

Improving Childbirth Readiness through Prenatal Yoga: Intervention in Pregnant Women in the Third Trimester in Yogyakarta

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ABSTRACT

Pregnancy in the third trimester causes various physical and psychological changes that can affect the comfort and readiness of the mother to face childbirth. Anxiety, muscle tension, and lack of relaxation can cause discomfort leading up to childbirth. *Prenatal* yoga is one of the complementary therapies that can help improve relaxation, pelvic muscle flexibility, respiratory control, and mental readiness of the mother. This study aims to describe the benefits of prenatal yoga as a preparation for childbirth in pregnant women in the third trimester. The research used a qualitative method with a case study approach through *Continuity of Care* (COC) which was carried out for 2 weeks at PMB Tutik Purwani, Sleman, Yogyakarta. The respondent of the study was Mrs. F, age 32 years G3P2Ab0Ah2. Data was obtained through interviews, observations, physical examinations, KIA books, and medical records. The intervention was carried out through one prenatal yoga session for 30–40 minutes which included breathing exercises, stretching, relaxation, and *malasana* movements, then followed by independent exercises 4 times per week with a duration of 10 minutes each session for 2 weeks. This research has received approval from the Health Research Ethics Commission of Noor Mustofa University (UNHM) with Ethical Clearance Number: 3549/KEPK/UNIV-NHM/EC/VI/2026. The results of the study indicate that mothers appear more relaxed, comfortable, calm, and have better physical and psychological readiness in facing childbirth. *Prenatal* yoga can be a complementary therapy that supports childbirth preparation in pregnant women in the third trimester.



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INTRODUCTION

Pregnancy is a physiological process that causes physical, psychological, hormonal, and social changes in women. These changes increase in the third trimester due to fetal growth and uterine enlargement. In this period, mothers begin to prepare for childbirth so that they need optimal physical and psychological support to increase comfort ahead of childbirth (Hasanah et al., 2022). The third trimester is often accompanied by various discomforts, such as low back pain, *heartburn*, frequent urination, constipation, insomnia, and leg cramps. Low back pain generally occurs due to changes in posture and the influence of relaxant hormones that cause ligament relaxation. Sleep disturbances in the third trimester are also affected by physical discomfort and anxiety ahead of childbirth (Abandeh et al., 2024; Susilawati et al., 2024). In addition to physical changes, pregnant women in the third trimester experience psychological changes in the form of increased focus on childbirth preparation and parenting roles. Anxiety before childbirth is one of the psychological problems that pregnant women often experience in the third trimester. The anxiety is generally related to concerns about labor pain, maternal and fetal safety, the childbirth process, and changes in parenting roles. Some studies show that most third trimester pregnant women experience anxiety to varying degrees, ranging from mild to severe. Research (Novryanthi et al., 2023) showed the prevalence of anxiety before childbirth consisting of

10.9% mild anxiety, 70.3% moderate anxiety, and 18.8% severe anxiety. Research (Oktya et al., 2024) also reported that as many as 95.83% of pregnant women in the third trimester experienced anxiety with the highest level of anxiety in the mild to moderate category.

Childbirth preparation focuses not only on the readiness of childbirth facilities and helpers, but also the physical and mental readiness of the mother. Physical readiness is necessary to help mothers maintain stamina, muscle flexibility, pelvic and perineal elasticity, as well as control breathing during labor and straining ability during labor. Meanwhile, psychological readiness plays a role in helping mothers control fear, anxiety, increase confidence, and maintain a relaxed state during the labor process (Corrigan et al., 2022). An unstable psychological condition can increase stress hormones such as cortisol and adrenaline which can inhibit the release of oxytocin so that uterine contractions become less effective. As a result, labor lasts longer and increases maternal fatigue. In addition to psychological factors, the readiness of muscle and pelvic tissues also affects the progress of labor. Pelvic floor and perineal muscles that are less elastic can increase the risk of labor pain, long partus, and perineal rupture during the fetal removal process. The elasticity of the pelvic muscles is necessary for the birth canal to be able to adapt to the lowering and rotation of the fetal head during the delivery mechanism (Tauriska et al., 2022).

One of the non-pharmacological efforts that can be done in preparation for childbirth is with yoga prenatal complementary therapy. Prenatal yoga is an exercise specifically designed for pregnant women by combining body movements (*asana*), respiratory engineering (*pranayama*), relaxation, and meditation. This exercise helps increase muscle strength and flexibility, improve posture, practice breathing techniques during contractions, and help mothers be more relaxed and calm in childbirth (Amita et al., 2022). Breathing techniques in prenatal yoga play a role in helping to increase the oxygenation of the mother and fetus during labor, while relaxation exercises help with muscle tension and increase the mother's tolerance to labor pain. Prenatal yoga affects the balance of the autonomic nervous system through the stimulation of the body's relaxation response. The activation of the parasympathetic system during yoga practice can help stabilize blood pressure, and reduce the production of stress hormones so that the mother becomes calmer and more relaxed. One of the prenatal yoga movements that is often used as a preparation for childbirth is (*Malasana*) or *deep squat pose*. This movement is useful for opening the pelvis, increasing the flexibility of the pelvic joints, stretching the pelvic floor muscles and perineum so that the perineum is not stiff, and helping prepare for the birth canal before delivery.

Various studies have proven the benefits of prenatal yoga in improving pregnant women's comfort and reducing anxiety ahead of childbirth. However, most studies use a quantitative approach and focus on measuring outcomes statistically. This study has novelty because it examines the application of prenatal yoga through the Continuity of Care (COC) approach in pregnant women in the third trimester comprehensively, so that it can describe the physical and psychological changes of the mother in a more profound way in preparation for childbirth.

RESEARCH METHODS

This study uses a qualitative research method with a case study approach through the application of *Continuity of Care* (COC). This study lasted for 2 weeks. The intervention provided was in the form of *prenatal* yoga which was carried out at 1 visit with a duration of 30-40 minutes with breathing exercises, stretching, relaxation, and *malasana* movements. which was held at TPMB Tutik Purwani Sleman Yogyakarta. After receiving prenatal yoga education and demonstrations, the mother continued to practice independently at home 4 times a week with a duration of 10 minutes in each session. Mothers' compliance in doing prenatal yoga exercises independently at home was monitored through interviews at follow-up visits. However, the compliance of the Training has not been monitored using objective instruments such as the training logbook so there is a possibility of recall bias in the reporting of respondents.

The respondent in this study is Mrs. F, 32 years old, G3P2Ab0Ah2. The research data was obtained from primary and secondary data. Primary data were obtained from interviews, examinations and observations. Secondary data was obtained from KIA books and medical records. Childbirth readiness is assessed based on the results of observations, subjective reports of mothers regarding comfort and readiness to face childbirth, and the results of physical examinations. Data analysis is carried out by data triangulation, namely by data reduction, data presentation, and conclusion. This

research has been carried out in accordance with the principles of research ethics. Before the research was conducted, respondents were given an explanation of the objectives, benefits, research procedures, and respondents' right to stop participation at any time. After obtaining an explanation, the respondent signed an informed consent sheet. This research has received approval from the Health Research Ethics Commission of Noor Mustofa University (UNHM) with Ethical Clearance Number: 3549/KEPK/UNIV-NHM/EC/VI/2026.

RESULTS AND DISCUSSION

A case study was conducted on 32-year-old Mrs. F, G3P2Ab0Ah2 by providing complementary midwifery care in the form of prenatal yoga to prepare for childbirth. The following is the data from the research results:

Table 3. 1 Vital signs

Visit	Blood pressure (mmHg)	MAP	Pulse rate (x/min)	Breathing (x/min)	Temperature	SpO2 (%)
I	110/70	83,3	81	20	36,4	97
II	119/73	88,3	93	22	36,4	98

Based on table 3.1, it can be concluded that the maternal vital signs are within normal limits.

Table 3. 2 Leopold's Manuvers

Gestational Age	Leopold I	Leopold II	Leopold III	Leopold IV
34+1 weeks	Middle TFU between center and px, palpable, soft (buttocks)	The mother's left abdomen feels hard, elongated (back), the mother's right abdomen feels the small part of the fetus (extremities)	The lower segment of the uterus is palpable, rounded, hard, bouncy (head)	Divergen
36+1 weeks	TFU 3 fingers below px, rounded, soft (buttocks)	The mother's left abdomen feels hard, elongated (back), the mother's right abdomen feels the small part of the fetus (extremities)	The lower segment of the uterus is palpable, rounded, hard, bouncy (head)	Divergen

Table 3. 3 TFU, TBJ, DJJ

Visit	Gestational Age	TFU Leopold	TFU Mc Donald	TBJ	DJJ
I	34+1	The middle between px and center	29 cm	2790 grams	131x/min
II	36+1	3 fingers below px	31 cm	3100 Grams	148x/min

Based on table 3.3, it can be concluded that there is an increase in TBJ by 310 grams.

Table 3. 4 Benefits of Prenatal Yoga

Visit	Before Yoga	After Yoga
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I	The body is not relaxed, easily tired and sometimes anxious before childbirth	The body is more relaxed, comfortable and physically as well as psychologically ready to face the childbirth process
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Based on table 3.4, it can be concluded that after yoga, the body is more relaxed and ready to face the delivery process.

DISCUSSION

Vital signs

Changes in the cardiovascular system during pregnancy cause blood pressure to tend to decrease in the first trimester due to the influence of the hormone progesterone which causes vasodilation of blood vessels, then increases back to near normal in the third trimester, normal MAP values in pregnancy are generally <90 mmHg, while increased MAP can lead to hypertension in pregnancy such as preeclampsia. The frequency of the mother's pulse is still within normal limits, increased pulse and respiration in pregnancy occur due to an increase in blood volume, cardiac output, and oxygen needs of the mother and fetus. The mother's body is within normal limits, optimal oxygen saturation indicates that oxygen exchange in the lungs is running effectively and the distribution of oxygen to the tissues of the mother and fetus is fulfilled (Indah et al., 2024)

Leopold Manuver's

Leopold palpation is one of the important examinations in pregnant women that is carried out to assess the condition and location of the fetus in the uterus. This examination is used to determine the position of the fetus, the lowest part of the fetus, presentation and help assess the suitability of the fetus' growth with the gestational age in preparation for childbirth. The results of the examination showed that the lowest part of the fetus, namely the head and had entered the upper door of the pelvis and the position of the left back. This condition occurs in the process of engagement or lowering the fetal head into the pelvic cavity in preparation for childbirth. The left back position shows the longitudinal location of the fetus with the presentation of the head which is the most optimal position for normal delivery because it facilitates the lowering of the fetal head through the birth canal (Wulandari et al., 2025)

TFU, TBJ, DJJ

TFU measurements are performed to assess uterine growth that reflects the growth of the fetus, placenta, and amniotic fluid volume according to gestational age. As the gestational age increases, the TFU increases physiologically so that it can be used as an indicator of fetal development. The larger the TFU, the interpretation of fetal weight tends to increase according to the growth of the fetus. TBJ assessment is important to monitor fetal growth and detect possible disorders such as Intrauterine Growth Restriction (IUGR) and macrosomia. Fetal heart rate checks are important to assess the welfare of the fetus in the womb. DJJ reflects the function of circulation and the adequacy of oxygen supply in the fetus.

Prenatal Yoga in Preparation for Childbirth

From the interventions that have been carried out, prenatal yoga is given directly as one session with a duration of 30-40 minutes which includes breathing exercises, stretching, relaxation, and malasana movements. Furthermore, the mother continued to practice prenatal yoga independently at home 4 times per week with a duration of 10 minutes per session for 2 weeks. Mother's compliance in conducting routine exercises is suspected to contribute to increasing physical comfort and psychological readiness in facing childbirth. *Prenatal* yoga helps mothers adapt to physical and psychological changes during the third trimester through a combination of body movements (*asana*), respiratory techniques (*pranayama*), relaxation and meditation so that the mother seems more relaxed, comfortable, calm, and better prepared to face the childbirth process. These exercises help improve pelvic muscle flexibility, improve posture, practice breathing regulation during contractions, and help mothers maintain a relaxed state ahead of labor (Moon, 2023).

Research shows that prenatal yoga is effective in improving comfort and childbirth readiness in third trimester pregnant women. According to (Junita, 2025) Prenatal yoga research can promote relaxation,

lower muscle tension and help mothers be better prepared for labor. Other research by (Rakhmawati, 2023) stated that pregnant women who regularly participated in prenatal yoga had lower levels of anxiety and better childbirth readiness than mothers who did not do prenatal yoga. In addition, research shows that prenatal yoga has an effect on the physical improvement of pregnant women, sleep quality, and the mother's ability to control breathing during childbirth. The effectiveness of prenatal yoga as a preparation for childbirth is related to its effect on the autonomic nervous system and the body's relaxation response. Breathing exercises and relaxation during yoga can activate the parasympathetic nervous system so that it helps lower levels of stress hormones such as cortisol and adrenaline (Resmaniasih, 2021).

Prenatal yoga movements such as *Malasana (deep squat pose)* Helps improve the flexibility of the pelvic joint, stretches the pelvic floor and perineal muscles, and helps open the pelvis in preparation for the birth canal. More elastic pelvic and perineal muscles can help with the process of lowering the fetal head and reduce muscle tension during labor. Research (Miftakhul, 2022) It shows that prenatal yoga effectively improves pelvic muscle elasticity and helps mothers better prepare for normal labor. Another study states that pregnant women in the third trimester who do prenatal yoga regularly tend to be more relaxed, confident, and have better mental readiness ahead of childbirth (Yuliani et al., 2025). Thus, it can be concluded that prenatal yoga can be one of the effective complementary therapies in preparation for childbirth as it helps improve physical comfort, relaxation, mental readiness, respiratory control, as well as flexibility of the pelvic and perineal muscles. These benefits support mothers to be calmer, more comfortable and ready to face the delivery process optimally (Jannah, 2024).

Limitations of the study

This study has limitations, namely that the mother's compliance in conducting independent exercises at home is only confirmed through interviews at follow-up visits and has not been monitored using objective instruments such as exercise logbooks, so that it has the potential to cause recall bias in reporting maternal compliance. In addition, the assessment of readiness to face childbirth in this study was carried out descriptively through observation and interviews before and after the intervention, not using standard or validated instruments such as childbirth readiness questionnaires. This is in line with the design of qualitative case studies that aim to explore individual experiences in depth, rather than to quantitatively or generalize. Further research is recommended to use validated childbirth readiness instruments and a larger number of respondents.

CONCLUSION

In this case study, the application of prenatal yoga as complementary therapy helped prepare for childbirth in G3P2Ab0Ah2 pregnant women aged 32 years in the third trimester. The intervention was provided through a 30-40 minute prenatal yoga session that included breathing exercises, stretching, relaxation, and deep squat movements (*malasana*), followed by independent exercises at home 4 times per week for 10 minutes per session for 2 weeks. After the intervention, the mother appeared more relaxed, comfortable, calm, and showed better physical and psychological readiness in facing childbirth. The findings of this case study support the potential of prenatal yoga as one of the complementary therapies that can be considered in preparation for childbirth in pregnant women in the third trimester, although further research is needed with a larger design and number of respondents to be generalized.

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