

Research Article

The Effect of Pregnancy Exercises in Reducing Anxiety in Pregnant Mothers in their Second and Third Trimesters in Pekauman Puskesmas, Banjarmasin

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ORCIDYenny Okvitasari: <https://orcid.org/0000-0001-6566-7066>**Abstract.**

Pregnancy can result in physical and psychological changes that trigger uterine contractions to give birth prematurely, miscarriage and depression. The World Health Organization's data shows that 8-10% experience anxiety during pregnancy, and the number of pregnant women in Banjarmasin City in 2021 is 11,492. Prevention can be done with pregnancy exercises. The purpose of this study was to analyze the effect of pregnancy exercises on reducing anxiety in second and third-trimester pregnant women at Pekauman Public Health Center, Banjarmasin City. The research method used was experimental. The population of this study were all pregnant women in the Pekauman Health Center area. Sampling was done by purposive sampling technique, totalling of 30 pregnant women, 15 control groups and 15 treatment groups. Data collection using the HARS anxiety level questionnaire with the Wilcoxon and Mann-Whitney statistical test with a p-value of 0.008 concluded that "the hypothesis is accepted". Thus there is a difference between the results of the intervention group and the control group on the implementation of pregnancy exercise. Pregnant women are advised to routinely do pregnancy exercises so that they can reduce anxiety levels and be better prepared to face childbirth.

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1. INTRODUCTION

Pregnancy is a natural and physiological process in the womb of a woman in which there is a product of conception, namely the meeting of the ovum and spermatozoa(1) (Yanti, 2017). The length of time of pregnancy is divided into three trimesters, 0-14 weeks, namely the first trimester, 14-28 second trimester, 28-42 weeks, third trimester Signs of pregnancy, amenorrhea (late menstruation), changes in the breasts and enlargement of the abdomen, feeling of fetal parts and fetal movements (2). Women who experience signs of pregnancy will definitely have physiological and psychological changes during pregnancy resulting in discomfort for pregnant women. Psychological changes include

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mood changes and increased anxiety (3). This situation can cause drastic changes both physically and psychologically (4). Changes since the occurrence of the pregnancy process are the result of an imbalance of the hormones progesterone and estrogen (5).

Psychological changes in the first trimester, namely there will be ambivalent feelings (doubt about being pregnant), the second trimester is feeling uncomfortable due to the enlargement of the fetus, in the third trimester there is a feeling of worry (2). Feelings facing childbirth will arise, namely happiness, anxiety, fear, fear of death, birth trauma, and feelings of guilt. worry, stress, restlessness, and ongoing anxiety that will not go away and feelings of panic (6).

Anxiety during pregnancy arises because the mother considers herself unable to carry out her duties as a mother for her child and in certain situations full of challenges before giving birth (7). Some of the pregnant women consider mood disorders and stress that appear during pregnancy is a common thing experienced by mothers. even though if it is not handled it can affect the baby being conceived (8). Every trimester of pregnancy the feeling of anxiety will be different but in the third trimester it is higher. In addition to affecting fetal development, anxiety during pregnancy can also cause 3 times fear in childbirth and 1.7 times the chance to increase the incidence of sectio caesarea (9).

Anxiety also has an impact on the fetus, when the mother experiences stress signals that travel through the HPA which can cause the release of stress hormones due to vasoconstriction. systemic, constrict vasa uteroplacental. This is what causes blood flow in the uterus so that oxygen into the myometrium is disturbed, this will cause the duration of parturition so that the fetus experiences fetal distress (5). Labor pain in stage 1 can increase anxiety and discomfort in pregnant women, so it is necessary to teach them how to control breathing properly so that oxygen supply on the body pregnant women increased marked by pregnant women more comfortable relaxed. According to the researchers, this technique is very necessary for pregnant women to study so that it can be applied during childbirth, one of which is pregnancy exercise techniques. The results of the preliminary study at the Pekauman Health Center on 16 February 2022 the results of 7 pregnant women with interviews showed that 1 mother experienced mild anxiety, 4 experienced moderate anxiety and 2 mothers did not experience anxiety.

2. MATERIALS AND METHODS

This type of research is an experimental research design. In this study there are two variables that have been studied, namely the independent variable (free) is the implementation of pregnancy exercise and the dependent variable (bound) is the

decrease in anxiety of pregnant women. This research was conducted at the Pekauman Public Health Center, Banjarmasin City, carried out from April to May 2022. The population in this study were all pregnant women who had their pregnancy checked and were in the working area of the Puskesmas.PekaumanBanjarmasin City and samples obtainedusePurposive Sampling technique as many as 30 respondents.

3. RESULTS

3.1. Characteristics of Respondents

TABLE 1: Age.

No.	Age	Group Control		Intervention Group	
		F	%	F	%
1	16-30	12	80	12	80
2	31-39	3	20	3	20
Total		15	100	15	100

Based on table 1 , the highest age of pregnant women was 16-30 years in the intervention group as many as 12 people (80%).

TABLE 2: Recent Education.

No.	Education	Control Group		Intervention Group	
		F	%	F	%
1	Base	6	40	7	46.7
2	Middle-High	9	60	8	53.3
Total		15	100	15	100

Based on table 2 The most recent education was middle-high in the control group with a total of 9 people (60%).

TABLE 3: Occupation.

No.	Work	Group Control		Intervention Group	
		F	%	F	%
1	Working	1	6.7	2	20
2	Doesn't work	14	93.3	12	80
Total		15	100	15	100

Based on table 3 the most occupations of pregnant women are not working in the control group with a total of 14 people (93.3%).

TABLE 4: Gestational Age.

No.	Gestational Age	Group Control		Intervention Group	
		F	%	F	%
1	Second Trimester	10	66.7	9	60
2	Third Trimester	5	33.3	6	40
	Total	15	100	15	100

Based on table 4, the highest gestational age of pregnant women was in the second trimester in the control group with a total of 10 people (66.7%).

3.2. Univariate Analysis

Anxiety Levels in the Intervention Group

TABLE 5: Anxiety Levels Before and After in the Intervention Group.

Anxiety Level	Before		After	
	Amount	%	Amount	%
Mild Anxiety	5	33.3	13	86.6
Moderate Anxiety	8	53.3	1	0.6
Severe Anxiety	2	13.3	1	0.6
Very Heavy Anxiety	0	0	0	0
Total	15	100	15	100

Based on table 5, it shows that the level of moderate anxiety before pregnancy exercise amounted to 8 people (53.3%) while after doing pregnancy exercise, it was found that mild anxiety was 13 people (86.6%).

Anxiety Levels in the Control Group

TABLE 6: Anxiety Levels Before and After in the Control Group.

Anxiety Level	Before		After	
	Amount	%	Amount	%
Mild Anxiety	8	53.3	0	0
Moderate Anxiety	7	46.6	12	80
Severe Anxiety	0	0	3	20
Very Heavy Anxiety	0	0	0	0
Total	15	100	15	100

Based on table 6, it shows that the level of mild anxiety before pregnancy exercise was 8 people (53.3%) and while without doing pregnancy exercise, there were 12 people (80%).

3.3. Bivariate Analysis

Normality Test in the Control Group and the Intervention Group

TABLE 7: Normality test of control group sample data.

Variable	Sig
Control	0.00
Intervention	0.00

Based on table 7, it shows the results of the normality test with a p-value (sig) of 0.00 or below = 0.05 ($p < 0.05$) in the control group and the intervention group. Thus, because the p-value < 0.05 , it can be concluded that the data is not normally distributed

Different Tests of Anxiety Levels in Groups and Interventions

TABLE 8: Different Tests of Anxiety Levels in the Control Group and the Intervention Group.

Variable	N	P-value
Control	15	0.063
Intervention	15	0.014

Based on the table shows that the Wilcoxon test results in the control group with a significance of $0.063 > 0.050$. Because sig (p) is 0.063 or above = 0.05 ($p > 0.050$), it can be concluded there was no decrease in anxiety in pregnant women who did not do pregnancy exercise. In the intervention group with a significance of 0.014 because Sig 0.014 or below 0.050 ($p < 0.050$), it can be concluded that there is a decrease in the level of anxiety in pregnant women after being given the intervention.

Different Test in Control and Intervention Group

TABLE 9: Differential Test in the control group and the intervention group.

Variable	N	P-value
Control Group Intervention Group	30	0.008

Based on table 3.9 shows that the results of the Mann Whitney test there are results from the intervention group and the control group, it is known that the p-value is 0.008, so it can be concluded that "the hypothesis is accepted". Thus, it can be said that there is a difference between the results of the intervention group and the control group on the implementation of pregnancy exercise on reducing anxiety in pregnant women in the second and third trimesters.

4. DISCUSSION

4.1. Anxiety Levels Before and After in the Control Group

Wilcoxon test results in the control group with a significance of $0.063 > 0.050$. Because sig (p) is 0.063 or above = 0.05 ($p > 0.050$), it can be concluded there is no decrease in anxiety in pregnant women who do not do pregnancy exercises. Childbirth that is getting closer will cause feelings of happiness, anxiety, fear, fear of death, birth trauma, and feelings of guilt. worry, stress, restlessness, and ongoing anxiety that will not go away and feelings of panic (6). Mothers who are too anxious are worried that the baby will experience low birth weight and premature birth (10). Anxiety is a mood disorder characterized by feelings of fear or worry that are deep and ongoing, do not experience disturbances in assessing reality, personality is still intact, behavior can change. disturbed but still within normal limits (11). Anxiety during pregnancy until the third trimester, if not addressed, will have an impact on the delivery process, fetal growth and development, can cause premature births, low birth weight (LBW), prolonged labor, mental and motoric disorders of children (13).

Based on this theory, the researcher assumes that the importance of pregnancy exercise is to help mothers relieve This anxiety is because if pregnant women experience excessive anxiety then the anxiety will have a bad impact and trigger the stimulation of uterine contractions. These results are in accordance with the research (13) Yunita Sari, et al (2021) there is a difference in the average anxiety score for pregnant women who do not do pregnancy exercise, as evidenced by the difference in the average anxiety score, which is 31.52 ± 5.19 in women who take part in pregnant exercise and 44.04 ± 5.82 in women who do not participate in pregnant exercise.

4.2. Anxiety Levels Before and After in the Intervention Group

The results of the Wilcoxon test in the intervention group with a significance of 0.014. Because Sig 0.014 or below 0.050 ($p < 0.050$) it can be concluded that there is a decrease in anxiety levels in pregnant women after being given the intervention. Stress will activate the system nerve the sympathetic and hormone systems of our body such as catecholamines, epinephrine, norepinephrine, glucocorticoids, cortisol and cortisone. The hypothalamic-pituitary adrenal (HPA) system is an important part of the neuroendocrine system associated with stress. The hypothalamus will secrete corticotropin releasing factor (ACTH) which stimulates the anterior hypothalamus to produce glucocorticoids, especially cortisol. Cortisol plays a role in the body's adaptation

to stress, including anxiety (14). Giving pregnancy exercise in trainingrelaxationwill have an effectrelaxinvolvingnerveparasympathetic in systemnervecenter. One functionnerveThis parasympathetic function is to decrease the production of the hormone adrenaline or epinephrine (stress hormone) and increasesecretionnoradrenaline hormoneandnorepinephrine (hormone)relax) so that there is a decrease in anxiety and tension in pregnant women which results in pregnant women becoming more comfortablelaxand calm (15).

The decrease in the pretest value to the posttest value proves that it is true that pregnancy exercise has a great influence on the psychological condition of pregnant women. According to the results of research conducted at the Pekauman Health Center, by decreasing the value of pretest to posttest, it proves that pregnancy exercise is indeed effective in giving a great influence on the psychological condition of pregnant women. These results are in accordance with the research results of (16), namely respondents experienced a decrease in anxiety levels,the median anxiety score of primigravida mothers who did pregnancy exercise was 14 while the median of primigravida mothers who did not do pregnancy exercise was 24. ThereforeDoing pregnancy exercises 2 times in 2 weeks can help reduce anxiety in pregnant women in the second and third trimesters

4.3. Anxiety Levels Before and After in the Control Group and the Intervention Group.

Test resultsMannWhitneythere are results from the intervention group and the control group, it is known that the p-value is 0.008, so it can be concluded that "the hypothesis is accepted". Thus, it can be said that there is a difference between the results of the intervention group and the control group on the implementation of pregnancy exercise on reducing anxiety in pregnant women in the second and third trimesters. Anxiety is an unpleasant emotional state with a psychological responseanticipationnon-existent or imaginary danger caused by conflictintrapysichicthat are not realized directly (17). Anxiety is usually characterized by feelings of tension, nervousness, excessive alertness and sweating of the palms (18). Pregnant women who experience anxiety also have an impact on the fetus, when the mother experiences stress signals that travel through the HPA which can cause the release of stress hormones due to vasoconstriction.systemic,constrict vase uteroplacentalThis is what causes blood flow in the uterus so that oxygeninto themyometrium is disturbed, this will cause the duration of parturition so that the fetus experiencesfetal distress (5).

Pregnancy exercise is a fitness program intended for pregnant women in order to tighten the body system and prepare the muscles needed as an addition to be experienced during pregnancy even though routine activities are still carried out (19). There are several goals of exercise performed on pregnant women, namely achieving a physiological, natural, comfortable delivery with the mother and baby, preparentally and physically pregnant women achieve adequate contraction of the pelvic floor muscles and when pushing, achieve relaxation optimal during pregnancy until delivery both physically and psychologically (19)

These results are in accordance with the results of (20) obtained p value 0.004 (<0.05) concluded that there was an effect of the implementation of pregnancy exercise on the stress level of pregnant women in the third trimester. Doing pregnancy exercise 2 times in 2 weeks can help reduce the anxiety level of pregnant women this is because the pregnancy exercise movements contain a relaxing effect that can stabilize the emotions of pregnant women.

5. CONCLUSION

1. (a) The level of moderate anxiety before pregnancy exercise amounted to 8 people (53.3%) in the intervention group while the level of anxiety in the control group was in the category of mild anxiety 8 people (53.3%)
(b) The level of mild anxiety after pregnancy exercise was 13 people (86.6%) in the intervention group while the anxiety level of the control group was in the category of moderate anxiety 12 people (80%)
(c) There was no decrease in anxiety in the control group with a p -value of 0.063 (> 0.050) and there was a decrease in anxiety in the control group after being given a pregnancy exercise intervention with a p value of 0.014 (<0.050). There is a difference between the control group and the intervention group in pregnant women with a p -value of 0.008 (<0.050), so it can be concluded that the "hypothesis is accepted". There is an effect of pregnancy exercise on decreasing anxiety of pregnant women.

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