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Effectiveness Of 3 Prenatal Yoga Poses To Reduce Back Pain In Pregnant Women Tm Iii At Bpm Midwife Susi Grogol Sukoharjo

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ABSTRACT

Back pain during pregnancy is a condition of discomfort that is most often felt by pregnant women and generally occurs in the third trimester of pregnancy. In Indonesia itself, out of 180 pregnant women studied, around 47% experienced back pain. Pregnant women in the third trimester practiced 3 prenatal yoga movements designed to reduce back pain in pregnant women in the third trimester. The pre-experimental design is a one-group pretest-posttest design where one group of subjects and observations were carried out before and after treatment. The population in this study were all pregnant women in the third trimester with sample criteria being pregnant women who had a gestational age of 28-40 weeks and without any complications during pregnancy as many as 20 people. Data analysis used normality tests, univariate analysis and bivariate analysis using the Wilcoxon test. The results of the data normality test showed a p value <0.05, this means that the data is not normal, so the bivariate test used was the silcowon test. Statistical results with the Wilcoxon test showed that the value = 0.001 (p <0.05) which indicates that 3 prenatal yoga movements are effective in reducing back pain in pregnant women in the third trimester. There is effectiveness of 3 prenatal yoga movements to reduce back pain in pregnant women in the third trimester.

Keywords: Back Pain, Pregnancy, 3 Prenatal Yoga Poses

INTRODUCTION

Pregnancy is a physiological condition that can cause many changes both physically and psychologically in a woman. One of these changes is weight gain so that the body's support and gravity are centered on the lumbar spine. This condition causes several problems such as back pain, pelvic pain, sleep disorders and psychological disorders during pregnancy which greatly affect the quality of life and activities of pregnant women (Fatmarizka et al., 2021).

Back pain during pregnancy is a condition of discomfort that is most often felt by pregnant women and generally occurs in the third trimester of pregnancy. In Indonesia itself, of the 180 pregnant women studied, around 47% experienced back pain (Munir et al., 2022). The cause of back pain in pregnancy is not yet known for sure, but it is often associated with several natural factors and is related to hormonal, vascular and biomechanical changes during pregnancy (Manyozo et al., 2019).

The second research result explained that most (36.7%) of pregnant women in the third trimester of primigravida had poor sleep quality related to anxiety due to the increasing anxiety of a person when approaching labor so that it is difficult for the mother to start sleeping and the frequency of waking up at night. This can be explained that in theory the third trimester of pregnancy according to Kurnia in Ratnawati is that anxiety increases because discomfort reappears, feeling ugly, strange and unattractive, feeling unpleasant when the baby is not born on time, fear of pain and physical danger that arises during labor, worrying about her safety, worrying that the baby will be born in an abnormal state, dreaming that reflects her concerns and worries feeling sad because she will be separated from her baby, feeling a loss of attention, feeling easily hurt (sensitive) and blood norepinephrine levels will increase through stimulation of the sympathetic nervous system due to anxiety. This condition causes more frequent awakening at night, reduced REM and NREM sleep cycles stage IV. The difference in anxiety levels between primigravida and multigravida is also different. In line with Fitria Hayu's research, that anxiety can occur in new experiences, such as pregnancy, childbirth or childbirth. This means that the group of mothers who are experiencing a first-time pregnancy (primigravida) and experiencing higher anxiety is a natural and common occurrence. Meanwhile, for mothers who have more than one pregnancy (multigravida) and experience mild anxiety, it is also a natural or common occurrence. The difference in anxiety levels between the primigravida and multigravida groups is related to psychological reactions as Saifudin said that the psychological reactions experienced by pregnant women in the third trimester are related to their babies, pregnancy risks, and the labor process. Pregnant women are very emotional in an effort to prepare or be aware of everything that might happen and must be faced. (Debona and Kamsatun, 2020)

Prenatal yoga is a modification of yoga exercise movements that are adjusted to the condition of pregnant women. The movements in prenatal yoga are created with a slower tempo and adjusted to the movement capacity of pregnant women. Yoga during pregnancy is a body, mind and mental exercise that helps mothers to flex their joints, calm their minds and bring them into a calmer pregnancy situation so that the mother's physical condition is better and can build bonding with her baby (Gustina & Nurbaiti, 2020)

METHODS

This study uses an experimental research design, which is a research design carried out by providing treatment or intervention to the subjects to be studied. The purpose of experimental research in the health sector is to test or assess the effect of a treatment/intervention/treatment on health problems or to test whether or not there is an effect of the intervention when compared to not being given treatment (Indra, 2019).

This research design uses a pre-experimental design, namely one-group pretest-posttest design where one group of subjects and observations are carried out before and after treatment. The population in this study were all pregnant women in the third trimester with sample criteria being pregnant women who had a gestational age of 28-40 weeks and without any complications during pregnancy as many as 20 people. This study has obtained permission from the ethics commission and prenatal yoga exercises were given by certified prenatal yoga practitioners.

The measuring instrument used to measure the quality of sleep of pregnant women is the Pittsburgh Sleep Quality Index (PSQI) questionnaire which consists of seven test components including subjective sleep quality, sleep latency, sleep duration, sleep efficiency, sleep disturbances, use of sleeping pills, and daytime sleep dysfunction. In this study, respondents were given a pre-test and then given treatment in the form of Prenatal Yoga for 1 month (4 weeks) exercises were given once a week. Then a post-test was carried out using the PSQI questionnaire. The location of the study was at BPM Bidan Susi Damayanti Grogol. The

data analysis used in this study was bivariate analysis using the Wilcoxon rank test/Wilcoxon Matched Pair Signed- Rank Test which is a non-parametric analysis.

RESULT

1. Univariate Analysis of Research Subject Characteristics

Table 1. Distribution of respondents by age

No	Age	Amount (a)	Percentage (%)
1	< 20 year	0	0,0
2	20-35 year	17	85,0
3	> 35 year	3	15,0
	Amount	**20**	**100,0**

Source: Primary Data, 2025

Based on table 1 above, it was obtained that the majority of respondents were aged 20-35 years, amounting to 17 respondents (85.0%), while the least were over 35 years old, amounting to 3 respondents (15.0%) and there were no respondents under 20 years old, amounting to 0 respondents (0.0%).

Table 2. Distribution of respondents based on education

No	Qualification	Amount (a)	Percentage (%)
1	SMP	8	40,0
2	SMA	2	10,0
3	S1	10	50,0
	Amount	**20**	**100,0**

Source: Primary Data, 2025

Based on table 2 above, it was obtained that the majority of respondents had a bachelor's degree, amounting to 10 respondents (50.0%), while the least respondents had a high school education, amounting to 2 respondents (10.0%).

2. Univariate Analysis of Characteristics of Research Variables

Table 3. Distribution of respondents based on maternal back pain before the intervention of 3 prenatal yoga poses

No	Pre back pain	Total (n)	Percentage (%)
1	Not useful	7	35,0
2	So- so	9	45,0
3	Helpful	4	20,0
	Amount	**20**	**100,0**

Source: Primary Data, 2025

Based on table 3 above, the respondent data obtained most respondents consider 3 prenatal yoga poses as a common thing to overcome back pain, amounting to 9 respondents (45.0%), while the least respondents consider 3 prenatal yoga poses as something useful to overcome back pain, namely 4 respondents (20.0%).

Table 4. Distribution of respondents based on maternal back pain after the intervention of 3 prenatal yoga poses

No	Pre back pain	Total (n)	Percentage (%)
1	Not useful	3	15,0
2	So- so	5	25,0
3	Helpful	12	60,0
	Amount	**20**	**100,0**

Source: Primary Data, 2025

Based on table 4 above, the respondent data shows that most respondents consider 3 prenatal yoga poses to be beneficial for overcoming back pain, namely 12 respondents (60.0%), while the fewest respondents consider 3 prenatal yoga poses to be not beneficial for overcoming back pain, namely 3 respondents (15.0%).

3. Data Normality Test

The data normality test in this study used the Shapiro Wilk test because the number of respondents was less than 50. The pre-test data had an abnormal distribution, namely p = 0.001 (p < 0.05) and the post-test data had an abnormal distribution, namely p = 0.000 (p < 0.05). In the analysis of paired data, namely pre and post, if the data is not normally distributed, then the analysis uses the Wilcoxon sign rank test.

Table 5. Research Data Normality Test

Variable	Value v	Value limits	Assumption
Pre back pain	0,001	< 0,05	Not normal
Post back pain	0,000	< 0,05	Not normal

The results of the normality test show that the pre-test data has an abnormal distribution, namely p = 0.001 (p < 0.05) and the post-test data has an abnormal distribution, namely p = 0.000 (p < 0.05), so the data distribution is not normal.

4. Analysis of the Effectiveness of 3 Prenatal Yoga Poses to Reduce Back Pain in Pregnant Women in the Third Month

Table 6. Wilcoxon Test of the Effectiveness of 3 Prenatal Yoga Poses to Reduce Back Pain in Pregnant Women in the Third Month

	N	*Mean Rank*	*p value*
Negative ranks	0	0,00	
Positive ranks	11	6,00	0,000
Ties	9		

Source: Primary Data, 2025

The results of the analysis show negative ranks or the difference (negative) between the assumptions of pregnant women that prenatal yoga is not beneficial for reducing back pain in pregnant women in the third trimester for the pre-test and post-test is 0. The Mean Rank value is 0.00. So it shows a decrease in value from the assumption of not beneficial to beneficial.

Positive ranks or the difference (positive) between the assumptions of pregnant women that prenatal yoga is beneficial for reducing back pain in pregnant women in the third trimester for the pre-test and post-test is 11. The Mean Rank value is 6.00. So it shows an increase in value from the assumption of not beneficial to beneficial.

Ties are the similarity in the values of the assumptions of pregnant women that prenatal yoga is not beneficial for reducing back pain in pregnant women in the third trimester for the pre-test and post-test is 9.

The results of the analysis before and after the intervention of 3 prenatal yoga poses were carried out using the Wilcoxon test showing that p = 0.001 (p <0.05), so it can be concluded that 3 prenatal yoga poses are effective for reducing back pain in pregnant women in the third trimester.

DISCUSSION

During pregnancy, a woman will experience many anatomical and physiological changes that require her body to adapt to these conditions. The changes that occur will affect the musculoskeletal system which can cause pain, especially back pain (Purnamasari, 2019).

Back pain is a condition that is most often felt by pregnant women, especially when entering the second and third trimesters of pregnancy. Almost 70% of pregnant women complain of back pain and continue until the postpartum period (Arummega et al., 2022). During pregnancy, hormonal changes and weight gain that occur affect the relaxation of the joints in the pelvis and lower hips of pregnant women. This results in changes in the posture of pregnant women (Sehmbi et al., 2017).

As the gestational age increases, the posture of pregnant women will change as a form of adaptation to weight gain and an increasingly enlarged uterus. The shoulders will be pulled back to maintain body balance and adjust to the increasingly enlarged abdomen so that the spine will curve further inward and cause increased back pain (Richard, 2017).

Back pain is pain that occurs in the lumbosacral area. Back pain in pregnant women is caused by abdominal distension, the center of gravity shifting forward especially in late pregnancy, and decreased abdominal muscle tone requiring bone adjustment. Increasingly difficult movements, the ligaments and muscles of the middle and lower spine are under heavy pressure causing tension in the back muscles (Bobak, 2012) Prenatal yoga movements can provide a sense of comfort and relaxation to the muscles, maintain the elasticity and strength of the pelvic ligaments, hips and leg muscles so as to help reduce back pain. In addition, yoga movements can also stimulate the body to produce endorphin hormones that can trigger feelings of comfort, pleasure and happiness. Endorphin hormones will block opioid receptors found in nerve cells so that the transmission of pain signals will be disrupted (Swastika et al., 2021).

CONCLUSION

Conclusions obtained from the practice of prenatal yoga movements to reduce back pain in pregnant women in the third trimester. To determine the level of knowledge and skills of pregnant women in demonstrating prenatal yoga movements, during the education, the coordinator demonstrated prenatal yoga movements followed by pregnant women. The demonstration of prenatal yoga movements was supervised and justified by the coordinator. To determine the level of knowledge and accuracy of mothers about prenatal yoga movement techniques, an evaluation was carried out by practicing prenatal yoga movement techniques and an increase in the effectiveness of prenatal yoga was obtained. The results of the analysis before and after the prenatal yoga intervention were carried out using the Wilcoxon test showing that $p = 0.001$ ($p < 0.05$), so it can be concluded that 3 prenatal yoga poses are effective in reducing back pain in pregnant women in the third trimester.

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