



Mixed-Method Study: Prenatal Yoga Effectiveness for the Mental Health of Pregnant Motherspaper

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Abstract. Prenatal yoga aims to prepare pregnant women physically, psychologically and spiritually in the face of childbirth. The purpose of the study was to determine the effectiveness of attending prenatal yoga classes on the mental health of pregnant women. This study uses a mixed method with a quantitative explanatory strategy, posttest-only control design to determine the effect of participating in prenatal yoga classes and semi-structured interviews to explore the mental health condition of pregnant women and coping mechanisms. This research was carried out at Bidan Delima Clinic, East Banjarmasin. The population and sample of this study were pregnant women in the working area of Bidan Delima Clinic, East Banjarmasin. Based on the results of quantitative analysis, there were significant differences in mental health conditions between the control group and the treatment group ($p < 0.05$). Qualitatively, the autonomic component (autonomous) of pregnant women experienced a decrease in physical disorders, the behavioral component (behavior) of pregnant women experienced a decrease in laziness, reduced complaints, and increased mood, the cognitive component (cognition) of pregnant women experienced sleep disturbances, decreased feelings of anxiety and difficulty concentrate Coping mechanism used by pregnant women is to get support from husband, family, and social environment. Prenatal yoga classes are very effective for mental health in pregnant women. There needs to be early treatment of maternal mental health problems so that negative impacts can be reduced.

Keywords: Effectiveness · Mental Health · Pregnant Women · Prenatal Yoga

1 Introduction

Pregnancy is part of a natural process that will definitely be experienced by a woman during this period of her life cycle [1]. Antenatal care for pregnant women continues to develop comprehensively and holistically. This is one of the realizations of the “Sustainable Development Goal (SDG)” program, which aims to reduce the incidence of mortality and morbidity in pregnant women (Central Bureau of Statistics, 2016).

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L. Rosida et al. (Eds.): A-HMS 2022, AHSR 62, pp. 336–345, 2023.

https://doi.org/10.2991/978-94-6463-190-6_43

Many studies explain that 50% of pregnant women in Indonesia experience depression and mental health disorders. The mental health condition of pregnant women during pregnancy is one of the reasons for the high maternal mortality rate.

Currently, many interventions are being developed and studied as an effort to improve the physical and mental health of pregnant women, such as prenatal yoga [2]. Pregnancy is a good opportunity for mothers to relax their bodies. The purpose of prenatal yoga is to prepare pregnant women physically, psychologically, and spiritually for childbirth. Yoga creates physical awareness and a feeling of deep relaxation, coupled with stable emotions and clear thoughts.

The results of a preliminary study with several midwives in the East Banjarmasin Region showed that there were several pregnant women who experienced mental health disorders, namely feeling anxious and depressed within abnormal limits. This is triggered by several factors, one of which is the changes experienced by pregnant women both physically and psychologically, discomfort over the changes experienced by pregnant women; the desire to gain experience, sharing knowledge with midwives; and the perceived benefits that trigger pregnant women to be very enthusiastic. I attended a prenatal yoga class held by the midwife at clinic. Based on this problem, the researcher is interested in exploring the effectiveness of attending prenatal yoga classes on the mental health of pregnant women.

2 Method

A. *Research Design*

This study uses a mixed methods approach with a quantitative explanatory strategy, a posttest-only control design to determine the effect of participating in prenatal yoga classes, and semi-structured interviews to explore the mental health condition of pregnant women and their coping mechanisms.

B. *Participants*

Respondents in this study were planned to be 30 pregnant women, of which 15 were in the experimental group and 15 were in the control group. In this study, the inclusion criteria were pregnant women who had attended prenatal yoga classes within the last 3 months, which regularly came at least once a week; pregnant women with physiological pregnancy. Domicile outside of the East Banjarmasin Region; pregnant women's biological family members have been diagnosed with mental health disorders; pregnant women have chronic or acute comorbidities. While the criteria for the control group: physiological pregnant women, pregnant women do not attend prenatal yoga classes.

The informants in this study were pregnant women who took prenatal yoga classes and lived in the East Banjarmasin area with the criteria that they were pregnant women with a HADS score of >7 , easy to communicate with and interact with, could provide the information needed by researchers and were willing to become research informants.

The instrument used in this study was the Hospital Anxiety and Depression Scale (HADS) questionnaire. HADS is an instrument used to measure anxiety and depression in the general population. The advantages of HADS are that it is simple, fast, and easy

to use. The interview technique in this study was conducted using a semi-structured method. Aspects that will be explored in depth based on ABC theory include automatic, behavioral, and cognitive as well as problem coping. The researcher uses ABC theory because it can explore the mental health condition of pregnant women outside the aspect of signs of anxiety and depression that the researchers have done when collecting quantitative data using the HADS instrument questionnaire.

For analysis of the data used in quantitative data, using SPSS 21 for windows with an independent t-test and on qualitative data, using N-Vivo 12 software, namely qualitative data analysis software is very helpful in document management, coding, transcription, and presenting data recap based on certain filters. Thus, researchers have more control over research data in the wilderness of data that researchers collect than if the data is a pile of print-outs of interview transcripts and observations.

3 Results

A. Quantitative Analyses

Quantitative research data was carried out with the aim of revealing the formulation of the problem regarding the mental health condition of pregnant women who took prenatal yoga classes and pregnant women who did not take prenatal yoga classes and the effect of taking prenatal yoga classes on the mental health of pregnant women. The quantitative data is generated from the measurement results with a questionnaire regarding the mental health condition of pregnant women. Then the data was analyzed with the help of SPSS 21 software for windows (Table 1).

Based on Table 2, the results of the normality test on all variables showed that the data were normally distributed because the significant value was > 0.05. The significance

Table 1. FREQUENCY DISTRIBUTION OF RESPONDENTS CHARACTERISTICS

Results	Categories	Control groups		Treatment Groups	
		n (15)	%	n (15)	%
Anxiety	Normal (≤7)	3	20	10	66,7
	Mild (8-10)	8	53,3	4	26,7
	Medium (11-14)	4	26,7	1	6,7
Depression	Normal (≤7)	3	20	10	66,7
	Mild (8-10)	8	53,3	4	26,7
	Medium (11-14)	4	26,7	1	6,7

Data Normality Test Results HADS

Groups	Variable	Shapiro-Wilk		
		Statistics	df	Sig.
Control	Anxiety	,947	15	,475
	Depression	,923	15	,214
Treatment	Anxiety	,950	15	,518
	Depression	,935	15	,324

Table 2. Independent T-Test of Statistical Test Results

Results		Levene's Test for Equality of Variances		t-test for Equality of Means		
		<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>df</i>	<i>Sig. (2-tailed)</i>
Anxiety	Equal	,004	,948	3,453	28	,002
	variances assumed					
Depression	Equal	1,312	,262	2,935	28	,007
	variances assumed					

value for the control group on the anxiety component was 0.475 and the depression component was 0.214. While in the treatment group, anxiety is 0.518 and the depression variable is 0.324. Then the data can be continued to be analyzed using the independent statistical test t-test.

Based on Table 2 in the “Equal Variances Assumed” section, it is known that the value of Sig. (2-tailed) of $0.000 < 0.05$ is used as the basis for decision making in the independent t-test, it can be concluded that there is a significant (significant) difference in mental health conditions between the control group (pregnant women who did not attend prenatal yoga classes) and the experimental group (pregnant women taking prenatal yoga classes).

B. *Qualitative Analyses*

Respondents in qualitative research were taken based on quantitative data analysis where the number of pregnant women who had a HADS score of more than 7 were five pregnant women and had reached the level of “redulancy” (the data was saturated, the sample did not provide new information).

1) *Autonomic: Symptom/physical disorder*

Various physical disorders can be felt by pregnant women during pregnancy. Physical disorders commonly experienced by pregnant women are often associated with physical activities carried out daily. Physical disorders are considered to have an unfavorable impact on the fetus and can lead to various complications, such as premature birth. This is proven by the statement of Mrs. Ni that he in each trimester experienced different complaints. Mrs. Ni has often experienced back pain since the beginning of her pregnancy, but since attending a prenatal yoga class her complaints have decreased significantly. This can be seen clearly from the implied message of Mrs.

The same thing happened to Mrs. He that during the prenatal yoga class, her complaints of back pain decreased so that Mrs. He can work comfortably even when she is pregnant.

2) *Behavior: Difficulties in activities*

Behavior is one of the things that can be affected because of the difficulty of activities during the mother during pregnancy. Pregnant women usually reduce their various activities and busyness little by little in order to maintain the health of the mother and fetus. This was confirmed by Mrs. Si's statement, "Yes, ma'am, yes, that's what I often feel now. The bigger my stomach, the more easily I get tired. Moreover, there is also a lot of work at home, Ms. So at home, I just want to lie down, lazy to do homework. If you're tired, you're not in the mood." Same with El, according to her, this pregnancy has made her very limited in her activities, easy to sweat and tired when doing household chores.

3) *Cognitive: Current Thoughts*

The thoughts possessed by pregnant women will be a factor in the emergence of emotions which are also related to the abnormal physical condition of pregnant women. According to Mrs. Ay her current thoughts make it difficult to concentrate because she is worried about the condition of the fetus. This is confirmed by Mrs. Ay's statement.

4) *Problem Coping Mechanism*

a) *Mother's response related to mental health*

Good mental health, such as feeling calm and happy, is very necessary during pregnancy, because it greatly affects the health of a pregnant woman and the baby in her womb. The emergence of mental health disorders during pregnancy can trigger behaviors that are risky for pregnancy such as inappropriate nutritional intake, feeling uncomfortable and disturbed when carrying out activities, avoiding prenatal care, or triggering harmful behaviors for the mother and her womb. Mrs. Si and Mrs. El has the same opinion when he has not regularly attended prenatal yoga classes, he feels that his life is not passionate and does not pay attention to things related to pregnancy.

b) *Husband and family's response when knowing mental health conditions in pregnant women*

The husband is the closest person to the mother and is the most important part in going through the transition period during the pregnancy process. Its role is indispensable as a form of support and a source of maternal strength. As felt by Mrs. Si and Ne that her husband always understands her condition and does not demand her.

c) *How to overcome mental health disorders*

There are many ways you can do to maintain mental health during pregnancy. Pregnant women are encouraged to provide time to rest or do things they like in order to maintain emotional stability. The benefit of maintaining mental health is that it does

not turn into more serious mental disorders, such as depression during pregnancy and anxiety disorders. This is confirmed by the statement of Mrs. he:

d) *Barriers/obstacles in overcoming mental health disorders*

The magnitude of the influence of mental health on one's life decisions triggers the opposite result, that mental health issues will lead to self-harm at any time and can bring the community, especially pregnant women, to the worst outcome. Attachment and the way of family communication, especially parents and pregnant women have an influence on Mrs. Mental health. He Although communication is only by telephone, Mrs. He still feels comfortable talking to his parents even though his parents do not provide meaningful solutions to his condition. This is as explained in the statement of Mrs. S.

4 Discussion

Based on the research results that have been presented previously, we will discuss the results of mixed methods research. In mixed methods research, researchers will discuss the results of the study by combining the results of quantitative and qualitative research, namely the effectiveness of attending prenatal yoga classes on the mental health of pregnant women. The research results will be discussed in detail as follows:

a) *The Effect of Participating in Prenatal Yoga Class on Mental Health of Pregnant Women*

The results of this study indicate that from 15 pregnant women who took prenatal yoga classes at PMB Bidan Delima, East Banjarmasin, the measurement of two components, namely anxiety and depression, was found to be in the normal category, namely 10 pregnant women (66.7%), then the mild category was 4 pregnant women (26.7%) and the last category was 1 pregnant mother (6.7%). Then the 15 pregnant women who did not take prenatal yoga classes on the components of anxiety and depression starting from the most mild level, namely 8 pregnant women (53.3%), moderate category as many as 4 pregnant women (26.7%) and normal category. as many as 3 people (20%).

The results of this study are in line with the results of research conducted by Ashari et al. (2019) regarding a significance value of 0.000 ($p < 0.05$) for the intervention group, meaning that there is a difference in the average calculation of anxiety levels at the beginning and end of the study, while in the control group a significance value of 0.162 is obtained. ($p > 0.05$) so that there was no difference in anxiety in the control group [3]. Anxiety is the state of a person having a feeling of anxiety or excessive anxiety, as well as the activity of the autonomic nervous system that responds to threats that are not clear or not specific [4].

This is in accordance with the results of research conducted by [5] that there was a statistically significant difference between the group that followed prenatal yoga and the control group in reducing anxiety scores, namely (-1.91; 95% CI: -4.58, 0.76; $P = 0.16$) and depression score (-4.30; 95% CI: -7.70, -0.01; $P = 0.01$; ES -4.44). The study was conducted for 6 weeks and then followed up with the overall results showing that doing yoga during pregnancy can be an effective routine treatment in reducing psychological stress, improving overall mental health, increasing the frequency

of positive experiences and reducing negative experiences compared to usual care. Other [5].

Physical discomfort and fetal movement often interfere with the mother's rest so that the mother has difficulty sleeping well at night and results in a lack of sleep quality for pregnant women [6]. Sleep pattern disorders are disturbances in the quantity and quality of sleep that cause discomfort [7]. Many pregnant women experience waking at night, insomnia, difficulty maintaining sleep and restlessness at the end of pregnancy [8]. And another subject also stated that it could help him overcome the sleep disturbances he was experiencing.

Mood swings in pregnant women also result in physical and psychological discomfort. This is corroborated by the implied statement of the interview subject, "That's right, ma'am, I don't know if this is due to my pregnancy so I'm spoiled or my body is weak. But I feel the air is good for lazy and it feels like my stomach is already big, ma'am. Mood is also unstable, eating is not good, there is no appetite".

From this statement, based on research [9] researchers analyzed 44 and 35 women in session 1 and session 2. Scores on negative dimensions of mood (Trait-Anxiety, Depression, Anger-Hostility, Fatigue, and Confusion) decreased significantly. The vigor score for the positive dimension of mood increased significantly. Thus, there was a clinically significant change in the effect on the psychological stress response due to physical activity during prenatal yoga classes.

b) *Problem Coping Mechanism*

Coping mechanisms are all efforts based on thought and behavior to control, reduce, and tolerate existing needs/demands. Existing demands can come from outside (family, friends, work, etc.) or from within (struggling with one's own emotions or setting standards that are too high). Coping mechanism is defined as any effort, healthy or unhealthy, conscious or unconscious, to prevent, eliminate, or reduce the causes of stress [10] Coping mechanisms are divided into 2, namely coping mechanisms centered on emotions and problem-centered coping mechanisms.

Emotion-centered coping mechanisms are characterized by being able to make individuals more able to control their emotions and have awareness and understanding of their emotions, thus showing better outcomes [11]. Emotion-centered coping mechanisms are attempts to relieve or manage emotional stress that arises when individuals interact with the environment.

Support from the family will be of great benefit to pregnant women, especially support that provides a sense of comfort so that they can overcome any doubts that arise. Family support is a process of the relationship between the family and the social environment, family support is assistance that can be provided in the form of goods, services, information, and advice, so that the recipient of the support will feel loved, appreciated and at ease. (Kharisma, 2013).

b) *The Effectiveness of Taking Prenatal Yoga Classes on the Mental Health of Pregnant Women*

Mental health is the ability of individuals or groups to be able to interact with each other and their environment in promoting well-being, optimal development and use of mental

abilities (cognitive, affective, and relational), and to achieve goals in accordance with justice [8]. Mental health can be seen from the level of anxiety and depression experienced by pregnant women for the changes experienced during pregnancy. In addition, social problems, social support and maternal mental readiness also affect the mental health of pregnant women. One of the activity efforts to prevent mental health disorders is through prenatal yoga classes.

Yoga comes from the Sanskrit words Yuj and Yoking which means harmonious union of the separated. The meaning of unification in question is the process of uniting the body, mind, feelings and spiritual aspects in humans. Thus, as long as one does yoga one's body and mind will be consciously controlled by three things, namely emotions, reason, and action.

Based on Table 2 in the "Equal Variances Assumed" section, it is known that the value of Sig. (2-tailed) of $0.000 < 0.05$, so as the basis for decision making in the independent t-test, it can be concluded that there is a significant (significant) difference in mental health conditions between the control group (pregnant women who did not attend prenatal yoga classes) and experimental group (pregnant women who took prenatal yoga classes).

Theoretically, mental health disorders (anxiety, depression, etc.) will decrease if individuals experience relaxation in their bodies [12]. Prenatal yoga is a physical treatment that turns out to also have a psychological effect because it has a relaxing effect on a person's body and affects several psychological aspects of the person who does it, so it is said to help reduce mental health disorders [13] The elements in prenatal yoga that are said to help reduce anxiety are the relaxation and meditation sections.

In participants, pregnancy and childbirth are life events that are beyond their control and require accommodation, especially when this is their first pregnancy. Mothers do not have experience, thoughts are filled with images of the birth process that has various possibilities, hormonal changes that affect physical and emotional conditions, and desperately need support from the environment.

Prenatal yoga can provide a relaxing effect, provide knowledge, practice skills, and can also act as a support system for participants [14]. Prenatal yoga has a larger portion of physical exercise compared to the portion of relaxation. The postures performed in this exercise basically aim to stretch the muscles that are experiencing tension and train the flexibility/flexibility of the main muscles of labor, such as the pelvis, hips, waist, and thigh area. Stretching and relaxing muscles basically works in opposition to the working concept of the sympathetic nervous system. So that by stretching and relaxing the muscles, it is the same as making an effort to activate the parasympathetic nervous system which will ultimately have a relaxing effect and prepare the individual to be in a calm state, lowering heart rate, lowering blood pressure, and improving breathing..

This physical exercise was found to help participants reduce their physical complaints, such as low back pain, back pain, leg cramps, and improve sleep quality. With reduced complaints, participants feel comfortable in their bodies. A comfortable body condition turned out to give the effect of feeling calmer and able to think more positively than before. This was especially felt by participants after attending a prenatal yoga class.

In the prenatal yoga class, the yoga facilitator provides an explanation of the benefits of the postures performed, pregnant women are also trained to control the body and train the labor muscles to be more flexible and strong when pushing. In addition, the break

session is often filled with a relaxed question and answer session which is opened by the yoga facilitator. The information obtained in class actually makes pregnant women feel happy and adds to the optimism that they have a chance to give birth normally if they train their bodies properly.

Acknowledgment. Thank you to the Ministry of Education, Culture, Research and Technology for providing grants in the form of funding, AND to LPPM Sari Mulia University for supporting this research.

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