

How to Cite:

Herniyatun, H., Sari, E. T. I., Astutiningrum, D., Rahmadhani, W., & Chamroen, P. (2022). Prenatal Yoga on the anxiety level of pregnant women in the third trimester during the COVID-19 pandemic in Purbalingga, Indonesia. *International Journal of Health Sciences*, 6(S6), 1463–1471. <https://doi.org/10.53730/ijhs.v6nS6.10743>

Prenatal Yoga on the anxiety level of pregnant women in the third trimester during the COVID-19 pandemic in Purbalingga, Indonesia

Herniyatun

Faculty of Health, Universitas Muhammadiyah Gombong

*Corresponding author email: herni_yatun76@yahoo.com

Ema Tri Indah Sari

Faculty of Health, Universitas Muhammadiyah Gombong

Diah Astutiningrum

Faculty of Health, Universitas Muhammadiyah Gombong

Wulan Rahmadhani

Faculty of Health, Universitas Muhammadiyah Gombong

Pall Chamroen

The National Institute of Public Health, Tuol Kork, Phnom Penh, Cambodia

Abstract---Introduction: Prenatal yoga is a modified type of Hatha yoga that is adjusted to the condition of pregnant women. This study aims to determine the effect of prenatal yoga on the anxiety level of pregnant women in the third trimester during the Covid-19 pandemic in Purbalingga. Methods: This study used Pre-Experimental Design with One Group Pretest-Posttest Design. The sample in this study was 576 pregnant women in clinics in Purbalingga. It used the total sampling technique. Data analysis used univariate and bivariate analysis. Results: The results showed that the pretest results of anxiety scores of pregnant women who take prenatal yoga classes are 16.48 with a standard deviation of 5.598, a median of 16.00 (minimum 3-maximum 33). Then, after prenatal yoga, the anxiety score is 4.67 with a standard deviation of 2.862, and a median of 4.67 (minimum 0- maximum 11). Then, the Wilcoxon test obtains a p-value of 0.000 (<0.05). Conclusion: It can be concluded that there is a difference in the level of anxiety before and after the intervention in the form of prenatal yoga. Prenatal yoga reduces anxiety levels in pregnant women in the third trimester during the Covid-19 pandemic.

Keywords--- prenatal yoga, anxiety, pregnant women.

Introduction

Anxiety is an emotional psychological problem of individuals who feel worries or fear about uncertain and unclear things about an object specifically.¹ First pregnancy often appears fearful, especially when facing childbirth and events in the third trimester.² A high anxiety level can affect the delivery process and even can result in complications for both the mother and infant.³ Based on the prevalence data of anxiety in pregnant women, 81% of women in the United Kingdom have experienced psychological disorders during pregnancy.⁴ Meanwhile, in France, primigravida mothers experienced anxiety (7.96%), depression (11.80%), and anxiety and depression (13.24%) during pregnancy (Ibanez, 2018).⁵ However, in Indonesia, the incidence of anxiety in pregnant women reaches 373 million.⁶ A total of 107,000,000 or 28.7% of them experience anxiety before the delivery process. A study conducted on primigravida mothers showed different levels of anxiety during pregnancy, namely mild anxiety (22.57%), moderate anxiety (30%), severe anxiety (27.53%), and very severe anxiety (20%).⁷

COVID-19 pandemic in Indonesia has made the government apply social restriction policies such as restriction of all routine services, including maternal and child health services.⁸ Restrictions on health services cause pregnant women afraid and reluctant to have antenatal care due to fear of getting infected with the virus.⁹ The COVID-19 attacks the respiratory system with symptoms ranging from mild to severe.¹⁰ The virus has not been shown to indicate a risk of miscarriage, but there is evidence of mother-to-child transmission during pregnancy or after birth.¹¹ This problem makes pregnant women feel anxious and fear to have antenatal care due afraid of getting infected. In the third trimester of pregnancy, the anxiety can lead to a decrease in the birth weight of the baby.¹²

Indeed, pregnant women can take preventive measures such as exercise, cycling, and yoga to keep both mother and infant health and to be able to have a normal birth delivery process.¹³ Pregnancy exercises cover some techniques such as yoga, Pilates, Kegels, and hypnotherapy. Prenatal yoga is one exercise modification from hatha yoga that is adapted to the conditions of pregnant women.¹⁴ Prenatal yoga aims to prepare pregnant women physically, mentally, and spiritually for a smooth delivery process.⁵ Careful preparation can increase self-confidence to have a smooth and comfortable delivery process.¹⁵ Prenatal yoga has a range of movements including relaxation, adjusting posture, breathing and meditation for one hour each day.¹⁶ Movement during relaxation can regulate posture and breathing.¹⁷ For pregnant women, the movement technique focuses on exercising the muscles of the body.¹⁸ The form of meditation carried out during this exercise is guided imagination in which pregnant women are suggested to have the most relaxed position, then they are asked to close their eyes and follow the imagination directed by the trainer.¹⁹

A study by Sulistiyarningsih (2020) regarding the Effect of Prenatal Yoga on Increased Anxiety in Third Trimester Primigravida Pregnant Women shows that the P-value is $0.000 < 0.05$. It means that there is an effect of prenatal yoga on reducing anxiety in primigravida mothers. Yoga can reduce discomfort during pregnancy and increase confidence in the birth process. Thus, Yoga has a positive

impact on reducing discomfort during pregnancy. Increased muscle strength provides many benefits such as preventing back pain, helping mothers become more agile and active, and changing body weight to balance with the gravity during pregnancy. In this study, yoga does not only strengthens the muscles of the shoulders, back and legs but also helps to obtain the correct body position in order to reduce back pain in pregnant women.²⁰

Methods

This study used a pre-experimental design research design with a one-group pretest-posttest design. The sample of the study was pregnant women in the third trimester who were willing to be respondents. It involved a total of 576 pregnant women. Inclusion criteria was pregnant mother on third semester, with good communicate skill, also pregnant mothers with no illness. The research was conducted at maternal and child health clinics in the Purbalingga during the period of July-December 2021. Yoga training was carried out by certified trainers. Pre-test and post-test for measuring the anxiety level used a questionnaire proposed by the Hamilton Rating Scale for Anxiety (HARS). Before beginning collecting data, the researcher distributed document to respondent for informed consent. Researcher had to tell respondent about how to fill the questionnaire. Pregnant mothers who submitted respondent consent with the signature were include in this study. The training was done 2 times per week with 90 minutes of each session. After doing Yoga for two weeks, then the post-test used HARS was measured again. Univariate and Bivariate analysis were include in this study. Univariate analysis was described the number and percentage each variable. Bivariate analysis test used the Wilcoxon test to measure the difference in mean of anxiety score before and after prenatal yoga. The analysis used to determine effect of prenatal yoga on anxiety level following the decision with significant level was >0.05 . this research was approved by Health Research Ethics Committee STIKES Muhammadiyah Gombong (No.530.6/II.3.AU/F/KEPK/VI/2021).

Results

Based on table 1, most of the pregnant women aged 21-30 (50.18%) with 408 of the pregnant women have elementary and junior high school education levels (70.84%). The average income of respondents is higher than the district government minimum wage standard (58.51%).

Table 1
Characteristics of pregnant women

Characteristics	n	%
Age		
≥20 years old	123	21.35
21-30 years old	289	50.18
>31 years old	164	28.47
Education		
Elementary and Junior High School	408	70.84
Senior High School	168	29.17

and University				
Income				
≥ UMR (District government minimum standard)	337	58.51	wage	
< UMR (District government minimum standard)	239	41.49	wage	
Marital age				
≥18 years old	202	54.51		
<18 years old	374	45.49		
Residence				
Urban	257	44.62		
Rural	319	55.38		
Type of household				
Nuclear Family	319	55.38		
Extended Family	257	44.62		

Table 2 shows that the average anxiety level before receiving prenatal yoga intervention is 16.48 with a standard deviation of 5.598. Then, after the intervention, the anxiety level decreases to 4.67 with a standard deviation of 2.862. The mean before the intervention is 16.00 and after the intervention, it is 4.50. For the 95% confidence level, the lower bound before the intervention is 15.04 and the upper bound is 17.93. Then, after the intervention, the lower bound is 3.93 while the upper bound is 5.41.

Table 2
Description of Anxiety Levels

Anxiety Level	Mean	Median	SD	95% CI	
				Lower Bound	Upper Bound
Pre Test	16.48	16.00	5.598	15.04	17.93
Post Test	4.67	4.50	2.862	3.93	5.41

Table 3 shows that before the intervention, the median value is 16.00 with a minimum value of 3 and a maximum value of 33. After the intervention, the median value decreases to 4.67 with a minimum value of 0 and a maximum value of 11. A total of 59 respondents out of 60 respondents experience a decrease in their level of anxiety and 1 respondent's level of anxiety remain the same. The statistical results obtain a p-value of 0.000 (<0.05). It can be concluded that there is a difference in the level of anxiety before and after the intervention of prenatal yoga.

Table 3
Differences in anxiety levels before and after Prenatal Yoga

Anxiety level	Median (Min-max)	P value
Pretest	16.00 (3-33)	0.000
Posttest	4.67 (0-11)	

Discussion

This study reveals that prenatal yoga can reduce anxiety. The results of this study are in line with the previous study with the p-value of $0.004 < = 0.05$, which means that prenatal yoga can reduce anxiety levels in pregnant women in the third trimester. Another study by Nurfaizah et al (2017) regarding the *Effect of Yoga on Anxiety Levels of Pregnant Women in the Third Trimester in Puskesmas in Yogyakarta City* obtained a p-value of 0.012 ($p < 0.05$). It means that there is an effect of prenatal yoga on the anxiety level of pregnant women in the third trimester in Puskesmas in Yogyakarta City.²¹

Factors affecting anxiety levels in pregnant women are age, occupation and education level. Age will affect a person's psychological status and the older the person, the better the emotional maturity level. Safe pregnancy and childbirth are at a healthy reproductive age between 20-35 years. Under 20 years old or older than 35 years are high-risk pregnancy age which can lead to anxiety. The results of this study are in line with the previous study (Muria, 2017) in which young age is a risk factor for anxiety during pregnancy.¹³ Age relates to the psychological immaturity of women to get pregnant and give birth. Another study (Fauziah, 2016) reveals that age > 35 years is associated with certain pregnancy-related risks and these risks cause anxiety. A study by Sibuea et al., (2013) states that pregnant women aged >35 years can face various risks such as difficult and long labor processes and infant mortality.²²

The factor causing the decrease in anxiety levels in pregnant women is prenatal yoga.²³ It can have a relaxing effect on pregnant women because when doing prenatal yoga, pregnant women are required to focus their minds and regulate their breathing patterns. This relaxation effect helps reduce their anxiety. This study obtains a p-value of 0.000 (< 0.05) meaning that there is an effect of prenatal yoga on anxiety levels in pregnant women in the third trimester. It is in line with the previous study by Aswitami (2017) that prenatal yoga helps to facilitate the delivery process.²⁴ Yoga practice can help relax the muscles of the body by regulating the pattern of breath.²⁵

Through body movements combined with breathing techniques and concentration, the body will feel fitter, healthier, and more balanced emotions. Besides, yoga also has benefits for managing chronic diseases related to lifestyle and yoga performed during pregnancy can reduce problems related to complications.²⁶ In addition to giving relaxation effects, prenatal yoga also has a physiological effect on the body in every movement.²³ The movements in prenatal yoga are also beneficial in strengthening the muscles of the thigh and pelvic

which are beneficial during the delivery process. This physiological effect makes mothers more confident during the delivery process and decreases the level of anxiety.²⁷ This is in line with a previous study (Bara, 2021) in which Kegel exercises used to strengthen the pelvic floor muscles and thigh muscles are useful during the labor process.²⁸ Prenatal yoga practice for pregnancy focused on the rhythm of breathing, prioritizing safety and comfort so that provides many benefits for pregnant women. Prenatal Yoga is a kind of body and mind exercise and mother's mentality which really helps mothers pregnant in flexing joints and calm the mind especially in the third trimester. Prenatal Yoga practice will get benefits during pregnancy can help smooth in pregnancy and natural and healthy birth of children.²⁰ Prenatal yoga exercise during pregnancy could increase birth weight and reduce premature and delivery complication.²³

Another physiological effect is smoother blood flow, both to the mother's body and to the fetus which functions to supply nutrients. According to (Purnami & Dewi, 2018), the benefits of doing yoga are helping lower blood pressure and increasing blood flow in removing the remnants of toxins in the body. Meanwhile, the benefits of yoga practice for pregnant women are increasing blood flow and nutrients to the fetus adequately, and improving reproductive and pelvic health to strengthen the perineal muscles in preparing for childbirth. Anxiety is a natural feeling disorder characterized by feeling of fear or deep and ongoing concern.²⁹ Yoga improved mood during pregnancy so that the mothers are more comfortable in her pregnancy and prepares her birth.²¹ A systematic review and meta-analysis stated that prenatal yoga can reduce depressive symptoms.³⁰ Prenatal Yoga is done in groups makes mothers can interact with other pregnant mother and tell how their feeling each other.³¹ This makes mothers feel that she has a friend, have the same problem with other pregnant mothers. This made mother's mind become calmer.²⁶

Conclusion

Based on the results of the study, the average anxiety level before prenatal yoga is 16.48 with a standard deviation of 5.598, a median of 16.00 (minimum 3-maximum 33). Then, after the prenatal yoga, the anxiety is 4.67 with a standard deviation of 2.862, a median of 4.67 (minimum 0-maximum 11). The Wilcoxon test results obtain $p = 0.000$, meaning that there is a significant difference in anxiety levels before and after prenatal yoga in pregnant women in the third trimester during the covid-19 pandemic. Prenatal Yoga decreases anxiety levels after practicing it twice a week for 2 weeks with 90 minutes per session.

Acknowledgments

The authors would like to express the greatest gratitude all respondents who have participated in this research.

Conflict of interest

Authors declare there is no conflict of interest in this research.

References

1. Alqahtani AH, Al Khedair K, Al-Jeheiman R, et al. Anxiety and depression during pregnancy in women attending clinics in a University Hospital in Eastern province of Saudi Arabia: Prevalence and associated factors. *Int J Womens Health* 2018; 10: 101–108.
2. Setyaningsih MM, Setyowati S, Kuntarti K. Penurunan Kecemasan Ibu Hamil Risiko Tinggi Dalam Menghadapi Persalinan Melalui Paket “Harmoni”. *J Keperawatan Indones* 2013; 16: 176–182.
3. Novyriana E, Rahmadhani W, Chamroen P. Mid-upper arm circumference (MUAC) for evaluation of anemia cases among pregnant women in Gombong, Kebumen, Central Java Indonesia. *Int Public Heal J*.
4. Çankaya S. The effect of psychosocial risk factors on postpartum depression in antenatal period: A prospective study. *Arch Psychiatr Nurs* 2020; 34: 176–183.
5. Rahmawati D, Anjarwati. The Correlation between prenatal gentle yoga and the success of normal childbirth in bidan Kita Clinic Klaten in 2017. *Pakistan J Med Heal Sci* 2021; 15: 567–570.
6. Kemetrian Kesehatan Republik Indonesia. Basic Health Research 2018. 2018.
7. Omidvar S, Faramarzi M, Hajian-Tilak K, et al. Associations of psychosocial factors with pregnancy healthy life styles. *PLoS One*; 13. Epub ahead of print 2018. DOI: 10.1371/journal.pone.0191723.
8. Rahmadhani W, Suyanto J, Soe TK, et al. The Relationship Between Husband Support and Behavior of Pregnant Teenagers to Face Pregnancy During the Covid-19 Pandemic in Gombong, Kebumen, Indonesia. *Dis Prev Public Heal J*. Epub ahead of print 2021. DOI: 10.12928/dpphj.v15i2.4413.
9. Rahmadhani W, Suyanto J, Soe TK, et al. The Relationship Between Husband Support and Behavior of Pregnant Teenagers to Face Pregnancy During the Covid-19 Pandemic in Gombong, Kebumen, Indonesia. *Dis Prev Public Heal J*; 15. Epub ahead of print 2021. DOI: 10.12928/dpphj.v15i2.4413.
10. World Health Organization. WHO Timeline COVID-19. WHO 2020; 2020.
11. Castro P, Matos AP, Werner H, et al. Covid-19 and Pregnancy: An Overview. *Revista Brasileira de Ginecologia e Obstetricia* 2020; 42: 420–426.
12. Goyal M, Singh P, Singh K, et al. The effect of the COVID-19 pandemic on maternal health due to delay in seeking health care: Experience from a tertiary center. *Int J Gynecol Obstet* 2021; 152: 231–235.
13. Harahap D, Afyanti Y. Women’s experiences of the prenatal group class in Indonesia. *Enferm Clin*. Epub ahead of print 2019. DOI: 10.1016/j.enfcli.2019.04.023.
14. Ng QX, Venkatanarayanan N, Loke W, et al. A meta-analysis of the effectiveness of yoga-based interventions for maternal depression during pregnancy. *Complement Ther Clin Pract* 2019; 34: 8–12.
15. Rahmadhani W. KNOWLEDGE OF POSTPARTUM MOTHERS ON POSTPARTUM CARE IN HEALTHCARE CENTERS IN KEBUMEN. *J Ilm Kesehat Keperawatan* 2020; 16: 28.
16. Evrianasari N, Yantina Y. Pengaruh Yoga Prenatal Terhadap Outcome Persalinan. *J Kesehat*. Epub ahead of print 2020. DOI: 10.26630/jk.v11i2.1632.

17. Chen PJ, Yang L, Chou CC, et al. Effects of prenatal yoga on women's stress and immune function across pregnancy: A randomized controlled trial. *Complement Ther Med*. Epub ahead of print 2017. DOI: 10.1016/j.ctim.2017.03.003.
18. Veronica PA, Enggar, Lastri GH, et al. The effect of prenatal yoga on the anxiety level of pregnant women. *Enferm Clin*. Epub ahead of print 2020. DOI: 10.1016/j.enfcli.2020.06.074.
19. Rahmadhani W. The Affecting Factors of Implementation of Expanding Maternal and Neonatal Survival Program by the Ministry of Health of the Republic of Indonesia in Determining Midwifery in Kebumen, Central Java, Indonesia. 2021. Epub ahead of print 2021. DOI: 10.4108/eai.18-11-2020.2311621.
20. Franciska Y, Yuka AAS, Wilma W. Relieve Labor Pain With Hypno Prenatal and Prenatal Yoga. *J Ilmu dan Teknol Kesehat*. Epub ahead of print 2021. DOI: 10.32668/jitek.v9i1.579.
21. Amita MV, Ratnaningsih S. The experience of pregnant women following prenatal gentle yoga: Scoping review. *International Journal of Advanced Science and Technology*.
22. Kinser P, Masho S. "Yoga Was My Saving Grace": The Experience of Women Who Practice Prenatal Yoga. *J Am Psychiatr Nurses Assoc*. Epub ahead of print 2015. DOI: 10.1177/1078390315610554.
23. Wulansari DP. Pengaruh Prenatal Yoga Terhadap Kecemasan Ibu Hamil Primigravida Trimester II Dan III Di Wilayah Kerja Puskesmas Kahuripan Tahun 2020. *JoMI (Journal Midwifery Information)*.
24. Novyriana E, Rahmadhani W, Zuhroh S. HUBUNGAN LINGKAR LENGAN ATAS DENGAN KEJADIAN ANEMIA DALAM KEHAMILAN DI PUSKESMAS GOMBONG I. *J Ilm Kesehat Keperawatan*; 12. Epub ahead of print 2016. DOI: 10.26753/jikk.v12i2.157.
25. Rafika R. Efektifitas Prenatal Yoga terhadap Pengurangan Keluhan Fisik pada Ibu Hamil Trimester III. *J Kesehat*. Epub ahead of print 2018. DOI: 10.26630/jk.v9i1.763.
26. Deshmukh S, Seely EW, Brickley T, et al. Knowledge and Attitudes Toward Prenatal Yoga Among Women with High-Risk Pregnancies. *Int J Yoga Therap*. Epub ahead of print 2020. DOI: 10.17761/2020-D-19-00034.
27. Mutoharoh S, Astuti DP, Kusumastuti K, et al. Effectiveness of Pregnancy Exercise With Kinesio Taping on Lower Back Pain in Pregnant Women in the Third Trimester. *J Ilmu Kesehat Masy*. Epub ahead of print 2021. DOI: 10.26553/jikm.2021.12.3.241-249.
28. Kundarti FI, Titisari I, Sepdianto TC, et al. The effect of prenatal yoga on anxiety, cortisol and sleep quality. *Int J Pharm Res*. Epub ahead of print 2020. DOI: 10.31838/ijpr/2020.12.03.315.
29. Rong L, Dai LJ, Ouyang YQ. The effectiveness of prenatal yoga on delivery outcomes: A meta-analysis. *Complement Ther Clin Pract*. Epub ahead of print 2020. DOI: 10.1016/j.ctcp.2020.101157.
30. Green J, James D, Larkey L, et al. A qualitative investigation of a prenatal yoga intervention to prevent excessive gestational weight gain: A thematic analysis of interviews. *Complement Ther Clin Pract*. Epub ahead of print 2021. DOI: 10.1016/j.ctcp.2021.101414.

31. Dangel AR, Demtchouk VO, Prigo CM, et al. Inpatient prenatal yoga sessions for women with high-risk pregnancies: A feasibility study. *Complement Ther Med*. Epub ahead of print 2020. DOI: 10.1016/j.ctim.2019.102235.
32. Kustina, K.T., Dewi, G.A.A.O., Prena, G.D., Suryasa, W. (2019). Branchless banking, third-party funds, and profitability evidence reference to banking sector in indonesia. *Journal of Advanced Research in Dynamical and Control Systems*, 11(2), 290-299.
33. Suryasa, I. W., Rodríguez-Gámez, M., & Koldoris, T. (2021). Health and treatment of diabetes mellitus. *International Journal of Health Sciences*, 5(1), i-v. <https://doi.org/10.53730/ijhs.v5n1.2864>
34. Dwijayanti, N., Mufdlilah, M., & Suryaningsih, E. K. (2022). The role of midwives in the application of classroom services for pregnant women during the COVID-19 pandemic period. *International Journal of Health & Medical Sciences*, 5(3). <https://doi.org/10.21744/ijhms.v5n3.1918>