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## DIFFERENCES IN THE DISCOMFORT OF PREGNANT WOMEN IN THE THIRD TRIMESTER BEFORE AND AFTER PRENATAL YOGA AT PMB MIDWIFERY UMROH GROGOL SUKOHARJO

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Received: August 30, 2023 ; Accepted: September 10, 2023; Published: September 27, 2023

### ABSTRACT

**Background:** Yoga is done with deep breathing so that it increases the flow of oxygen to the brain it can reduce anxiety, depression, psychological disorders, and symptoms of pain including low back pain.

**Methods:** The research method used is an experimental design method, with one group pretest-posttest design. The study used primary data, a sample of 30 third-trimester pregnant women, divided into 2 groups, namely the experimental group 15 respondents, and the control group 15 respondents. The independent variable is prenatal yoga. The dependent variable is the discomfort of pregnant women. Data analysis used normality, homogeneity, Wilcoxon, and Mann-Whitney tests.

**Result:** The data in the pre-test showed abnormal results control group ( $p=0.004$ ) and experimental group ( $p=0.000$ ) and homogeneous ( $p=0.972$ ).

**Analysis:** The results of the data analysis showed that there was the effectiveness of prenatal yoga on the level of discomfort of pregnant women at different post-tests and pre-test ( $p = 0.000$ ).

**Conclusion:** Yoga helps improve physical condition, quality of life, self-efficacy in childbirth, interpersonal relations, and autonomic nervous system function, gives a sense of comfort, reduces or reduces labor pain, and shortens the duration of labor.

**Keywords:** Pregnancy, Prenatal Yoga, TM III Discomfort

## 1. INTRODUCTION

During pregnancy, daily activities become more difficult due to the increased burden on the body. This weight gain often causes discomfort such as fatigue, back pain, morning sickness, etc. This discomfort is reduced by exercising regularly. The muscles will stretch, making the body stronger and better able to withstand pain during pregnancy. By minimizing the discomfort that occurs, the development of the fetus in the womb can be maintained properly. (Kemenkes, 2022).

Discomfort that is considered trivial can endanger the safety of the mother and baby. One of them is associated with swelling of the feet and hands (edema) with the incidence of preeclampsia, which is one of the causes of death in pregnant women. In Indonesia, in 2019 the most common cause of maternal death was bleeding (1,280 cases), hypertension in pregnancy (1,066 cases), and infection (207 cases) (Kemenkes, 2020).

Prenatal yoga (yoga during pregnancy) is a type of modification of hatha yoga which is adapted to the conditions of pregnant women. The goal of prenatal yoga is to prepare pregnant women physically, mentally, and spiritually for the birthing process. With thorough preparation, the mother will be more confident and gain confidence in having a smooth and comfortable birth (Pratignyo, 2014).

Pregnancy is a process in a woman's life, where changes occur. Major changes in physical, mental, and social aspects. These changes cannot be separated from there are factors that influence them which can be physical, environmental, social, cultural, and economic. Each factor influences the other because they are related to each other and can be a cause-and-effect relationship (Gultom, 2020).

To maintain health and support the basic needs of pregnant women in the third trimester, there needs to be support.

Practicing yoga at this time is a useful solution as a self-help medium that will reduce discomfort during pregnancy, help with the birthing process, and even prepare mentally for the early days after giving birth and while raising children (Sindhu, 2011).

In yoga therapy yoga movements consisting of breathing control, relaxation, meditation, and diet are used to get rid of muscular and emotional stress, improve concentration, increase blood oxygen levels, and help the body in recovery. Yoga helps with flexibility with muscle strength and teaches pregnant women to listen to their bodies, reduce stress, and calm the mind. Yoga helps improve physical condition, quality of life, self-efficacy during childbirth, interpersonal relationships, and autonomic nervous system function, provides a sense of comfort, reduces or reduces labor pain, shortens the duration of labor, strengthens the back muscles, lower abdominal and pelvic muscles and facilitates labor and childbirth (Putri, 2019).

## 2. MATERIALS AND METHODS

This research uses an experimental research design, the research design uses a pretest-posttest quasi-experimental design with a control and intervention group design. This research was conducted from December 2022 - March 2023. Variables were divided into 2, namely independent and dependent. The population in this study were 30 pregnant women who had entered the third trimester of pregnancy (28-40 weeks) at PBM Midwife Umrah Grogol Sukoharjo. The minimum sample size to obtain good results is 30, the intervention group is 15 pregnant women and the control group is 15 pregnant women. Non-probability sampling technique, a sample of 15 pregnant women for the intervention group and 15 pregnant women for the

control group. 15 pregnant women Statistical test using Mann Whitney.

TM III pregnant women were treated to prenatal yoga classes 2 times with a duration of 60 minutes for each session. Previously, a pre-test was given at the first meeting, and at the second meeting after implementing prenatal yoga, a post-test was given. For approximately 1 week from the date of the first implementation, an online group was created in the form of WhatsApp to monitor whether mothers' complaints had subsided or not. In the group, yoga poses were also discussed to reduce discomfort structurally and individually. Of course, don't deviate from what was taught at the beginning of the class meeting. After prenatal yoga was carried out and given a post-test, the instructor, researchers, and pregnant women discussed the discomfort of TM III and prenatal yoga movements.

TM III pregnant women were recorded and collected in December with the inclusion criteria for the intervention group and control group, as follows:

1. Third-trimester pregnancy (28-40 weeks of pregnancy) is recorded in the KMS.
2. The condition of the mother and fetus is healthy, recorded in the KMS
3. Any parity and single pregnancy
4. Have never done prenatal yoga in your current pregnant
5. Willing to be involved in research, as evidenced by a letter of willingness to become a respondent

### 3. RESULT

**Table 1. Distribution of respondents by research group**

No	Research Group	Amount (n)	Percentage (%)
1	Intervention	15	50,0
2	control	15	50,0
	Amount	30	100,0

Based on the table above, data obtained based on the number of control groups (not given prenatal yoga) was equal to the intervention group (given prenatal yoga), namely 15 respondents (50.0%).

**Table 2. Distribution of respondents based on age**

No	Gender	Amount (n)	Percentage (%)
1	< 20 year	5	16,7
2	20-35 year	18	60
3	> 35 year	7	23,3
	Amount	30	100,0

Source: Primary Data, 2023

Based on the table above, data was obtained based on the age of pregnant women <20 years as many as 5 people (16.7%), the age of mothers 20-35 years as many as 18 people (60%) ,and the age of mothers >35 years as many as 7 people (23.3 %).

#### a. Normality test

The data normality test in this study used the Shapiro-Wilk test because each group had less than 50 data. Data had a normal distribution if the significance value was more than 0.05 and abnormal distribution if the significance value was less than 0.05. In this study, unpaired data analysis was used, namely the intervention group and the control group. In unpaired data analysis, if the data for two groups is normally distributed, then the comparison test for the means of the intervention group and the control group uses the independent t test. If both groups or one of the groups has data that is not normally distributed, then the analysis uses the Whitney mean.

In paired data analysis, namely pre and post, if the data for both groups is normally distributed, then the pre and post average comparison test uses the paired t test. If both groups or one group has data

that is not normally distributed, then the analysis uses the Wilcoxon sign rank test.

**Table 3 Normality Test of Research Data**

Variable	Group	
	Intervention	control
Pre discomfort	0,000	0,004

Source: Primary Data, 2021

The results of the normality test showed that the pretest data on discomfort for pregnant women was not normally distributed ( $p < 0.05$ ). In the intervention group ( $p = 0.000$ ) and control group ( $p = 0.004$ ) the data distribution was not normal.

#### b. Homogeneity Test

The homogeneity test aims to find out whether the two data have the same variance. If the data has the same variance, then the inference analysis uses parametric statistics, but if the data has unequal variances, then the inference analysis uses non-parametric statistics. Test data homogeneity using the Levene Test, data has a homogeneous distribution if the significance value is  $\geq 0.05$ . Data does not have a homogeneous distribution if the significance value is  $< 0.05$ . The homogeneity test results are presented in full in the table.

**Table 4 Homogeneity Test of Research Data**

Variable name	Significant value	Cutoff value	Evaluation
Pre discomfort	0,972	$\geq 0.05$	Homogeneous

Source: Primary Data, 2023

The homogeneity test results show that some of the data are homogeneous ( $p \geq 0.05$ ). Homogeneous data shows that

analysis bias can be avoided so that the conclusions obtained are more accurate.

1. Variable analysis of the effectiveness of prenatal yoga on the level of discomfort of TM III pregnant women.
- a. Bivariate analysis test of the effectiveness of prenatal yoga on the level of discomfort of TM III pregnant women in the intervention group

**Table 5 Wilcoxon Test for Discomfort Variables for Pregnant Women TM III in the Intervention Group**

	N	Mean Rank	Sum of Ranks	Z	Asymptotic Sig. (2-tailed)
Negative Ranks	14	7,50	105,00	-3,334	0.001
Positive Ranks	0	0,00	0,00		
Ties	1				

Source: Primary Data, 2023

The results of the analysis show that the negative ranks or the difference (negative) between the discomfort of TM III pregnant women in the intervention group for the pre-test and post-test is 14. The Mean Rank value is 7.50, while the Sum Rank value also shows a value of 105.00. So it shows that there is a decrease in scores from the pre-test to the post-test scores.

Positive ranks or the difference (positive) between the discomfort of TM III pregnant women in the intervention group for the pre test and post test is 0. The Mean Rank and Sum Rank values are 0. So this shows that there is no increase in the value from the pre test to the post test value.

Ties is the similarity in the discomfort value of TM III pregnant women in the intervention group for the pre-test and post-test, the Ties value is 1, so it can be said that there is the same value between

the discomfort of TM III pregnant women in the control group for the pre-test and post-test.

The results of the analysis before and after treatment in the intervention group using the Wilcoxon test showed  $p=0.001$  ( $p<0.05$ ), so it can be concluded that there is a difference in the discomfort of TM III pregnant women in the intervention group.

b. Bivariate variable analysis test of the effectiveness of prenatal yoga on the level of discomfort of TM III pregnant women in the control group

**Table 6 Wilcoxon Test for Discomfort Variables for Pregnant Women TM III in the Control Group**

	N	Mean Rank	Sum of Ranks	Z	Asymp. Sig. (2-tailed)
Negative Ranks	0	0,00	0,00	0,000	1,000
Positive Ranks	0	0,00	0,00		
Ties	15				

Source: Primary Data, 2023

The results of the analysis show negative ranks or the difference (negative) between the discomfort of TM III pregnant women in the control group for the pre test and post test is 0. The Mean Rank and Sum Rank values also show a value of 0. So this shows that there is no decrease in value from the pre test to the value post test.

Positive ranks or the difference (positive) between the discomfort of TM III pregnant women in the control group for the pre test and post test is 0. The Mean Rank and Sum Rank values are 0. So this shows that there is no increase in the value from the pre test to the post test value.

Ties is the similarity in the discomfort value of TM III pregnant women in the

control group for the pre test and post test, the Ties value is 15, so it can be said that there is the same value between the discomfort of TM III pregnant women in the control group for the pre-test and post-test.

The results of the before and after analysis in the control group using the Wilcoxon test showed that  $p=1,000$  ( $p\geq 0.05$ ), so it can be concluded that there was no difference in the discomfort of TM III pregnant women in the control group.

**Table 7 Mann Whitney Test for Discomfort Variables for Pregnant Women TM III in the Difference Between Intervention and Control Groups**

	N	Mean Rank	Sum of Ranks	Z	Asymp. p. Sig. (2-tailed)
Intervention	15	22,50	337,50	-	0,000
control	15	8,50	127,50	4,756	
Total	30				

Source: Primary Data, 2023

The results of statistical test analysis using Mann Whitney before and after treatment in the intervention and control groups showed  $p=0.000$  ( $p<0.05$ ), so it can be concluded that there is a difference in the effectiveness of prenatal yoga on the level of discomfort of TM III pregnant women in the intervention group. and control group.

#### 4. DISCUSSION

Prenatal yoga is a combination of pregnancy exercise movements with antenatal yoga movements consisting of breathing movements (pranayama), positions (mudra), meditation, and relaxation to help smooth pregnancy and childbirth (Rusmita, 2015). According to Field (2011), yoga is done with deep breathing which increases the flow of oxygen to the brain so that it can reduce



anxiety, depression, psychological disorders, and pain symptoms including lower back pain.

Pregnancy is a vulnerable period for health, including the health of the pregnant mother and the fetus she contains. Therefore, regular pregnancy checks (antenatal care) need to be carried out to be able to detect early abnormalities/disorders/diseases suffered by pregnant women (Suarayasa, 2020). In the third trimester of pregnancy, pregnant women feel more discomfort as the time of delivery gets closer.

In this study, mothers felt more comfortable after doing prenatal yoga exercises others include swelling in the feet and hands, difficulty sleeping, difficulty defecating, cramps in the legs, numbness in the toes, and lower back pain.

The results of the analysis before and after treatment in the intervention group using the Wilcoxon test showed  $p=0.001$  ( $p<0.05$ ), so it can be concluded that there is a difference in the discomfort of TM III pregnant women in the intervention group.

The results of the before and after analysis in the control group using the Wilcoxon test showed that  $p=1,000$  ( $p\geq0.05$ ), so it can be concluded that there was no difference in the discomfort of TM III pregnant women in the control group.

Based on Table 7 above, it is known that based on the statistical tests carried out, Asymp. Sig (2-tailed) is  $p=0.000$  ( $p<0.05$ ), so  $H_0$  is rejected and  $H_1$  is accepted, meaning there is a difference in the effectiveness of prenatal yoga on the level of discomfort of TM III pregnant women in the intervention group and the control group. Practicing yoga at this time is a useful solution as a self-help medium that will reduce discomfort during pregnancy, help with the birthing process, and even prepare mentally for the early days after giving birth and while raising

children. Yoga helps improve physical condition, quality of life, self-efficacy during childbirth, interpersonal relationships, and autonomic nervous system function, provides a sense of comfort, reduces or reduces labor pain, shortens the duration of labor, strengthens the back muscles, lower abdominal and pelvic muscles, and facilitates labor. labor and childbirth.

15 pregnant women who were treated with prenatal yoga with a duration of 1 hour (60 minutes) felt the benefits of prenatal yoga by reducing and not feeling the discomfort that the mothers previously felt. This can be seen from the evaluation results 2 weeks after the prenatal yoga class. After the education was carried out, TM III pregnant women became more knowledgeable and understood about prenatal yoga and abdominal breathing exercises. The outcome achieved is practicing prenatal yoga and repeating prenatal yoga movement techniques to overcome the complaints of each individual pregnant mother whose complaints are different.

## 5. CONCLUSION

The results of statistical test analysis using Mann Whitney before and after treatment in the intervention and control groups showed  $p=0.000$  ( $p<0.05$ ), so it can be concluded that there is a difference in the effectiveness of prenatal yoga on the level of discomfort of TM III pregnant women in the intervention group and control group.

Physical complaints that are reduced after prenatal yoga include tingling in the fingers and toes, shortness of breath, dizziness, leg cramps, constipation, insomnia, upper and lower back pain, and fatigue. Prenatal yoga is effective in reducing complaints of discomfort from pregnant women in the third trimester at PBM Midwife Umrah Grogol.

## 6. ACKNOWLEDGMENTS

Thanks to Kusuma Husada University majoring in S1 Midwifery and LPPM have entrusted me with conducting research as the Tri Dharma of higher education.

Thank you Mrs. Enyk Yunanto and Mrs. Anna Mariyana as the second and third researchers. Students involved

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