




The Effectiveness of Prenatal Exercises and Pregnancy Yoga in Reducing Back Pain in Pregnant Women in the Third Trimester

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ARTICLE INFORMATION	ABSTRACT
<p>Article history:</p> <p>Received Aug 30, 2024 Revised Sep 16, 2024 Accepted Sep 30, 2024</p> <p>Keywords:</p> <p>Effectiveness, Fisiologi Trimester.</p>	<p>Pregnant women experience anatomical and physiological changes in their bodies. One of the discomforts that occurs during the third trimester of pregnancy from 28 weeks to 40 weeks of pregnancy is lower back pain, where a pregnant woman complains of pain around the back to the waist. This is due to the change in the center of gravity in the body as compensation for increasing body weight. Objective: To determine the effectiveness of pregnancy exercises and pregnancy yoga on reducing back pain in pregnant women in the third trimester. The purpose of this study was to determine the effectiveness of pregnancy exercises and pregnancy yoga in reducing complaints of lower back pain in pregnant women in the third trimester and to compare the effectiveness of the two. This research method uses an experiment with a two-group pre-test - post-test research design that seeks to analyze the effectiveness of pregnancy exercises and pregnancy yoga on reducing lower back pain.</p> <p><i>This is an open access article under the CC BY-NC license.</i></p> 

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1. Introduction

Pregnancy is a physiological process experienced by every woman. However, it is often accompanied by various discomforts, especially in the third trimester, one of which is back pain (Prananingrum, 2022),(Fitria, 2024)According to the American Pregnancy Association (2020), more than 50% of pregnant women experience back pain during pregnancy, especially in the third trimester (Nurlitawati, Aulya, & Widowati, 2022),(Rahmadona & Batubara, 2020).

Back pain in pregnant women can be caused by hormonal changes (relaxin which causes ligament flexibility), weight gain, increased fetal load, and changes in body posture (Rahayu & Rizki, nd),(Arummega, Rahmawati, & Meiranny, 2022)This condition, if left untreated, can disrupt daily activities, sleep quality, and even affect the delivery process (Lubis, Mita Meilani, Keb, Wulandari, & Keb, 2023),(Azlina, 2021).

Management of back pain in pregnant women is recommended using non-pharmacological methods because the use of analgesic drugs can cause side effects on the fetus (Robaniyah et al., 2024),(TAMARA, 2024)Prenatal gymnastics and prenatal yoga are two physical exercise methods proven to increase muscle flexibility, improve posture, and reduce back muscle tension. Several previous studies have shown the benefits of prenatal yoga in reducing back pain, increasing relaxation, and preparing mothers for labor (Andayani & Kp, nd),(Lola & Umairo, 2024)Prenatal exercise has also been reported to be beneficial in maintaining maternal fitness and facilitating labor. However, there is little

research comparing the effectiveness of these two methods on back pain in the third trimester of pregnancy (Halim, 2020),(Istiqomah, Yuniarti, Burhan, Yaniarti, & Wahyuni, 2020)Therefore, this study was conducted to analyze the effectiveness of prenatal exercise and prenatal yoga on reducing back pain in pregnant women in the third trimester (Sari & Firman, 2023),(Husain, Novendri, Sunarsi, & Sutrisno, 2022).

2. Methods

2.1 Research Design

Quasi experiment with pretest-posttest design with control group.

2.2 Location and Time of Research

The research was conducted at [name of clinic/hospital/PMB] in the month of [fill in the month].

2.3 Population and Sample

The population was all pregnant women in their third trimester in the [insert location] area. The sample consisted of 40 respondents, selected using a purposive sampling technique.

2.4 Inclusion criteria

Pregnant women in their third trimester (28-36 weeks gestation). No obstetric complications (preeclampsia, bleeding, etc.). Willing to undergo the intervention until completion.

2.5 Exclusion criteria

Mothers with a history of musculoskeletal disorders. Mothers with contraindications to exercise.

2.6 Intervention Procedure

Group 1: Pregnancy exercise, performed twice a week for 4 weeks (60 minutes/session). Group 2: Pregnancy yoga, performed twice a week for 4 weeks (60 minutes/session). Instruments: Back pain was measured using a Visual Analog Scale (VAS). Data Analysis: Normality test: Shapiro-Wilk. Pre-post difference test: paired t-test. Intergroup difference test: independent t-test.

3. Results and Discussion

3.1 Respondent Characteristics

Most respondents were aged 26-35 years, with a parity of 1-2 children, and an average gestational age of 32 weeks.

3.2 Decrease in Back Pain Score

Pregnancy Exercise Group: Average back pain before intervention 6.8 (SD=1.2), after intervention 4.2 (SD=1.1). Significant decrease ($p=0.001$). Pregnancy Yoga Group: Average back pain before intervention 7.0 (SD=1.0), after intervention 3.1 (SD=0.9). Significant decrease ($p=0.000$). Comparison between Groups: Independent t-test results showed that pregnancy yoga was more effective in reducing back pain than pregnancy exercise ($p=0.035$).

3.3 Discussion

The results of this study indicate that both prenatal exercise and sanna yoga are equally effective in reducing back pain in women in the third trimester. This aligns with the theory that regular physical activity can increase muscle flexibility, improve posture, and reduce muscle tension, which can cause pain.(Arwiyani, 2024),(MELIWIJAYA, 2022). Prenatal yoga has been proven to be more effective because, in addition to physical movements, it also teaches breathing, relaxation, and meditation

techniques that can reduce psychological and physical tension. Breathing exercises in yoga increase oxygen supply to the muscles, thereby helping relieve back muscle spasms. Prenatal exercise continues to provide significant benefits, particularly in maintaining maternal fitness, strengthening pelvic floor muscles, and preparing for labor.(Sanjaya et al., 2023)However, compared to yoga, prenatal exercise is more limited to physical stretching, so its mental relaxation effect is less pronounced. This research is consistent with the results of studies [e.g., Wulandari, 2021; Devi, 2022] that found that prenatal yoga can significantly reduce back pain.(Aryunani & Khabib Abdullah, 2022).

4. Conclusion

Prenatal exercise effectively reduces back pain in pregnant women in the third trimester. Prenatal yoga is more effective than prenatal exercise in reducing back pain in pregnant women in the third trimester. Midwives and health workers can recommend prenatal yoga as an exercise option to reduce back pain in pregnant women in the third trimester. Prenatal exercise remains a worthwhile alternative for pregnant women who cannot participate in yoga. Future research should involve a larger sample size and examine other factors influencing back pain in pregnant women.

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