

# The Effect Of Breathing Relaxation Techniques And Body Exercise On The Physical And Mental Readiness Of Third Trimester Pregnant Women At PMBS

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## Abstract.

*Background: Pregnant women really need a fresh and fit body so they can carry out routines, practicing breathing relaxation techniques and body exercises (yoga) at this time are one of the self-help solutions that support the process of pregnancy, birth and child rearing. Purpose of Writing: to determine the effect of breathing relaxation techniques and body exercises on the physical and mental readiness of pregnant women in the third trimester Research Methods: This type of research uses a quasy experimental design with a one group pre-test post-test design, the sample in this study is 36 people in PMB S, Wilcoxon statistical analysis test. Research: There is an effect of breathing relaxation techniques and body exercise on the physical and mental readiness of third trimester pregnant women at PMB S with a p-value of 0.000 < 0.05. Conclusions and Suggestions: This research is expected to increase knowledge about breathing relaxation techniques and body exercises as an effort to prepare pregnant women physically and mentally for childbirth.*

**Keywords:** Breathing relaxation, exercise, physical and mental readiness of pregnant women.

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## I. INTRODUCTION

Pregnancy begins from the time of conception to the birth of the fetus, and the duration of pregnancy starts from ovulation to parturition which is estimated to be around 40 weeks. During pregnancy, pregnant women experience physical and psychological changes that can cause discomfort. Physical changes that occur such as nausea and vomiting in the morning, increased frequency of urination, enlarged uterus, back pain and fetal movement. While the psychological changes that occur in the first trimester pregnant women tend to experience anxiety about the condition of their pregnancy, in the second trimester pregnant women tend to show acceptance of pregnancy, in the third trimester most pregnant women feel a new turmoil of anxiety, usually the anxiety that arises is anxiety in facing childbirth and feelings of responsibility in caring for the baby to be born (Mochtar, 2020). The World Health Organization (WHO) estimates that there are 830 maternal deaths caused by pregnancy and childbirth every day and 99% occur in developing countries. The Maternal Mortality Rate (MMR) in the world ranges from 303 per 100,000 live births and the Infant Mortality Rate (IMR) in the world is 41 per 100,000 live births (WHO, 2019). Mother's unpreparedness for pregnancy and childbirth is one of the factors causing high maternal mortality (MMR) and infant mortality (IMR). In Indonesia, the Maternal Mortality Rate in 2022 will reach 207 per 100,000 live births, which is above the Strategic Plan's target of 190 per 100,000 live births. Meanwhile, the Infant Mortality Rate reached 16.85 babies per 1,000 live births (Indonesian Health Profile, 2021). Banten Province contributes a lot to the National Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR) in the top five positions as the region with the highest MMR/IMR.

The maternal mortality rate in 2021 will reach 137 per live birth and the infant mortality rate will reach 14 per 1000 live births. Mothers died as a result of giving birth, of the 137 cases spread to Pandeglang 17, Lebak 28, Tangerang District 21. Serang District 31, Tangerang City 2. Cilegon 3, Serang City 17, and South Tangerang there were 8 cases (Banten Provincial Health Office Profile, 2021). One of the efforts made to accelerate the reduction of maternal mortality (MMR) and infant mortality is through improving the quality of health services for pregnant women. PMB S has made innovative efforts, including holding a class for pregnant women once a month. The purpose of the class for pregnant women is to educate pregnant women so that they can go through the process of pregnancy and childbirth smoothly, as well as go through the early phases of the baby's life with the provision of basic knowledge. Activities carried out in the

pregnant women's class at each meeting include getting material about pregnancy delivered according to the needs and conditions of pregnant women. Then at the end of the meeting there will be pregnancy exercises. Pregnant women really need a fresh and fit body so they can carry out their routine. As for this body condition, it can be pursued by exercising in accordance with pregnant women practicing breathing relaxation techniques and body exercise (yoga) at this time is one of the self-help solutions that support the process of pregnancy, birth and even childcare which can be done in antenatal classes, which is a means for group learning about the health of pregnant women, in the form of face-to-face meetings aimed at increasing knowledge and skills regarding pregnancy, childbirth, postpartum care and newborn care (Ministry of Health RI, 2010).

Several studies have been conducted to determine the effect of breathing relaxation techniques and body exercises on reducing physical complaints and helping to maintain the mental health of pregnant women. Rafika (2018) in his research revealed that there were significant differences between pregnant women before and after doing breathing relaxation techniques and exercise (yoga). Physical complaints decreased after breathing relaxation techniques and exercise (yoga) including flatulence, tingling in the fingers and toes, dizziness, leg cramps, constipation/constipation, insomnia, upper and lower back pain. Breathing relaxation techniques and exercise (yoga) are effective in reducing the physical complaints of third trimester pregnant women in the Working Area of the Kamonji Health Center. Nicky (2021) in his research at RSIA Kasih Ibu Tegal stated that there was an influence of breathing relaxation techniques and body exercises on the physical and mental readiness of third-trimester pregnant women in facing childbirth at RSIA Kasih Ibu Tegal ( $p$  value = 0.034). The physical and mental readiness of third trimester pregnant women will increase by 14.3% when pregnant women get breathing relaxation techniques and body exercises. The results of a preliminary study conducted at PMB S found that 4 pregnant women in their third trimester attended a class for the first time pregnant women and did not know about breathing relaxation techniques and exercise. These pregnant women experienced complaints of pain in the back, difficulty sleeping, pain in the groin and felt restless and anxious about childbirth. Based on the background of this problem, the authors are interested in conducting more in-depth research on "The Influence of Breathing Relaxation Techniques and Body Exercise on the Physical and Mental Readiness of Trimester III Pregnant Women in Facing Labor at PMB S".

## II. METHODS

This type of research is a quantitative research, using the quasy-experiment method. The research design used in this study was a one group pre-test post-test design which was an experimental study where no comparison group (control) was used, but previously the group had been observed pre-test so that researchers could compare changes after the experiment was carried out. The population in this study were 40 third trimester pregnant women who underwent pregnancy checks at PMB S in April-May 2023. Statistical tests used Wilcoxon.

## III. RESULT AND DISCUSSION

**Table 1.** Characteristics of Respondents

Characteristics	Frequency	Precentage (%)
<b>Age</b>		
20-35 years	27	75.0
< 20 years	1	2.8
>35 years	8	22.2
<b>Education</b>		
College	5	13.9
Senior High School (SHS)	27	75.0
Basic (ES-JHS)	4	11.1
<b>Parity</b>		
Primigravida (1)	12	33.3
Multigravida (2-3)	20	55.6
Grandemulti ( $\geq 4$ )	4	11.1

Based on table 5.1 showing the frequency distribution of the characteristics of the respondents, it can be seen that the majority are aged 20-35 years, namely 27 people (75%), the majority are high school education as many as 27 people (75%) and the majority are multigravida parity (2-3) as many as 20 people (55.6%).

**Table 2.** Normality Test

	<i>Shapiro-Wilk</i>	
	<i>Sig.</i>	<i>Information</i>
Pre test	0.000	Tidak Normal
Post Test	0.000	Tidak Normal

Based on table 5.2, in the pre-test and post-test groups on the physical and mental readiness of pregnant women on the Shapiro-Wilk test, the value of  $p = 0.000$  ( $p < 0.05$ ) was obtained. Based on the results of the test results, the data above is not normally distributed.

**Table 3.** The Effect of Breathing Relaxation Techniques and Body Exercise on Readiness Physical and Mental Pregnant Women.

Readiness Level	Pre Test		Post Test		<i>P Value</i>
	N	%	N	%	
Ready	10	27.8	25	69.4	0.000
Simply Ready	20	55.5	11	30.6	
Less Ready	6	16.7	0	0	
Not ready	0	0	0	0	
Total	36	100	36	100	

Based on table 5.3, it is known that in the pre-test intervention, there were 10 respondents (27.8%) who were at the ready level, 20 people (55.5%) who were quite ready and 6 people (16.7%) who were not ready enough. ). Whereas in the post-test intervention, 25 people (69.4%) were at the ready level and 11 people (30.6%) were quite ready. The results of statistical tests using the Wilcoxon test obtained a p-value of 0.000 ( $< 0.05$ ), so that there is a significant effect between breathing relaxation techniques and exercise on the physical and mental readiness of pregnant women at PMB S in 2023.

## Discussion

### 1. Characteristics of Respondents

The description of the characteristics of the 36 respondents showed that the majority of pregnant women aged 20-35 years were 27 people (75%), the majority were high school education as many as 27 people (75%) and the majority were multigravida parity (2-3) as many as 20 people (55.6%). These results are in accordance with research by Ashari (2018) which shows that most respondents are in the age group 26-35 years by 58.3% in the intervention group and 63.3% in the control group. The education of the majority was SMA, namely 45% in the intervention group and 43.4% in the control group. The majority parity was 2-4 times as much as 65% in the intervention group and 56.7% in the control group. Asmarah (2021) in his research stated that there was an increase in the knowledge of pregnant women after being given counseling about prenatal yoga because the majority of respondents (60%) had high school/vocational school education and 27% had undergraduate education.

And most are aged 20-38 years where age affects a person's psychology the more mature a person's age the better his knowledge and emotional level. Whereas parity will affect the mother in preparing for childbirth, mothers who already have experience giving birth will know and understand more about the equipment and other preparations needed in childbirth (Atikah Nurmala, 2012). Based on the assumption of the researchers that in general, women who are pregnant are afraid of facing the birth process because of pain that causes fear and anxiety. This can cause mental and physical tension which will result in stiffness of the muscles and joints. The importance of explaining about the birth process and the things that must be prepared by the mother will help the mother in dealing with labor.

### 2. The level of physical and mental readiness of pregnant women

The pre-test intervention for the majority of respondents was at a sufficiently prepared level of 20 people (55.5%) and at an unprepared level of 6 people (16.7%). Meanwhile, only 10 people (27.8%) were at the ready level. In the post-test intervention, 25 people (69.4%) were at the ready level and 11 people

(30.6%) were quite ready. This shows that there are more third trimester pregnant women who are physically and psychologically ready after being given the intervention of breathing relaxation techniques and exercise compared to before the intervention. The results of this study are in accordance with Nicky (2021) which shows that in the post-test intervention all respondents were at the ready level, namely 20 people (100%).

During pregnancy, pregnant women experience physical and psychological changes that can cause discomfort, especially in the second and third trimesters, such as dyspnea, insomnia, epulsion, frequent urination, pressure and discomfort in the perineum, low back pain, constipation, varicose veins, fatigue, Braxton Hicks contractions, leg cramps, ankle edema (non-pitting) and mood changes and increased anxiety (Widya Wati, 2016).

Physical exercises in the form of deep breathing relaxation techniques and body exercises (yoga) are manifested in the form of creating comfort for pregnant women in dealing with complaints that often occur during pregnancy. Dewi (2018) has proved this that there is an effect of prenatal yoga and pregnancy exercise on physical readiness. The average difference test results showed a significant effect on physical readiness ( $F_1 p = 0.005$ ,  $F_2 p = 0.000$ ,  $F_3 p = 0.000$ ). Breathing relaxation techniques and body exercises can help pregnant women control their thoughts, desires, and reactions to stress. There is a change in physical and mental complaints after practicing breathing relaxation techniques and body exercises, this is because the body experiences more relaxed muscle stretching, so that blood circulation works properly, physically it can help the development and growth of a new body, eliminate and reduce discomfort, anxiety and prevent long-term damage to the body (Aprillia, 2020). Based on the results of observations that have been made, it is very clear that breathing relaxation techniques and body exercises have benefits for the physical and mental readiness of pregnant women in facing childbirth. Pregnant women feel their bodies are fitter, lighter and more comfortable in dealing with pregnancy. the mother also feels more relaxed, can control her worries and anxiety about the delivery process.

### **3. The Influence of Relaxation Techniques and Body Exercise on the Physical and Mental Readiness of Third Trimester Pregnant Women**

The results of the analysis in this study showed a p value of 0.000 ( $<0.05$ ), meaning that there was an effect of relaxation techniques and exercise on the physical and mental readiness of pregnant women in the third trimester at PMB S. This is in accordance with Nicky's research (2021) which shows that there is an effect of relaxation techniques and body exercise on the physical and mental readiness of pregnant women with a p value of 0.034. Likewise with research conducted by (Widya Wati, 2016) concerning the effect of yoga exercises on physical and psychological readiness in facing childbirth. These results concluded that there was a significant effect between yoga exercises for pregnant women and physical and psychological readiness for childbirth ( $p=0.00$ ). Pregnancy yoga helps the mother to connect with her baby and her own body through deep practice and builds awareness during the birth or delivery process.

Even though breathing is a function that is not intentionally performed by the body automatically, there are certain ways or techniques that can be done, namely breathing relaxation accompanied by physical exercise so that the mother can do breathing exercises, stretch, and improve body posture. Based on the theory by Pratignyo (2014) that breathing relaxation techniques and exercise (yoga) in pregnancy combine special postures and techniques that are beneficial for pregnant women. The purpose of breathing relaxation techniques and body exercises is to prepare pregnant women physically, mentally and spiritually for the birth process. With proper preparation, pregnant women will be more confident and gain the confidence to go through labor smoothly and comfortably. Based on the results of observations of researchers when breathing relaxation exercises and exercise are done well to help mothers reduce stress, pain and discomfort. Relaxation breathing techniques and body exercises are safe for all pregnant women to do and can be done at 18 weeks of gestation, have no history of complications during pregnancy, have no history of preterm labor, and low birth weight. Women with a history of abortion may do so after a gestational age of more than 20 weeks or after a good pregnancy has been declared.

#### IV. CONCLUSION

Based on the results of the research on the Effect of Breathing Techniques and Body Exercise on the Physical and Mental Readiness of Third Trimester Pregnant Women at PMB S, the following conclusions can be drawn:

1. It is known from the characteristics of the respondents that the majority of mothers are aged 20-35 years, namely 27 people (75%), high school education 27 people (75%), and multigravida parity (2-3) as many as 20 people (55.6%).
2. In the pre-test intervention, there were 10 respondents (27.8%) at the ready level, 20 people (55.5%) at the quite ready level and 6 people (16.7%) at the less prepared level. Meanwhile, in the post-test intervention, 25 people (69.4%) were at the ready level and 11 people (30.6%) were quite ready.
3. There is an effect of breathing relaxation techniques and body exercise on the physical and mental readiness of third trimester pregnant women at PMB S with a p-value of 0.000 (<0.05).

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