

complications during pregnancy and childbirth that can occur in both the mother and the baby (Styles, Loftus, Nicolson, & Harms, 2019).

The number of maternal deaths in Indonesia in 2020 was 4,627 deaths. This number has increased compared to 2019 which was 4,221 deaths (Villar-Alises, Martinez-Miranda, & Martinez-Calderon, 2023). The Maternal Mortality Rate (MMR) in Gorontalo Province in 2020 was 272.5/100,000 live births. In 2021, the Maternal Mortality Rate reached 243.8 per 100,000 live births, an increase compared to 2021 which was only 115.6/100,000 Live Births. The real number of maternal deaths in 2021 was 6 people with a total of 2,461 live births. Maternal deaths in 2021 occurred in pregnant women and postpartum women (Suhermi & Syamsinar Amirasti, 2022).

Pregnant women who are anxious will have a negative impact from pregnancy to childbirth, for example, fetal growth is hampered due to restless fetuses, uterine contractions weaken, and so on. These negative impacts can cause complications for the mother and fetus. The results of one study conducted in Indonesia were that pregnant women with high levels of anxiety had a risk of giving birth prematurely and even miscarriage (Afzal, Pariyo, Lassi, & Perry, 2021). Regular prenatal gentle yoga exercises provide benefits, namely maintaining health and a smooth delivery and postpartum process. This is because prenatal yoga exercises can make the body flexible, especially in the muscles of the uterus. Relaxation in yoga movements can prevent pregnant women from tension and anxiety or fear related to childbirth can be eliminated and give rise to optimistic feelings (Srianti, Ansari, & Ma'ruf, 2020). The purpose of the study was to analyze the effect of yoga and hypnoprenatal classes on pregnant women with high risk of anxiety in pregnant women, before and after yoga and hypnoprenatal classes.

METHODS

The design used in this study is a quasi-experimental design with one group pretest posttest design. Before being given treatment in the form of yoga and hypnoprenatal, the sample was first given a pretest. Furthermore, treatment and assistance were carried out according to the procedures that had been designed. After the treatment was completed, a posttest was carried out to measure the changes that occurred. If the posttest results show a significant difference compared to the pretest, it can be concluded that the treatment given has a significant effect on the sample. To find out more about its meaning, a qualitative study was conducted through in-depth interviews with several informants.

The research will be conducted in Community Health Centers throughout Boalemo Regency. The research will be conducted for approximately 6 (six) months, starting from February to September 2023. The population is all pregnant women at risk in community health centers throughout Boalemo Regency, totaling 11 community health centers, totaling 75 pregnant women. The sample in this study were pregnant women who met the inclusion criteria, namely pregnant women with a risk age of <20 and >35 years, parity >2, pregnant in the second and third trimesters at the Health Centers throughout Boalemo Regency. Exclusion criteria were pregnant women with anemia and hypertension. Samples were taken based on stratified random technique, namely 6 community health centers as the intervention group (Tilamuta, Paguyaman, Bongo Nol, Dulupi, Pangi, and Botumoito Community Health Centers) and 5 community health centers as the control group (Saritani, Berlian, Bongo II, Paguyaman Pantai and Mananggu Community Health Centers). To control the quality, validity and reliability tests of the questionnaire were carried out. For qualitative research, 12 respondents were selected from pregnant women and 7 key informants from village midwives, coordinating midwives, and heads of the KIA section of the Boalemo Regency Health Office. The instrument used is a questionnaire with a scale that has been tested for validity and reliability. The test used is the dependent t test. Presentation of data in tabular form.

RESULTS

The implementation of the research began with the processing of recommendations at the Kesbangpol Office of Boalemo Regency, whose recommendation letter was issued on May 20, 2024, and the implementation time of the research began on May 21, 2024 to October 21, 2024.

Furthermore, coordination was carried out with the Head of the Maternal and Child Health Section of the Boalemo Health Office regarding the location of the research, request for data by name by address of pregnant women. After the data was obtained, the calculation of the number of research samples was carried out. The population in this study were pregnant women in the second and third trimesters with an age at risk, namely <20 years and >35 years. To obtain a sample that can describe a viable population, the research sample used the Lameshow formula so that a sample of 38 respondents was obtained. The sampling technique in this study was taken by Stratified Random Sampling which met the inclusion criteria.

The distribution of respondents according to age can be seen in the following table:

Table 1. Distribution of Respondents

Variables	n	%
Age		
< 20 years	8	16.3
> 35 years	41	83.7

Table 1 shows the results that from 49 respondents, the majority of respondents were >35 years old, namely 41 respondents (83.7%).

Bivariate analysis was carried out to get an idea of the differences in each research variable in the two groups before and after the intervention in the treatment group. Before carrying out bivariate analysis, a data normality test and homogeneity test were carried out.

Table 2. Cross tabulation of BMI against age and stress in midwifery students

Anxiety Level	Yoga and Hypnoprenatal								p-value
	n	%	Before Mean	SD	n	%	After Mean	SD	
Not Experiencing	12	24.5	1.82	0.391	39	79.6	1.20	0.407	0.000
Mild	27	55.1			10	20.4			
Moderate	8	16.3			0	0			
Severe	2	4.1			0	0			

Table 2 shows the results that out of 49 respondents, most respondents experienced mild anxiety, namely 27 respondents (55.1%) before taking yoga and hypnoprenatal. While most respondents did not experience anxiety, namely 39 respondents (79.6%) after taking yoga and hypnoprenatal. In addition, the average anxiety before giving yoga and hypnoprenatal classes was 1.82 with a standard deviation of 0.391. Anxiety after giving yoga and hypnoprenatal classes was 1.20 with a standard deviation of 0.407. The results of the statistical test obtained a value of 0.000, so it can be concluded that there is a significant difference between anxiety before and after giving yoga and hypnoprenatal classes.

DISCUSSION

Prenatal yoga has been recognized as an effective intervention in reducing anxiety in pregnant women, especially in high-risk groups. Based on research results, pregnant women who regularly attend yoga classes experience a significant decrease in anxiety compared to the control group (Marwati et al., 2024). This is because yoga increases relaxation, blood circulation, and hormone stability, which play an important role in reducing stress. Yoga poses that are specifically designed for pregnancy also help improve physical comfort, thereby indirectly reducing emotional tension (Ernawati & Safitri, 2018).

Hypnoprenatal functions as a method to help pregnant women manage anxiety by strengthening positive thoughts and reducing stress responses (Styles et al., 2019). Research results show that routine hypnoprenatal practice can reduce the hormone cortisol, which is associated with stress, while increasing the hormone oxytocin, which has an impact on a better

mood. This technique is effective because it involves positive affirmations and visualizations that support the mother's confidence in facing pregnancy and childbirth (Taqiyah & Jama, 2022).

A person's age can affect the condition of their pregnancy. If a woman is pregnant at a fertile age, the possibility of complications is lower than women who are pregnant at or near fertile age. Anxiety during pregnancy can occur in young adults aged 21 to 24 years and is least likely to affect feelings of anxiety and fear during childbirth (Villar-Alises et al., 2023). On the other hand, elderly people aged 25 to 28 years have higher rates of obstetric complications, morbidity, and perinatal mortality. A safe age for pregnancy and childbirth is a young age between 21 and 24 years. In this age group, women are in their best physical condition, the uterus is able to protect them, and are mentally ready to take care of themselves after pregnancy (Suhermi & Syamsinar Amirasti, 2022).

An individual's ability to respond to anxiety is influenced by age. Increasing maturity in adults enables them to apply more effective coping mechanisms compared to younger individuals. These coping mechanisms include task-oriented behavior and ego-defense strategies, which function to provide psychological protection. However, under certain circumstances, coping strategies may become maladaptive and fail to help individuals adjust to stressors, potentially leading to increased anxiety and stress. The findings of this study are consistent with research conducted by Suhermi, in which Fisher's Exact Test yielded a p-value of 0.016 ($p \leq 0.05$), indicating a significant relationship between anxiety and the age of primigravida mothers in their third trimester (Suhermi & Syamsinar Amirasti, 2022).

Overall, these findings reinforce the notion that adults tend to demonstrate more mature cognitive functioning, enabling them to utilize more adaptive coping mechanisms compared to younger age groups. Coping mechanisms include task-oriented behavior and ego-defense strategies that help provide psychological protection. However, when these mechanisms are ineffective or maladaptive, they may no longer assist individuals in adapting to stressors and may instead contribute to heightened anxiety and stress (Afzal et al., 2021).

Based on table 3, the level of anxiety after yoga and hypnoprenatal classes, there were still 10 respondents experiencing mild anxiety (20.4%). This is in accordance with the opinion of experts who divide anxiety into 2 levels, namely: 1) psychological level; namely anxiety that manifests as psychological symptoms, such as tension, worry, confusion, difficulty concentrating, feelings of uncertainty and so on, 2) physiological level; namely anxiety that has affected or manifested in physical symptoms, especially in the nervous system, such as nausea, insomnia, trembling, heart palpitations, and so on. Broadly speaking, the book entitled Fears and Phobia states that anxiety can be divided into broad categories, namely first normal anxiety, second phobic anxiety, and third free-floating anxiety (Srianti et al., 2020). Psychological changes in the first trimester, usually a mother is easily depressed, feels disappointed, anxious, rejects her pregnancy, and feels sad about the changes experienced during pregnancy. In the second trimester, the mother's psychological state appears calmer and begins to adapt to the changes that accompany her during pregnancy (Rinata & Andayani, 2018).

According to researchers, the possible cause of respondents still experiencing anxiety even though they have been given Yoga and Hypnoprenatal is influenced by other causes that have not been studied, such as family support. These results are as explained by Rinata & Andayani (2018) that the factors that influence anxiety in pregnant women in the third trimester approaching the delivery process include age, parity, education, and family or husband support. In the third trimester, changes in maternal psychology appear more complex and increase again compared to the psychological state in the previous trimester, this is because the mother is increasingly aware of the fetus in her womb which is getting bigger and bigger and a number of fears begin to increase, the mother is increasingly anxious about the baby's life and the baby's condition and the mother's own condition (Rinata & Andayani, 2018).

Based on the mean value of maternal anxiety before and after yoga and hypnoprenatal classes, it was 0.605 and a standard deviation of 0.547. The statistical test results obtained a value of 0.000, so it can be concluded that there is a significant difference between anxiety before and after giving yoga and hypnoprenatal classes. Prenatal yoga exercises for pregnancy focus on breathing rhythm, prioritizing safety and comfort, thus providing many benefits for pregnant women. Prenatal yoga is a type of exercise for the body, mind and mind of mothers that greatly

helps pregnant women in flexing joints and calming the mind, especially in the third trimester (Ariyanti, Zakiah, Pemayun, & Wisnawa, 2023). In prenatal yoga exercises, you will get benefits during pregnancy that can help smooth pregnancy and childbirth naturally and healthily. Prenatal yoga exercises during pregnancy can increase birth weight and reduce the incidence of premature birth and complications in childbirth (Vasra, 2023).

This study is in line with research conducted by Mulyati and Zafariyana1 prenatal yoga in reducing anxiety levels in primigravida pregnant women in facing childbirth at Jasmine MQ Medika, Bandung City. In the study, Venisia14 stated that out of 15 respondents, yoga was believed to be able to reduce anxiety in pregnant women. This also states that the effectiveness of Prenatal Yoga to reduce anxiety and stress in pregnant women during the Covid-19 pandemic. In addition, Ashari et al10 concluded that yoga exercise interventions carried out at the prenatal stage of pregnant women had an effect on reducing anxiety levels in pregnant women entering the third trimester at the Pattingalloang Health Center and Tamalate Health Center in Makassar City (Mulyati I & Zafariyana, 2018).

Table 3 also shows that 39 respondents experienced a decrease in anxiety of 9.6%. According to researchers, the decrease in anxiety in pregnant women in the second and third trimesters is due to increased comfort, relaxation and calm after prenatal yoga is carried out. The first prenatal yoga movement given to pregnant women, Baddha Konasana, is a movement to stretch the thighs and bring the soles of the feet together, which will help open the upper door of the pelvis so that it becomes wider. In addition, this stretching movement makes the thigh muscles more relaxed (Sulastri, Syamsuddin, Idris, & Limoa, 2021). Then the second movement is Dandasana where the mother will sit balanced with the buttocks and both legs together and straight forward then the hands are slightly behind the hips and the fingers are open upwards. This movement will stretch the spine so that it straightens the head, chest, hip bones, and back and creates optimal space for the organs of the body to function properly. Thus reducing the discomfort that usually arises in the head, chest and spine area. The third movement, namely Savasana, is a basic relaxation position in yoga. In this position, the mother will learn to quiet the mind and body (Zesika Intan Navelia & Dian Monalisa Rusliani, 2023). In this session, the mother can communicate with her baby to establish cooperation to gain peace and comfort during pregnancy until delivery (Porouw, Amu, Mohamad, & Suleman, 2023).

This study also found that the combination of yoga and hypnoprenatal provided more optimal results than single interventions. The combination not only reduces psychological anxiety, but also provides more balanced physical and emotional benefits (Noya, Ramadhan, Tadale, & Widyani, 2021). Pregnant women feel calmer, more confident, and ready to face possible complications. This combination works well because yoga improves physical balance, while hypnoprenatal strengthens mental (Holden et al., 2019).

Excessive anxiety in pregnant women is often a barrier to early detection of pregnancy complications (Astuti, Nurdianti, & Rokhanawati, 2016). The results showed that reducing anxiety in high-risk pregnant women made them more open to communicating with health workers, attending regular antenatal check-ups, and understanding the signs of complications. Thus, this intervention not only contributes to maternal mental health but also supports the success of early detection of complications (Murdayah, Lilis, & Lovita, 2021).

Reducing anxiety in pregnant women has a direct impact on fetal well-being. Research shows that pregnant women who take yoga and hypnoprenatal classes have lower cortisol levels, which contributes to a healthier uterine environment (Asmalinda, Franciska, & Sapada, 2023). In addition, fetuses from calmer mothers tend to show normal activity patterns, which are indicators of good development during pregnancy (Andi Nurul Marifah, Masriadi, & Sartika, 2022).

The benefits of yoga and hypnoprenatal are not only felt during pregnancy but also post-natally. Research shows that mothers who are accustomed to these relaxation techniques tend to be better prepared to face postpartum challenges, such as postpartum depression. They also find it easier to establish emotional connections with their babies, which is an important foundation for child development (Zesika Intan Navelia & Dian Monalisa Rusliani, 2023).

Despite the positive results, the implementation of this program in the community faces several challenges. Not all high-risk pregnant women have access to yoga and hypnoprenatal

classes due to limited costs, time, and facilities. In addition, social stigma and lack of knowledge about the benefits of this intervention are obstacles that need to be overcome through massive education and campaigns (Franciska, Yuka, & Wilma, 2021).

CONCLUSION

The conclusion is that there is an influence of yoga and hypnoprenatal classes on pregnant women with high risk of anxiety in pregnant women. There is a significant difference between anxiety before and after giving yoga and hypnoprenatal classes. The results of this study recommend that yoga and hypnoprenatal be included as part of antenatal care services, especially for high-risk pregnant women. In addition, training for midwives and health workers to facilitate this program can increase accessibility at the community level. With supportive policies, this intervention has the potential to become a sustainable solution in efforts to improve maternal and infant health while detecting pregnancy complications early.

Author's Contribution Statement: Hasnawatty Surya Porouw: Designing a research proposal including objectives, methodology, budget, and work plan. Eka Rati Astuti: Mendukung ketua peneliti dalam perencanaan dan pelaksanaan kegiatan. Ira Titisari: Be the primary liaison between partner institutions and the main research team. Rahajeng Siti Nur Rahmawati: Assist in the publication of research results.

Conflicts of Interest: The authors declare that the research was conducted without any commercial or financial relationships that could be construed as a potential conflict of interest

Source of Funding Statements: The Gorontalo Health Polytechnic Budget Implementation List contains the research described in this manuscript through Higher Education Collaborative Research for the 2024 fiscal year (Decree of the Director of Gorontalo Health Polytechnic Number: HK.02.03/FXLIV/2021/2024). No additional external funding was received for this study.

Acknowledgments: Thank you to the Director of the Health Polytechnic, Ministry of Health, Gorontalo, who gave research permission, as well as the Head of the Maternal and Child Health Midwife Section and the Coordinating Midwife who facilitated the researchers at the research site.

BIBLIOGRAPHY

- Afzal, M. M., Pariyo, G. W., Lassi, Z. S., & Perry, H. B. (2021). Community Health Workers at the Dawn of a New Era: 2. Planning, Coordination, and Partnerships. *Health Research Policy and Systems*, 19(3), 1–18. <https://doi.org/10.1186/s12961-021-00753-7>
- Andi Nurul Marifah, Masriadi, & Sartika. (2022). Pengaruh Dukungan Keluarga, Manajemen Diri, Kecemasan, dan Usia Kehamilan terhadap Kejadian Hipertensi Kehamilan di Puskesmas Majauleng. *Window of Public Health Journal*, 2(4), 1507–1515. <https://doi.org/10.33096/woph.v2i4.809>
- Ariyanti, K. S., Zakiah, S., Pemayun, C. I. M., & Wisnawa, I. N. D. (2023). Manfaat Pranayama Yoga Untuk Mengurangi Kecemasan Pada Ibu Nifas di PMB Jaba Denpasar. *Jurnal Yoga Dan Kesehatan*, 6(1), 42–53. <https://doi.org/10.25078/jyk.v6i1.2393>
- Asmalinda, W., Franciska, Y., & Sapada, E. (2023). The Results of Evaluation Online Learning Using Hypnoteaching Method and Self-hypnosis. *Jurnal Aisyah : Jurnal Ilmu Kesehatan*, 8(1), 289–296. <https://doi.org/10.30604/jika.v8i1.1493>
- Astuti, E. R., Nurdianti, R. D. S., & Rokhanawati, D. (2016). Pengaruh Pemberian ASI terhadap Lama Masa Nifas di Puskesmas Trucuk I. *Jurnal Kebidanan Dan Keperawatan*, 12(1), 69–76. <https://doi.org/https://search.crossref.org/?q=2477-8184>
- Ernawati, E., & Safitri, D. (2018). Manfaat Teknik Relaksasi Massage Musculus Trapezius Dengan Aromaterapi Mawar Terhadap Perubahan Tekanan Darah Pada Ibu Hamil. *Jurnal Kebidanan*, 6(1), 23. <https://doi.org/10.26714/jk.6.1.2017.23-27>

- Franciska, Y., Yuka, A. A. S., & Wilma, W. (2021). Relieve Labor Pain With Hypno Prenatal and Prenatal Yoga. *Jurnal Ilmu Dan Teknologi Kesehatan*, 9(1), 60–70. <https://doi.org/10.32668/jitek.v9i1.579>
- Holden, S. C., Manor, B., Zhou, J., Zera, C., Davis, R. B., & Yeh, G. Y. (2019). Prenatal Yoga for Back Pain, Balance, and Maternal Wellness: A Randomized, Controlled Pilot Study. *Global Advances In Health and Medicine*, 8, 1–11. <https://doi.org/10.1177/2164956119870984>
- Marwati, M., Handayani, B., Moedjiherwati, T., & Octaviati, M. (2024). Prenatal Yoga Sebagai Upaya Mengurangi Ketidaknyamanan pada Ibu Hamil. *Jurnal Pelayanan Dan Pengabdian Kesehatan Untuk Masyarakat*, 2(1), 1–7. <https://doi.org/10.52643/jppkm.v2i1.4276>
- Mulyati I & Zafariyana, W. (2018). Pengaruh Prenatal Yoga Terhadap Kecemasan dalam Menghadapi Persalinan pada Primigravida Trimester III di Jamsin Mq Medika Kota Bandung Tahun 2018. (*Pinlitamas* 1), 1(1), 424. Retrieved from https://jks-fk.ejournal.unsri.ac.id/index.php/jk_sriwijaya/article/download/135/126
- Murdayah, Lilis, D. N., & Lovita, E. (2021). Faktor-faktor yang Berhubungan dengan Kecemasan pada Ibu Bersalin. *Journal of Health Sciences and Research*, 3(1). <https://doi.org/10.35971/jjhsr.v3i1.8467>
- Noya, F., Ramadhan, K., Tadale, D. L., & Widyani, N. K. (2021). Peningkatan Pengetahuan dan Keterampilan Kader Melalui Pelatihan Kader Posyandu Remaja. *JMM (Jurnal Masyarakat Mandiri)*, 5(5), 2314–2322. Retrieved from <https://www.neliti.com/publications/479834/peningkatan-pengetahuan-dan-keterampilan-kader-melalui-pelatihan-kader-posyandu>
- Porouw, H. S., Amu, M. L., Mohamad, S., & Suleman, R. (2023). Sosialisasi Memelihara Daya Tahan Tubuh Serta Memberikan Ketenangan Untuk Menjalani Kehamilan Melalui Antenatal Yoga Dan Hypnoprenatal Pada Ibu Hamil. *JMM (Jurnal Masyarakat Mandiri)*, 7(1), 172. <https://doi.org/10.31764/jmm.v7i1.11909>
- Rinata, E., & Andayani, G. A. (2018). Karakteristik Ibu (Usia, Paritas, Pendidikan) dan Dukungan Keluarga dengan Kecemasan Ibu Hamil Trimester III. *Medisains*, 16(1), 14. <https://doi.org/10.30595/medisains.v16i1.2063>
- Srianti, Ansari, I., & Ma'ruf, A. (2020). Kualitas Pelayanan Kesehatan di Rumah Sakit Umum Daerah (RSUD) Batara Guru Belopa Kabupaten Luwu. *Kajian Ilmiah Mahasiswa Administrasi Publik (KIMAP)*, 1(2), 410–424. Retrieved from <https://www.semanticscholar.org/paper/Kualitas-pelayanan-Kesehatan-di-Rumah-Sakit-Umum-Srianti-Ansari/aa2c6cb92c8b411ba83c504178d1b44409c4f23b>
- Styles, A., Loftus, V., Nicolson, S., & Harms, L. (2019). Prenatal Yoga for Young Women a Mixed Methods Study of Acceptability and Benefits. *BMC Pregnancy and Childbirth*, 19(1), 1–12. <https://doi.org/10.1186/s12884-019-2564-4>
- Suhermi, & Syamsinar Amirasti. (2022). Faktor yang Berhubungan dengan Kecemasan Ibu Primigravida Menjelang Persalinan. *Window of Nursing Journal*, 01(01), 7–14. <https://doi.org/10.33096/won.v1i1.248>
- Sulastri, A., Syamsuddin, S., Idris, I., & Limoa, E. (2021). The effectiveness of gentle prenatal yoga on the recovery of anxiety level in primigravid and multigravid pregnant women. *Gaceta Sanitaria*, 35(2015), S245–S247. <https://doi.org/10.1016/j.gaceta.2021.10.072>
- Taqiyah, Y., & Jama, F. (2022). Pogram Mind Body Intervention Spiritual Hipnoprenatal Dalam Menurunkan Tingkat Kecemasan Pada Ibu Hamil. *Window of Community Dedication Journal*, xx(1), 9–14. <https://doi.org/10.33096/wocd.v3i1.227>
- Vasra, E. (2023). Pemberdayaan Ibu dalam Antenatal Class Terintegrasi Gentlebirth dan Hypnoprenatal terhadap proses Kelahiran. *Masyarakat Berdaya Dan Inovasi*, 4(1), 102–109. Retrieved from <https://mayadani.org/index.php/MAYADANI/article/view/114>
- Villar-Alises, O., Martinez-Miranda, P., & Martinez-Calderon, J. (2023). Prenatal Yoga-Based Interventions May Improve Mental Health during Pregnancy: An Overview of Systematic Reviews with Meta-Analysis. *International Journal of Environmental Research and Public Health*, 20(2). <https://doi.org/10.3390/ijerph20021556>

Zesika Intan Navelia, & Dian Monalisa Rusliani. (2023). Efektifitas Prenatal Yoga Terhadap Nyeri Melahirkan: Studi Tinjauan Literatur Sistematis. *Journal of Health (JoH)*, 10(2), 194–201. <https://doi.org/10.30590/joh.v10n2.664>