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Author Name(s): Samsinar Samsinar, Warlinda Warlinda, Rahmalia Dahman

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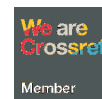
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The effect of prenatal gentle yoga combined with dhikr therapy on the level of anxiety in pregnant women

Samsinar Samsinar^{*)}, Warlinda Warlinda, Rahmalia Dahman

Midwifery, Kurnia Jaya Persada University, Palopo, Indonesia

ABSTRACT

Anxiety in pregnant women is a common problem and can have negative impacts on maternal and fetal health. Women experience anxiety during pregnancy which can increase the risk of complications such as postpartum depression, premature birth, and impaired infant development. Non-pharmacological interventions such as prenatal gentle yoga and dhikr therapy have been shown to be effective separately in reducing anxiety levels. This study aims to analyze the effect of the combination of the two interventions on the level of anxiety in pregnant women. This study used a quantitative method with a pre-experimental design (one group pretest and posttest design) without a control group. The study was conducted in June-July 2024 in the working area of the UPTD Bara Permai Health Center, Palopo City. The sample consisted of 26 pregnant women in the second and third trimesters who were selected using the accidental sampling technique. The intervention was a combination of prenatal gentle yoga and dhikr therapy for four weeks. The instrument used was the Perinatal Anxiety Screening Scale (PASS) to measure anxiety levels before and after the intervention. Data were analyzed using the Wilcoxon Signed Rank Test . The average level of anxiety before the intervention was 28.69 (SD=7.504) and decreased to 20.81 (SD=8.551) after the intervention. The results of the statistical test showed a significant effect ($p=0.000$) on the level of anxiety of pregnant women before and after being given a combination of prenatal gentle yoga and dhikr therapy intervention. The combination of prenatal gentle yoga and dhikr therapy has been proven effective in reducing anxiety levels in pregnant women. This intervention can be used as an alternative non-pharmacological approach that is safe, easy to implement, and low-cost to overcome anxiety during pregnancy, especially in the second and third trimesters approaching delivery.

Keywords:

Prenatal gentle yoga
Dhikr therapy
Anxiety
Pregnant women
Non-pharmacological
intervention

Corresponding Author:

Samsinar
Midwifery, Kurnia Jaya Persada University

Email: samsinar@ikbkjp.ac.id

Introduction

Pregnancy is a complex physiological process, starting from ovulation, fertilization, implantation, placenta formation, to fetal development until full term. During pregnancy, the mother experiences various physical and psychological changes caused by hormonal fluctuations. These changes require the mother to adapt, and the adaptation process can trigger anxiety (Nurhidayah et al., 2024).

Anxiety experienced by pregnant women is not handled properly, it can have a negative impact on the physical and mental health of the mother and fetus (Machmudah et al., 2024). Excessive

activation of the stress system, such as increased work of the hypothalamus and pituitary glands, causes an increase in stress hormones that have an impact on physiological changes such as heart palpitations, rapid breathing, and excessive sweating (Rais et al., 2024). Anxiety can also increase the risk of pregnancy and childbirth complications, such as postpartum depression, premature birth, cesarean section, impaired infant growth and development, to psychological disorders such as baby blues (Khotimah et al., 2023). Anxiety in pregnant women is usually triggered by fear before childbirth, concerns about the condition of the fetus, and anxiety in preparing for the role of parents (Satari et al., 2025).

Maternal Mortality Rate (MMR) is the number of women's deaths that occur due to pregnancy, childbirth, and the postpartum period. According to the World Health Organization (WHO) report in 2020, the global maternal mortality rate reached 223 cases per 100,000 live births. WHO also revealed that in that year, every two minutes one mother died from complications of pregnancy or childbirth, and around 800 women died every day from causes that could actually be prevented. To reduce the global MMR to below 70 per 100,000 live births by 2030, an annual reduction of around 11.6% is needed (Nori et al., 2023).

In Indonesia, the number of maternal deaths in 2023 was recorded at 4,129 cases based on data from the Maternal Perinatal Death Notification (MPDN), a recording system from the Ministry of Health (Handayani, 2022). This figure shows an increase compared to 2022 which recorded 4,005 deaths. In January 2023, the MMR ratio per 100,000 live births reached around 305, making Indonesia the country with the second highest maternal mortality rate in the ASEAN region. Based on the National Medium-Term Development Plan (RPJMN), the MMR target in Indonesia for 2024 is 183 per 100,000 live births. However, this figure is still relatively high compared to other ASEAN countries. To achieve the Sustainable Development Goals (SDGs) target, which is less than 70 maternal deaths per 100,000 live births in 2030, more maximum efforts are needed

The prevalence of anxiety during pregnancy is quite high. According to (Abdulkerim & Li, 2022), anxiety is more often experienced by pregnant women with a prevalence of 29.2%, compared to mothers in the postpartum period which is 16.5%. It is estimated that around 15–23% of women experience anxiety during pregnancy, which can increase the risk of various negative impacts for both the mother and the baby being born (Faradiba, 2022).

Various non-pharmacological methods have been applied as an effort to reduce anxiety levels during pregnancy. Some of them include prenatal gentle yoga, dhikr therapy, aromatherapy, and touch therapy. One intervention that has proven effective is prenatal gentle yoga, which contributes to a decrease in stress hormones such as cortisol (Dent, 2025). This occurs through the mechanism of inhibiting the secretion of corticotropin-releasing hormone (CRH) from the hypothalamus and adrenocorticotrophic hormone (ACTH) from the anterior pituitary (Permata & Susanto, 2024). In addition, yoga also stimulates the production of endorphins, which are natural chemicals in the body that cause feelings of relaxation and comfort (Machmudah et al., 2024).

The American College of Obstetricians and Gynecologists (ACOG) also recommends that pregnant women do moderate physical activity, such as yoga, for 30 minutes per day or several times a week (Alfianto, 2023). In addition, dhikr therapy as a form of spiritual intervention has also been shown to be effective in reducing anxiety levels. The practice of dhikr can help calm the mind, increase inner peace, and strengthen the mother's faith in facing pregnancy and childbirth (Kamarudin et al., 2024).

Methods

This study used a quantitative method with a pre-experimental design, namely one group pretest and posttest design. In this design, there is no control group. The intervention given is a combination of prenatal gentle yoga therapy and dhikr as a form of physical and spiritual relaxation therapy to reduce anxiety levels in pregnant women (Dixon, 2024).

This study was conducted from June to July 2024 in the working area of the UPTD Bara Permai Health Center, Palopo City, South Sulawesi Province (Ulwan & Lubis, 2024). The population in this study were all pregnant women in the second and third trimesters in the working area of the Health Center. The sampling technique used was accidental sampling, which is the selection of subjects unintentionally but meets the inclusion criteria and is at the location when the study is taking place. The number of samples in this study was 26 pregnant women (Malvasi et al., 2023).

The intervention was carried out in the form of a gentle yoga prenatal therapy session that was adjusted to the condition of the pregnant woman and dhikr which was carried out as a form of spiritual relaxation therapy (Agustiyaningsih & Yusuf, 2022). The instrument used in this study was the Perinatal Anxiety Screening Scale (PASS), which consists of 31 statement items. This questionnaire was used to measure the level of anxiety of pregnant women before and after the intervention.

The collected data were analyzed using SPSS version 26. Univariate analysis was used to describe the characteristics of the respondents. Meanwhile, bivariate analysis was conducted using the Wilcoxon Signed Rank Test to determine the effect of anxiety levels before and after the intervention, with the significance level set at $p < 0.05$ (Fauk et al., 2023).

Results and Discussion

Results

Table 1. Respondent Characteristics

Variables	n	%	Average	Min-max
Age	26		29	18-41
Gestational age			29	21-38
Education Status				
Elementary school	1	3.8		
Junior high school	4	15.4		
Senior high school	15	57.7		
Bachelor	1	3.8		
Master	5	19.2		
Parity				
1	5	19.2		
2	6	23.1		
3	11	42.3		
4	2	7.7		
5	2	7.7		

Based on Table 1, it is known that the average age of pregnant women who participated in the Bara Permai Health Center, Palopo City was 29 years, with the youngest age being 18 years and the oldest age being 41 years. The average gestational age of respondents was 29 weeks. Based on education level, most pregnant women had a final education of Senior High School (SMA), which was 15 people (57.7%). Based on parity, the majority of respondents were multiparous pregnant women, as many as 11 people (42.3%) (Donovan et al., 2023).

Table 2. Frequency Distribution of Anxiety

Anxiety Level	Mean	Std. Deviation	Min	Max
Pre (Before)	28.69	7,504	15	47
Post (After)	20.81	8,551	12	41

Based on Table 2, it is known that the average level of anxiety before the intervention was 28.69 with a standard deviation of 7.504, a minimum value of 15, and a maximum of 47 (Alhassan et al., 2024). After the intervention, the average level of anxiety decreased to 20.81 with a standard

deviation of 8.551, a minimum value of 12, and a maximum of 41. These results indicate a decrease in the level of anxiety after being given prenatal gentle yoga intervention combined with dhikr therapy in pregnant women at the Bara Permai Health Center, Palopo City (Akinyemi & Ibrahim, 2024).

Results of Wilcoxon Test Analysis on the Effect of Prenatal Gentle Yoga Combined with Dhikr Therapy on the Anxiety Levels of Pregnant Women

Variables	Mean (min-max)	P value
Anxiety level before intervention	28(15-47)	0.000
Anxiety levels after intervention	20(12-41)	

Based on Table 3, it is known that the average level of anxiety of pregnant women before the intervention was 28, with a range of values between 15 to 47. After the intervention, the average level of anxiety decreased to 20, with a range of values between 12 to 41(Alfani et al., 2025). The results of the Wilcoxon test showed a value of $p = 0.000$ ($p < 0.05$), which means that there is a statistically significant difference between the level of anxiety before and after the prenatal gentle yoga intervention combined with dhikr therapy. Thus, it can be concluded that the intervention has a significant effect in reducing the level of anxiety of pregnant women at the Bara Permai Health Center, Palopo City (Plum, 2023).

Discussion

This study aims to analyze the effect of prenatal gentle yoga combined with dhikr therapy on anxiety levels in pregnant women at the Bara Permai Health Center, Palopo City. Based on the results of the study that has been conducted, it is known that there is a significant decrease in anxiety levels after being given an intervention in the form of a combination of prenatal gentle yoga and dhikr therapy. Before the intervention, the average anxiety score was 28.69, and after the intervention decreased to 20.81. The results of the Wilcoxon statistical test showed a p value = 0.000 ($p < 0.05$), which means there is a significant difference between before and after the intervention (Du et al., 2021).

These results indicate that the combined intervention of prenatal gentle yoga and dhikr therapy is effective in reducing the level of anxiety in pregnant women. Anxiety during pregnancy is a common psychological problem, especially towards the end of the last trimester of pregnancy. Factors that cause anxiety can include fear of the labor process, worry about the condition of the fetus, pain during childbirth, and social pressure from the surrounding environment. If not handled properly, anxiety can have a negative impact on the health of the mother and fetus, such as sleep disorders, increased blood pressure, risk of premature labor, and impaired fetal development (Y. Yang et al., 2021).

Prenatal gentle yoga is a modified form of traditional yoga that is adapted to pregnancy conditions. This yoga movement emphasizes breathing techniques, gentle stretching, and relaxation that are safe for pregnant women. These movements help increase muscle and joint flexibility needed during labor, as well as reduce common complaints during pregnancy such as back pain, muscle tension, and difficulty sleeping (Querejeta Roca et al., 2020). Physiologically, yoga movements stimulate the parasympathetic nervous system and reduce levels of stress hormones such as cortisol, thereby increasing feelings of calm and relaxation. Titi Purwitasari study used a systematic review method to evaluate the impact of prenatal exercise on anxiety and readiness for childbirth by analyzing relevant studies from 2020 to 2024 showing that prenatal exercise, including prenatal yoga and tera exercise, contributed to reducing anxiety levels through physiological mechanisms, such as increasing endorphin production and reducing cortisol levels. In addition, prenatal exercise also improves the mental and physical readiness of pregnant women by improving sleep quality, increasing self-confidence, and providing social support (Facco et al., 2022). Likewise, the implementation of Catur Erti's community service in 2021. The results of this activity showed that 85% of pregnant women experienced a decrease in the fetal head at 36 weeks of

pregnancy and all pregnant women experienced anxiety with mild to moderate levels of anxiety (Q. Yang et al., 2022).

Dhikr therapy as a form of spiritual approach provides profound psychological and emotional impacts. Dhikr is an activity of remembering Allah by saying sentences of praise and glorification, such as Subhanallah, Alhamdulillah, Allahu Akbar, and La ilaha illallah. This activity not only calms the heart and mind, but also provides a transcendental spiritual calm effect (Rezaei et al., 2024). Dhikr can foster a sense of resignation and sincerity in undergoing the pregnancy process, as well as strengthen the belief that everything that happens is the will and power of Allah SWT. This is in line with research conducted (Liamsombut & Tantrakul, 2022) using a systematic review method of 18 articles and aims to evaluate the effectiveness of dhikr in reducing negative emotions. The results of the study confirmed that dhikr is an effective holistic approach in improving emotional stability and mental health (Wang & Jin, 2020).

In this study, most respondents were of healthy reproductive age (20–35 years), had secondary education (Cai et al., 2023), and were multiparous mothers in their third trimester of pregnancy. Age and parity are two factors that are often associated with anxiety levels during pregnancy. However, the results of this study indicate that anxiety levels are not always determined by age or the number of previous childbirth experiences. This indicates that subjective perception, mental readiness, social support, and spiritual approaches play a more important role in reducing anxiety than demographic factors alone.

Anxiety experienced by pregnant women in the third trimester is very natural considering that this period is the final phase before childbirth, where the mother will start to think about all the possibilities that can happen, both positive and negative. Therefore, handling anxiety in this phase is very crucial. Non-pharmacological interventions such as prenatal gentle yoga and dhikr therapy are one of the effective solutions that do not cause side effects, are easy to do, and are low cost. The combination of these two methods not only stimulates physical relaxation through yoga practice, but also provides inner peace through a spiritual approach.

This study is also supported by routine implementation for four weeks. The results of the observation showed that the effect of reducing anxiety began to appear consistently after the second to fourth week of intervention. This shows that exercises that are carried out in a structured and regular manner will provide more optimal results. The American College of Obstetricians and Gynecologists recommends that pregnant women do light to moderate physical activities such as yoga for at least 30 minutes per day to get physical and mental health benefits.

In general, the results of this study strengthen the findings of various previous studies regarding the benefits of a combination of physical and spiritual approaches in overcoming anxiety disorders in pregnant women. The combination of prenatal gentle yoga and dhikr therapy has been shown to be effective in improving psychological well-being, building mental readiness for childbirth, and strengthening the emotional connection between mother and fetus. These findings are in line with research conducted by Yusda Seman et al., which states that a good level of psychological well-being during pregnancy plays an important role in maintaining the stability of maternal mental health and significantly reduces the risk of postpartum depression.

Thus, it can be concluded that prenatal gentle yoga combined with dhikr therapy is an effective, simple intervention that can be applied in maternal health services as a promotive and preventive effort against psychological disorders. It is hoped that this intervention can be part of the pregnancy education program at the Community Health Center or other health facilities, and involve the role of health workers such as midwives and nurses in its implementation.

Conclusion

Prenatal gentle yoga combined with dhikr therapy has been shown to have a positive impact on anxiety levels in pregnant women, especially in urban areas. This intervention is expected to be

developed and expanded in its application in the community, especially in rural areas, considering that the practice is still not widely known in these areas. This activity can be a beneficial physical and spiritual alternative for pregnant women with a gestational age of 20 weeks or more, to help maintain health during pregnancy. In addition, this therapy also has the potential as a non-pharmacological approach to dealing with anxiety in pregnant women, especially in the second and third trimesters approaching delivery. In the future, further research is expected to explore more deeply the benefits of the combination of prenatal gentle yoga and dhikr on other aspects, such as improving sleep quality, optimal fetal position, and inner peace of pregnant women.

References

- Abdulkerim, N., & Li, C. (2022). How applicable are mindfulness-based interventions to Muslim clients in the US? *Professional Psychology: Research and Practice*, 53(3), 253.
- Agustiyaningsih, T., & Yusuf, A. H. (2022). Intervention Supporting Self-Management in Chronic Obstructive Pulmonary Disease Patients: A Systematic Review. *Continuous innovation for sustainable health and climate resilience*, 112, 70–74.
- Akinyemi, A. O., & Ibrahim, E. A. (2024). Prevalence and predictors of men's involvement in pregnancy care in Modakeke, Southwest Nigeria. *Frontiers in Global Women's Health*, 5, 1337094.
- Alfani, I. H. D., Mukhsin, M., Khusnadin, M. H., Addzaky, K. U., & Mawaddah, P. W. (2025). Child Education in the Qur'anic Perspective: Tafsir Tarbawi Analysis and Its Implications for Modern Education. *Jurnal Penelitian Ilmu-Ilmu Sosial*, 6(1), 12–34.
- Alfianto, A. G. (2023). Chapter ii the concepts of mental health of postpartum. *Unveiling Shadows: Nurturing Maternal Mental Health*, 39.
- Alhassan, I., Asoma, A., & Donkoh, H. O. (2024). Examining the dual role among adolescent mothers of pre-tertiary school students in Ghana. *Equity in Education & Society*, 3(3), 252–262.
- Cai, J., Shen, Y., Zhao, Y., Meng, X., Niu, Y., Chen, R., Quan, G., Li, H., Groeger, J. A., & Du, W. (2023). Early-life exposure to PM_{2.5} and sleep disturbances in preschoolers from 551 cities of China. *American Journal of Respiratory and Critical Care Medicine*, 207(5), 602–612.
- Dent, A. (2025). *Using Spirituality in EMDR Therapy: The Heart Led Approach*. Taylor & Francis.
- Dixon, D. E. (2024). *A Holistic Approach to Music for Stress Management During Pregnancy*.
- Donovan, J., Chiatti, B. D., McKeever, A., Bloch, J. R., Gonzales, M. S., & Birati, Y. (2023). Yes, I can bond. Reflections of autistic women's mothering experiences in the early postpartum period. *Women's Health*, 19, 17455057231175312.
- Du, M., Liu, J., Han, N., Zhao, Z., Yang, J., Xu, X., Luo, S., & Wang, H. (2021). Maternal sleep quality during early pregnancy, risk factors and its impact on pregnancy outcomes: a prospective cohort study. *Sleep Medicine*, 79, 11–18.
- Facco, F. L., Chan, M., & Patel, S. R. (2022). Common sleep disorders in pregnancy. *Obstetrics & Gynecology*, 140(2), 321–339.
- Faradiba, F. (2022). *Antiinflammatory activities against LPS-induced J774. 1 Cell and Total Flavanoid content of Vitex coffasus*.
- Fauk, N. K., Gesesew, H. A., Mwanri, L., Hawke, K., Merry, M. S., Asa, G. A., & Ward, P. R. (2023). Understanding coping strategies of mothers living with HIV who care for children living with HIV: A qualitative study in Indonesia. *BMC Women's Health*, 23(1), 172.
- Handayani, V. (2022). Toxicity Test Of Ethanol Extract Of Shallot Peel (*Allium Cepa* L.) With Brine Shrimp Lethality Test (BsLt). *Alauddin Health and Medical International Conference*, 14.
- Kamarudin, S. S., Idris, I. B., Ahmad, N., & Sharip, S. (2024). Exploring Asian maternal experiences and mHealth needs for postpartum mental health care. *Digital Health*, 10, 20552076241292680.
- Khotimah, H., Pertasari, R. M. Y., & Azkiya, F. (2023). Applications of Prenatal Yoga and Maryam Exercise for Reducing Back Pain in Pregnant Women at Third Trimester. *KnE Social Sciences*, 157–167.
- Liamsombut, S., & Tantrakul, V. (2022). Sleep disturbance in pregnancy. *Sleep Medicine Clinics*,

- 17(1), 11–23.
- Machmudah, A., Rahmat, M., Kosasih, A., Azka, I., & Hamrain, F. B. (2024). Spiritual enhancement through prenatal gentle yoga within islamic cultural contexts. *Al-Qalam*, 30(2), 370–382.
- Malvasi, A., Damiani, G. R., Edoardo, D. I. N., Vitagliano, A., Dellino, M., Achiron, R., Ioannis, K., Vimercati, A., Gaetani, M., & Cicinelli, E. (2023). Intrapartum ultrasound and mother acceptance: A study with informed consent and questionnaire. *European Journal of Obstetrics & Gynecology and Reproductive Biology*, X, 20, 100246.
- Nori, W., Kassim, M. A. K., Helmi, Z. R., Pantazi, A. C., Brezeanu, D., Brezeanu, A. M., Penciu, R. C., & Serbanescu, L. (2023). Non-pharmacological pain management in labor: a systematic review. *Journal of Clinical Medicine*, 12(23), 7203.
- Nurhidayah, N., Gani, N. F., Muthahharah, M., & Hasnah, H. (2024). Combination of Prenatal Gentle Yoga with Dhikr to Reduce the Anxiety Level of Pregnant Women. *Diversity: Disease Preventive of Research Integrity*, 77–83.
- Permata, A., & Susanto, R. (2024). *Reformulation of Dzikir in Reducing Anxiety of Medical Patients*.
- Plum, J. L. (2023). *Self-Care Practices, Mental Well-Being, and Motivation among Mothers: A Cross-Sectional Assessment and Self-Care Intervention Pilot Study*.
- Querejeta Roca, G., Anyaso, J., Redline, S., & Bello, N. A. (2020). Associations between sleep disorders and hypertensive disorders of pregnancy and materno-fetal consequences. *Current Hypertension Reports*, 22, 1–9.
- Rais, G., Ahmad, M., Usman, A. N., & Tamar, M. (2024). The Effect of Prenatal Yoga and Quran Recitations on Cortisol Hormone Levels and Labor Readiness. *Pakistan Journal of Life & Social Sciences*, 22(2).
- Satari, H., Alivandi Vafa, M., Farzadi, L., & Panahali, A. (2025). A Comparative Study of the Effectiveness of Yoga-Based Intervention and Positive-Oriented Intervention on Happiness of Pregnant Women with Recurrent Abortion. *Clinical Psychology and Personality*, 23(1), 123–138.
- Ulwan, M. N., & Lubis, Z. H. (2024). Birth Restriction in The Perspective Of The Qur'an. *Albayan Journal of Islam and Muslim Societies*, 1(01), 53–74.
- Wang, L., & Jin, F. (2020). Association between maternal sleep duration and quality, and the risk of preterm birth: a systematic review and meta-analysis of observational studies. *BMC Pregnancy and Childbirth*, 20, 1–13.
- Yang, Q., Borges, M. C., Sanderson, E., Magnus, M. C., Kilpi, F., Collings, P. J., Soares, A. L., West, J., Magnus, P., & Wright, J. (2022). Associations between insomnia and pregnancy and perinatal outcomes: Evidence from mendelian randomization and multivariable regression analyses. *PLoS Medicine*, 19(9), e1004090.
- Yang, Y., Li, W., Yang, W., Wang, L., Liu, J., Leng, J., Li, W., Wang, S., Li, J., & Hu, G. (2021). Physical activity and sleep duration during pregnancy have interactive effects on caesarean delivery: a population-based cohort study in Tianjin, China. *BMC Pregnancy and Childbirth*, 21(1), 406.