.

It can be explained that from the results of the initial assessment with the final assessment, there was a significant decrease in the level of anxiety from the treatment of giving yoga from a mean value of 11.53 to 8.20. This suggests that although there are other possible variables at play, a decrease in anxiety still occurs as a result of yoga interventions. The implementation of physical activities such as yoga can help the body release endorphins, which play a role in improving mood and reducing anxiety (Bhatt et al., 2024). Although the study experienced a decrease in anxiety levels, there were several other factors that could not be controlled such as the quality and hours of sleep of participants at night that could be an obstacle to reducing anxiety. This is also one of the obstacles in the implementation of research.

Conclusions

The results obtained from the research that has been carried out show the benefits of gentle prenatal yoga, which can reduce the level of anxiety of pregnant women, especially in primigravida pregnant women in the third trimester to face childbirth. With prenatal gentle yoga, a pregnant woman can practice breathing techniques and several physical movements that still prioritize the safety, comfort and health of the pregnant woman and the baby in her womb. With anxiety reduction treatments in the form of prenatal gentel yoga can be used as a reference by medical personnel, especially for pregnant women as a form of physical activity that can be used to prepare for childbirth with a much better prepared condition for pregnant women both physiologically and psychologically.

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