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The Effectiveness of Prenatal Gentle Yoga on the Recovery of Depression Level in Primigravid and Multigravid Pregnant Women

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Abstract---This study was conducted at Bara Baraya Health Center, Antang Health Center, Kapasa Health Center, and Mamajang Health Center. The applied research design was a quasi-experiment with a non-equivalent control group design approach. Samples were selected using a purposive sample technique. The instrument used was the Beck Depression Inventory (BDI) questionnaire. The number of samples in this study was 24 respondents divided into 2, namely 12 in the intervention group and 12 in the control group. The sample criteria were pregnant women aged <21 and >34 years old, having been in trimester II-III with the gestational age of ≥ 20 to <31 weeks, and not having complications in pregnancy. The values of mean ranks for the intervention group were 6.50 in the pre-test to the mid-test and 6.50 in the mid-test to the post-test. Meanwhile, the values of mean ranks for the control group were 5.61 in the pre-test to the mid-test and 4.50 in the mid-test to the post-test. This indicated that the intervention group experienced a significantly reduced level of depression based on the BDI-II (Beck Depression Inventory-II) scores when compared to the control group. Furthermore, based on the comparison of the post-test data between the intervention group and the control group, it was obtained the p-value of 0.002 ($< \alpha$ 0.05). There were differences in BDI-II (Beck Depression Inventory-II) scores between the intervention group and the control group after being given a prenatal gentle yoga treatment.

Keywords---*depression, pregnancy, prenatal gentle yoga.*

Introduction

Naturally, pregnancy is a normal process. The changes that occur during pregnancy are a physiological condition. It is not a pathological condition. Pregnancy causes fairly basic changes throughout the body. Therefore, these changes will affect the process of growth and development of the fetus in the womb. They include physical and psychological changes (Mochtar, 2012). Physical changes and physiological adaptations in pregnant women include changes in the

reproductive, breast, metabolic, musculoskeletal, cardiovascular, integument, gastrointestinal, hematology, urinary, endocrine, nervous, and respiratory systems. Maintaining psychological conditions for pregnant women is very necessary because it will have an impact on the growth and development of the fetus. The first pregnancy is called primigravida. It is one of the crisis periods. At this moment, a pregnant woman gets new experiences, situations, and conditions that have never been experienced previously in which everything new needs adjustments that are not easy (Novitasari, 2013). If being compared to multigravid women, a study indicated that women who have passed through repeated childbirth experience lower anxiety, i.e. 42.2%. Meanwhile, in primigravid pregnant women, the percentage is 66.25% (Walangadi, 2014). During pregnancy, women are very vulnerable to experience psychological disorders. One of the psychological disorders is depression. Depression in pregnant women occurs due to the failure of coping mechanisms of pregnant women during the anxiety period. Pregnancy depression has a negative effect on fetal growth. Furthermore, it is one of the causes of preterm birth and low birth weight (Field *et al.*, 2004; Bershinsky *et al.*, 2014; Buttner *et al.*, 2015).

To determine the level of psychological problems in pregnant women, it can be found out by using a BDI measurement scale (Carvalho Bos *et al.*, 2009). The Beck Depression Inventory-Second Edition (BDI-II) is a rating scale consisting of 21 multiple response items to assess the severity of depressive symptoms including cognitive (psychological) and somatic (physical) symptoms. Patients are asked to consider each question item related to their feelings during the past two weeks. The BDI has shown good psychometrics in the population of pregnant women. Based on a study of the American College of Obstetricians and Gynecologists Committee Opinion No. 453, it is an appropriate screening tool in the population of pregnant women patients (Ragland & Payakachat, 2012).

Evidence-based practice for handling pregnancy must be based on research. It is the systematic, scientific, and explicit use of the best current research. One of them is complementary care. With complementary care, the use of antidepressant medication for pregnant women can be reduced because it will have an impact on the safety of the fetus in the womb (Aprilia, 2017). Pregnancy is a precious moment that is worth enjoying. When a woman is aware of her pregnancy, she will slow down her footsteps, take time to rest, and pay close attention to health (Sindhu, 2012). Prenatal gentle yoga is one way to teach pregnant women to be strong in preparing their physical and mental condition. The movements that are set in prenatal gentle yoga are movements that have been arranged as best as possible by each facilitator by adjusting to the needs or complaints of pregnant women. The duration of the exercise given is 60 minutes which is divided into 3 stages, namely as follows. (1) Centering. Every pregnant woman who takes a yoga class is guided to concentrate with gentle and slow breathing. (2) Asana. It comes from a Sanskrit language meaning movement or posture. In this stage, pregnant women are taught to do special movements that can balance the ligaments and pelvic muscles, stabilize the body, and flex the abdominal muscles. (3) Relaxation. In this third stage, pregnant women will be led to meditation, harmonizing the breath, and giving positive affirmations so that they can calm their minds and feelings (Muzik *et al.*, 2012; Kusaka *et al.*, 2016; Aprilia, 2017).

Materials and Methods

The applied research design in this study was a quasi-experiment with a non-equivalent control group design approach. The design involved two groups, i.e. the intervention group and the control groups. Each group was tested 3 times, i.e. pre-test, mid-test, and post-test. The instrument used was the Beck Depression Inventory (BDI) questionnaire. The number of samples was 24 respondents divided into 2, namely 12 in the intervention group and 12 in the control group. The sample criteria were pregnant women aged <20 and >35 years old, having been in trimester II-III with the gestational age of ≥ 20 to <31 weeks, and not having complications in pregnancy.

This study was conducted from January to June 2020 and had received an ethical approval recommendation with protocol number UH20020334. The study was conducted in four health centers in Makassar, i.e. Bara Baraya Health Center, Antang Health Center, Kapasa Health Center, and Mamajang Health Center. The collected data was demographic data (age, educational level, and occupation) and respondents' depression level data using questionnaire sheets in the form of the Beck Depression Inventory-II (BDI-II).

The researcher gave questionnaire sheets in the form of the Beck Depression Inventory Scale-II (BDI-II). After that, the obtained data were then documented on the observation sheet. The applied analysis method and statistical tests depend on the analyzed variable. In this study, the applied analysis method was comparative hypothesis testing for numerical variables with abnormal data distribution using the Wilcoxon test.

Table 1
Characteristics of Respondents

Variables	Intervention n (%)	Control n (%)	<i>p</i> -Value
Gravida			
Primigravid	7 (58.33%)	6 (50%)	0.682
Multigravid	5 (41.67%)	6 (50%)	
Educational Levels			
High education	8 (66.67%)	3 (25.0%)	0.653
Low education	4 (33.33%)	9 (75.0%)	
Occupation			
Working	7 (58.33%)	7 (58.33%)	1.000
Not Working	5 (41.67%)	5 (41.67%)	
Gestational age			
20 – 23 weeks	4 (33.3%)	5 (41.67%)	0.151
24 - 27 weeks	3 (25.0%)	6 (50%)	
28 - 30 weeks	5 (41.7%)	1 (8.33%)	
Religion			
Islam	11 (91.67%)	9 (75.0%)	0,273
Christianity	1 (8.33%)	3 (25.0%)	
Body Mass Index (BMI)			
Normal	9 (75.0%)	9 (75.0%)	1.000
Overweight	3 (25.0%)	3 (25.0%)	

*Chi-squared test

Table 2
Characteristics of Respondents based on Depression Level in the Control and Intervention Groups

Levels of Depression	Groups		<i>p</i> -value
	Intervention n=12(%)	Control n=12(%)	
Mild Mood Disorders	1 (8.33%)	1 (8.33%)	1.000
Clinical Depression	11 (91.66%)	11 (91.66%)	
Total	12 (100%)	12 (100%)	

*Chi-squared test

Table 3
Characteristics of Respondents based on Gravida and Depression Level

Gravida	Levels of Depression		<i>p</i> -value
	Mild Mood Disorders	Clinical Depression	
Primigravid	2 (8.3%)	11 (37.5%)	0.642
Multigravid	1 (4.2%)	10 (54.2%)	
Total	3 (12.5%)	21 (87.5)	

*Chi-squared test

The Effectiveness of Prenatal Gentle Yoga on the Recovery of Depression Level in Primigravid and Multigravid Pregnant Women

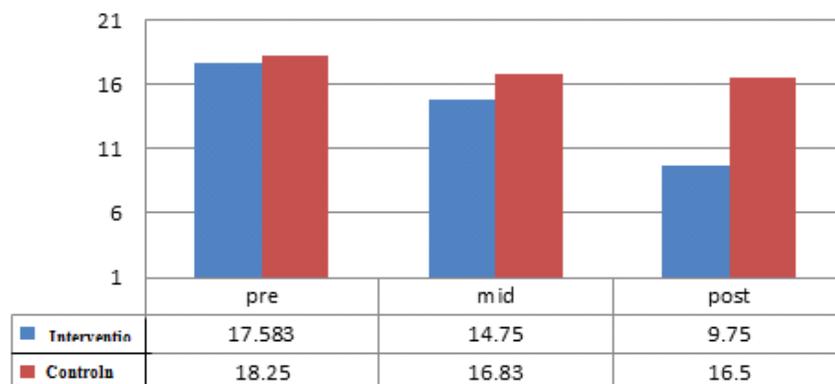


Figure 1. The Comparison of BDI-II Scores of Pre-test, Mid-test, and Post-test between the Intervention and Control Groups

Table 4
The Comparison of BDI-II Scores of Pre-test and Post-test between the Intervention and Control Groups with the Prenatal Gentle Yoga

BDI-II	Pre-test	Post-test	<i>p</i> -value
Intervention	17.58 (16-19)	9.75 (9-12)	0.002*
Control	18.25 (16-20)	16.50 (14-19)	0.024*
<i>p</i> -value	0.198 [^]	0.000 [^]	

*Wilcoxon signed-rank test, [^]Mann-Whitney *U* test

Results and Discussions

Graph 3.1 showed that, in the intervention group based on the output test statistics, the value of Asymp. Sig. (2-tailed) was 0.002. Because the value of 0.002 is <0.05 , it can be concluded that there was a difference between the level of depression in the pre-test, mid-test, and post-test. In other words, there was a decrease in the level of depression in pregnant women before and after given the treatment. In the control group, there was also a significant difference between the BDI-II scores in the pre-test to mid-test ($p = 0.00$) and that in the mid-test to post-test ($p = 0.001$). Therefore, it can be concluded that there was a significant difference in BDI-II scores for each group.

Antidepressants can reduce symptoms of prenatal depression. However, it has a negative impact on the body. Antidepressant therapy can increase the risk of postpartum bleeding and adversely affect the fetus. Therefore, yoga is currently being developed for pregnancy. It aims to restore the physiological functions of the body by regulating the balance between the body and mind (Taso *et al.*, 2014).

The decreased BDI-II (Beck Depression Inventory-II) scores are influenced by the prenatal gentle yoga treatment. The yoga movement covers a combination of physical postures and spiritual practices which aims to make the body relax so that the body and mind become calm and comfortable.

Based on the results of the Wilcoxon test on the intervention group, the obtained *p*-value was 0.002 ($<\alpha 0.05$). Therefore, it can be concluded that there was a difference in BDI-II scores in the intervention group before and after being given the prenatal gentle yoga treatment 8 times in which the duration was 60 minutes/meeting. This is in line with a study conducted by Nauphal (2019) that providing yoga was proved to be effective as a complementary health care strategy for handling depression cases. In another study conducted by Hamdiah (2017), it indicated that prenatal gentle yoga has an effect on the recovery of anxiety levels, blood pressure, and fetal heart rate in primigravid pregnant women after being given yoga treatment 8 times. Furthermore, a study conducted by Battle *et al.* (2014) showed that practicing yoga, exercising mind and body balances, and understanding the keys to in-and-out breathing can be used as an initial step for the right treatment to reduce the level of depression during the pregnancy.

Depression is a mood disorder in the form of intense sadness which lasts for long and disturbs normal life (Radityo, 2012). Depression is a situation in which an individual is unable to relieve the pressure that occurs within them which refers to emotional disturbance. Depression became the 4th most prevalent disease case in 2000. However, in the latest study in 2020, the depression case occupies rank 2 as the most prevalent disease case which occurs in men and women aged 15 – 44 years. Individuals affected by depression generally show typical psychological, physical, and social symptoms, such as moodiness, prolonged sadness, sensitivity, irritability, loss of working spirit, loss of self-confidence, loss of concentration, and decreased endurance (Lumongga, 2016).

Prenatal gentle yoga is one way to teach pregnant women to be strong in preparing their physical and mental condition (Mizani *et al.*, 2020). The movements that are set in prenatal gentle yoga are movements that have been arranged as best as possible by each facilitator by adjusting to the needs or complaints of pregnant women. The duration of the exercise given is 60 minutes which is divided into 3 stages, namely as follows. (1) Centering. Every pregnant woman who takes a yoga class is guided to concentrate by regulating the breath softly and slowly and positioning the body in a balanced way. (2) Asana. It comes from a Sanskrit language meaning movement or posture. In this stage, pregnant women are taught to do special movements that can balance the ligaments and pelvic muscles, stabilize the body, and flex the abdominal muscles. (3) Relaxation. In this third stage, pregnant women will be led to meditation, harmonizing the breath, and giving positive affirmations so that they can calm their minds and feelings (Aprilia, 2017).

The provision of prenatal gentle yoga must be accompanied by a certified instructor having a legal license and having high sensitivity in understanding the needs of the body or complaints of pregnant women so that it can reduce the risk of injury when they attend prenatal gentle yoga classes.

Conclusion

The provision of prenatal gentle yoga classes is effective for reducing depression levels in primigravid and multigravid pregnant women. This was indicated by the results of BDI-II (Beck Depression Inventory-II) scores before being given the treatment (pre-test), 4 weeks after being given the treatment (mid-test), and 8 weeks after being given the treatment (post-test). The result showed that pregnant women experienced decreased levels of depression.

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