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The correlation between the intensity of prenatal yoga participation on anxiety levels for third trimester pregnant women in facing childbirth in Kartasura district

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ABSTRACT

Background: Data from the World Health Organization (WHO) show that pregnant women experience anxiety by 8-10% during pregnancy, and it increases to 13% when they are about to give birth. The incidence of anxiety in pregnant women in Indonesia reaches 373,000, 28.7% of which anxiety occurs in pregnant women when facing childbirth. Sustained anxiety will increase the likelihood of cesarean section, prolonged second stage, asphyxia and affect fetal neurodevelopment and fetal cognitive. One of the physical exercises that can reduce anxiety is prenatal yoga. The purpose of this study was to determine the relationship between the intensity of prenatal yoga participation on the level of anxiety of pregnant women in the third trimester in facing childbirth in Kartasura District.

Methods: Cross-sectional study design. The population in this study were all third trimester pregnant women who did prenatal yoga and did prenatal checkups at midwife Wulan, Anik Midwife Health House and Auliya Husada Clinic with a total population of 42 people. The sample of this study used accidental sampling and total sampling. The research instrument used the Perinatal Anxiety Screening Scale (PASS), and used univariate and bivariate data analysis with the Spearman test.

Results: A total of 22 pregnant women who did not participate in prenatal yoga experienced severe anxiety by 54.6% (12 people), while of the 20 pregnant women who participated in prenatal yoga, most experienced mild anxiety by 50% (10 people). Based on statistical tests using the Spearman test, p-value <0.05 was obtained.

Conclusion: There is a relationship between the intensity of prenatal yoga participation on the level of anxiety of pregnant women in the third trimester in facing childbirth in Kartasura District.

Suggestion: It is hoped that pregnant women who have not followed prenatal yoga regularly participate in prenatal yoga in order to reduce discomfort and anxiety.

1. Introduction

Pregnancy is one of the most precious times for a woman. Pregnancy occurs when an egg (ovum) meets a sperm cell and brings about changes such as physical, psychological, and hormonal changes due to the growth and development of a fetus (Pratiwi et al., 2021). These changes will last until the third trimester and cause feelings of anxiety and worry in pregnant women (Hamdiah et al., 2017).

WHO (2010) show as many as 5% of women experience anxiety, 8-10% experience it during pregnancy, and 13% when approaching childbirth (Jiang et al., 2015). Anxiety in pregnant women in Indonesia is 373,000 and as much as 28.7% occurs in mothers when facing childbirth (Herawati et al., 2020). Based on WHO (2015) as many as 10% of pregnant women and 13% of women who have just

given birth experience psychological problems, one of which is depression. Mental disorders and depression can be reduced by controlling anxiety.

Martini's research (2018) which examined the causes of anxiety felt by the mother, the results obtained were fear of vaginal delivery (34%), fear of medical action (32.4%), and after giving birth fear of infant death (27.5%). concern about child health (49.6%), fear of labor pain (39.8%) and fear of operative delivery or epidural anesthesia (13%).

The anxiety in pregnancy may interact with the social, familial, cultural, societal, and environmental conditions of pregnancy to increase levels of pregnancy anxiety, producing effects on the maternal–fetal–placental systems (Dunkel et al., 2021).

The effect of anxiety according to There is comprehensive evidence that anxiety, depression, and stress in pregnancy are risk factors for adverse maternal and fetal outcomes ranging from preterm birth and low birth weight to adverse neurodevelopmental outcomes in infants and children (Corrigan et al., 2022).

The government provides programs to reduce maternal and child mortality in Indonesia, one of which is the implementation of the Childbirth Planning and Complications Prevention Program (P4K). The program is implemented through the installation of P4K stickers containing plans for birth attendants, places of delivery determined by the family, transportation, and information about potential blood donors (Hidayati et al., 2018). In addition, there is a Maternity class that allows pregnant women and their families to consult health, as well as receive health counseling which is conducted face-to-face accompanied by health workers. Giving P4K and classes for pregnant women that have been managed by the government together with the puskesmas can make mothers feel more secure and comfortable so that it will reduce the anxiety of pregnant women in going through the process of pregnancy and childbirth.

According to the Law of the Republic of Indonesia number 4 of 2019 on Midwifery article 1 paragraph 1, a midwife has the authority to provide services related to midwifery services including pregnancy in accordance with their duties and authorities. A midwife is also authorized to provide complementary midwifery care, one of which is prenatal yoga.

Yoga is becoming a popular exercise worldwide. Yoga that combines postures, breathing and meditation is associated with the development of health and body awareness (Campbell & Nolan, 2019). Prenatal yoga can reduce anxiety, based on previous research conducted by sulastri (2021) in 24 respondents ivided into two groups, 12 in the intervention group and 12 in the control group conclude that showed that there were significant changes of anxiety in control groups before and after prenatal yoga treatment $p=0.001<(\alpha\ 0.05)$. Prenatal yoga is useful for reducing stress in pregnant women and even extreme stress (Duchette et al., 2021).

Yoga will provide balance in terms of mental, emotional, spiritual and physical. Yoga is a series of movements that combine physical exercises (asana), breathing exercises (pranayama), concentration (dharana) and meditation (dhyana) (Holden et al., 2019a). Prenatal yoga make relaxed feeling , including positive emotional responses and physical bodily responses (Styles et al., 2019).

Based on a preliminary study conducted by researchers of 8 third trimester pregnant women who did prenatal yoga at midwife Wulan, all mothers experienced anxiety.

Based on the description above, the researcher is interested in conducting a study entitled "The Relationship of the Intensity of Prenatal Yoga Participation on Anxiety Levels for Third Trimester Pregnant Women in Facing Childbirth in Kartasura District".

2. Methods

The research used correlation analytic study with cross-sectional method. This study is intended to determine the relationship between the independent and dependent variables observed during the research. This research was conducted at midwife Wulan, Midwife Anik Health House and Auliya Husada Clinic from May to June 2022.

This study used primary data taken using the Perinatal Anxiety Screening Scale (PASS) questionnaire to measure the level of anxiety of pregnant women and was supplemented by using data

secondary form of prenatal yoga register book and medical records at the research site to measure the intensity of prenatal yoga participation.

The population in this study were all third trimester pregnant women who did prenatal yoga and checked at PMB Wulan, Anik Midwife Health House and Auliya Husada Clinic with a population of 42 people. The determination of the sample in this study using accidental sampling and total sampling, namely all pregnant women who meet the inclusion and exclusion criteria of the study who coincidentally or accidentally meet the researcher during the study can be used as research samples.

Data analysis in this study was carried out by univariate and bivariate. Univariate analysis using the frequency distribution between variables and bivariate analysis using the Spearman test. Spearman test was conducted because this study aims to determine the relationship between 2 variables on an ordinal scale. This research has received ethical approval from RSUD Dr. Moewardi Surakarta with ethical clearance number 649/V/HREC/2022.

3. Results/Findings

This research has been carried out and there are 42 research respondents who met the inclusion and exclusion criteria of the study with 22 people not participating in prenatal yoga and 20 people participating in prenatal yoga. A pregnant woman is defined as participating in yoga if she does prenatal yoga with the type of prenatal gentle yoga performed on pregnant women at 28-40 weeks of gestation, consisting of centering movements, breathing, warming up, core movements and relaxation. Prenatal yoga is done once a week for two consecutive weeks with a duration of 1 hour accompanied by a trained midwife (Field et al., 2013; Martins & Silva, 2014). A mother is said to have not participated in prenatal yoga if she has never attended at all or has only attended prenatal yoga once. In accordance with the research objectives, the data obtained by the researchers were processed and arranged as follows:

Table 1. Subject Characteristics

Characteristic		n	%
Age	Risk	15	35,7
	Reproductive	27	64,3
Employment Status	Working	17	40,5
	Not Working	25	59,5
Education	Elementary	0	0
	Middle	27	64,3
	High	15	35,7
Parity	Primigravida	23	54,8
	Multigravida	19	45,2

Table 1 above shows that the majority of research respondents have reproductive age at the age of 20-35 by 64.3% (27 people). Employment status of the majority of research respondents are pregnant women who do not work by 59.6% (25 people). Education level, most of the research respondents have a secondary education level of 64.3% (27 people). Characteristics of parity, most of the respondents were primigravida pregnant women by 54.8% (23 people).

Table 2. Intensity Of Prenatal Yoga Participation In Third Trimester Pregnant Women In Kartasura District

Range	Participation	n	%
≥2 times	Participated	20	47,6
0-1 times	Not Participated	22	52.4
Total		42	100

Table 2 above shows that the majority of pregnant women do not participate in prenatal yoga with a range of 0-1 times by 52.4% (22 people) and those who take prenatal yoga with a range of 2 times by 47.6% (20 people).

Table 3. Anxiety in Third Trimester Pregnant Women in Facing Childbirth in Kartasura District

Anxiety	n	%
Not Anxiety	10	23,8
Mild Anxiety	5	11,9
Moderate Anxiety	14	33,3
Severe Anxiety	13	31
Total	42	100

Table 3 above shows that the majority of pregnant women are in the third trimester in Kartasura District experienced moderate anxiety by 33.3% (14 people), while pregnant women experienced mild anxiety by 11.9% (5 people).

Table 4. The Correlation between the Intensity of Prenatal Yoga Participation on Anxiety Levels for Third Trimester Pregnant Women in Facing Childbirth in Kartasura District.

Anxiety Level	Not Participated		Participated		*P-Value*
	n	*%*	*n*	*%*	
Not anxiety	0	0	10	50	
Mild Anxiety	3	13,6	2	10	
Moderate Anxiety	7	31,8	7	35	
Severe Anxiety	12	54,6	1	5	
Total	22	100	20	100	0,00

Table 4 explains that the majority of research respondents who did not participate in prenatal yoga experienced severe anxiety by 54.6% (12 people) and most pregnant women who participated in prenatal yoga did not experience anxiety by 50% (10 people). The data were analyzed using the Spearman test. Based on the Spearman test, the p-value of 0.00 is smaller than 0.05. H0 is rejected so H1 is accepted, then there is a relationship between the intensity of prenatal yoga participation on the anxiety level of pregnant women in the third trimester in facing childbirth in Kartasura District. After being analyzed, it was found that the correlation coefficient value is -0.638, which means that it is strongly related to the non-unidirectional correlation value so that the higher the intensity of participation, the lower the level of anxiety.

4. Discussion

Based on the results of the study, the majority of research respondents were pregnant women of reproductive age of 64.3% (27 people). Based on research (Moyer et al., 2020) there is a significant relationship between the characteristics of age, occupation, and parity on participation in prenatal yoga. Pregnant women with an age at risk are more vulnerable and the condition of the womb in pregnant women with the age of less than 20 years tends to be unprepared to prepare for childbirth, while at the age of pregnant women who exceed 35 years their reproductive function decreases. So at this age it is a good age to do yoga regularly (Holden et al., 2019b; Zhu et al., 2021). Age is also related to the anxiety of pregnant women in facing childbirth, this is in line with the research of there is a significant relationship between maternal age and the level of anxiety of pregnant women in the third trimester in dealing with anxiety. In the research of (Wulandari et al., 2018) it suggests that there is a relationship between the age of pregnant women and the level of anxiety in facing childbirth. The younger the mother's age, the higher the level of anxiety will be. Based on this, the ages between 20 years and 35 years are the right age for women to go through the pregnancy process, because at that age the reproductive organs are mature to go through the process of pregnancy and childbirth (Moyer et al., 2020; Sulastri et al., 2021).

Based on table 1, most of the parity of the third trimester pregnant women were primigravida pregnant women of 54.8% (23 people). Multigravida mothers tend to experience relatively low levels of anxiety because they have experience from previous deliveries. Meanwhile, for primigravida mothers, childbirth is a new thing so that the mother's knowledge and experience is still small. This will cause anxiety. States that there is a relationship between parity and the level of anxiety of pregnant women in the third trimester in facing childbirth (Tricco et al., 2018). Parity is also related to the participation of prenatal yoga for pregnant women. When undergoing pregnancy and preparing for childbirth, pregnant women need calm so they don't experience excessive worries, one of which is by participating in sports (Duchette et al., 2021). One form of exercise that mothers can do is prenatal yoga.

Mother's education level will be related to the participation of pregnant women in the third trimester in participating in prenatal yoga. Based on table 1, most of the third trimester pregnant women have a moderate level of knowledge, which is 64.3% (27 people). Based on that the participation of prenatal yoga in pregnant women has a relationship with the level of education which will affect perceptions, pregnant women with a higher level of knowledge have a positive level of perception about prenatal yoga so that there is a significant relationship between perceptions and participation in prenatal yoga. In addition, pregnant women with a high level of education will be more logical and rational in dealing with things than someone with a relatively low level of education. So that they can respond to the discomfort of pregnancy better and find solutions to reduce the discomfort that is being experienced. The results of this study are in line with the research of which explains that there is a significant relationship between the level of education of pregnant women and the anxiety of pregnant women in the third trimester in facing childbirth.

The results of this study explain that the majority of pregnant women are pregnant women who do not work, amounting to 59.5% (25 people). A mother who does not work tends to have a lighter mind load than a working mother so that she is more able to control the anxiety she feels. This is in line with the research of Bidjuni and (Belay et al., 2020) which explains that there is a relationship between the work status of pregnant women and the level of anxiety in facing childbirth. Participation in prenatal yoga is also influenced by the mother's occupation, pregnant women who work will have relatively less time than pregnant women with non-working status. Pregnant women who do not work or are housewives will find it easier to take the time to participate in prenatal yoga. Based on research data, there are more pregnant women who do not work with low intensity of prenatal yoga participation. This is because participation is influenced by many other supporting factors such as husband's support and midwife's motivation (Azward et al., 2021).

This research is supported by research conducted by (Holden et al., 2019b) which involved 42 respondents pregnant women with symptoms of depression and anxiety to an 8-week yoga intervention, Prenatal yoga was found to be a intervention reductions in symptoms of anxiety and depression (p=0.011). Based on the research by (Yekefallah et al., 2021). Prenatal yoga exercises could lead to a normal birth weight and improve the infant's Apgar score and reduce emergency CS, labor duration, induction of labor, and preterm labor. Prenatal yoga is significant in the context of the high levels of stress and trauma many of the study participants.

Based on the research by (Azward et al., 2021) one of the most important parts of prenatal yoga that plays a role in reducing anxiety is in the relaxation and meditation phases. Due to relaxation and meditation, there are deep breathing techniques that will affect the course of the parasympathetic nervous system which will stimulate the vagal nerve. This will cause a decrease and regularity of heart rate and blood pressure, increase metabolism, and provide more oxygen so that it can reduce the anxiety felt by the mother. In the relaxation and meditation phase, mothers can train mothers to focus more on the entry and exit of the breath which will train the mother's breathing to face childbirth, increase oxygen in the blood, facilitate the circulatory system and facilitate the work of the body's cells. The hypothalamus gland will secrete Corticorophin releasing hormone (CRH) which can release Beta-Endorphin (Beta-EP) and cortisol which will control emotional changes, reduce anxiety and make the mother feel more comfortable and calm.

5. Conclusion

Based on this study, it was concluded that the intensity of prenatal yoga participation in third trimester pregnant women in Kartasura District did not participate in the majority of prenatal yoga, the anxiety level of third trimester pregnant women in facing childbirth in Kartasura District experienced moderate anxiety and there was a relationship between the intensity of prenatal yoga participation on the level of anxiety of pregnant women in the third trimester in facing childbirth in Kartasura District.

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