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The Effect of Yoga Practice on Anxiety Levels and Sleep Quality Women of Childbearing Age When Facing Premenstrual Syndrome

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ABSTRACT

In general, efforts to treat premenstrual syndrome only focus on decreasing the intensity of the menstrual pain scale (dysmenorrhea) through the administration of drugs such as painkillers. However, the use of these drugs does not include the treatment of psychological symptoms experienced by women in the premenstrual syndrome phase. Alternative treatment efforts as non-pharmacological preventive measures are needed to improve the health status of women when they are in the menstrual phase, one of which is by doing yoga exercises. The purpose of this study was to determine the level of anxiety and sleep quality of women of childbearing age during premenstrual syndrome with yoga practice. This study uses a quantitative research method with a pre-experimental approach with one group pre-test and post-test without control design. Sampling technique using Accidental Sampling. The number of research samples was 38 women of childbearing age. Data were collected using an anxiety level questionnaire using a standardized questionnaire (HRS-A) and a sleep quality questionnaire using a standard PSQI questionnaire. Bivariate analysis using Wilcoxon test. The results of the Wilcoxon test statistic obtained a significance value of 0.000, meaning the significance value <α (0.05), meaning that there was a significant change between anxiety before and after the intervention was given. The results of the statistical test of sleep quality obtained a significance value of 0.000, meaning the significance value < (0.05) which means that there is a significant change between sleep quality before and after being given yoga practice interventions in women of childbearing age when facing premenstrual syndrome. The conclusion of this study is that regular yoga practice can reduce anxiety and improve sleep quality for women of childbearing age. Yoga practice can be used as an appropriate non-pharmacological treatment in the treatment of premenstrual syndrome.

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1. INTRODUCTION

Premenstrual syndrome is a collection of several symptoms which are physical and mental disorders that generally occur for a few weeks to a few days before menstruation, and will disappear after menstruation, although it lasts until the end of menstruation [1]. Data states that 80-95% of women of reproductive age experience symptoms of premenstrual syndrome in their menstrual cycle [2]. The World Health Organization (WHO) states that in ASIA countries have a higher prevalence of premenstrual syndrome than western countries, the incidence of premenstrual syndrome symptoms in

several countries includes Sri Lanka by 65.7%, Iran by 98.2%, Brazil by 39. % and Hong Kong 17%. From these data, the prevalence of Premenstrual syndrome (PMS) in the world reaches 47.8% (WHO, 2015). In Indonesia, 95% of 260 productive women have premenstrual syndrome complaints with moderate symptoms up to 3.9% [3]. Based on these data, it can be concluded that the prevalence of premenstrual syndrome in Indonesia is still quite high.

Women who experience symptoms of premenstrual syndrome can experience disturbances in several aspects of their lives such as physical activity, stress, and sleep patterns [4]. The incidence of premenstrual syndrome has varied categories for each individual including severe, moderate, and mild categories. As many as 50% of adolescent girls experience severe premenstrual syndrome at the beginning of menstruation [5]. This has an impact on decreasing learning concentration, decreasing class attendance and disrupted activities [6].

Until now, efforts to treat premenstrual syndrome have only focused on the intensity of decreasing the menstrual pain scale (dysmenorrhea) through the administration of drugs such as painkillers [7]. However, the use of these drugs does not include the treatment of psychological symptoms experienced by women in the premenstrual syndrome phase. Alternative treatment efforts as preventive and non-pharmacological measures are needed to improve the health status of women when they are in the menstrual phase, one of which is by doing yoga exercises. Yoga is a form of activity that involves physical activity, breathing exercises, relaxation techniques and meditation to improve body health holistically [8].

The results of the study concluded that the relationship between physical activity and premenstrual events was very significant [9]. Sleep pattern factors also affect the incidence of premenstrual syndrome where regular sleep habits can relieve the symptoms of premenstrual syndrome. Good conditions and bad sleep patterns are influenced by hormone secretion in the individual's body [3]. From this description, it can be concluded that the management of premenstrual syndrome is still relatively low and requires non-pharmacological and holistic treatment efforts. The purpose of this study was to determine the level of anxiety and sleep quality of women of childbearing age during premenstrual syndrome with yoga practice.

2. METHOD

This study uses a quantitative research method with a pre-experimental approach with one group pre-test and post-test without control design. The research was carried out in April 2022 at the Fit Corner Gymnastics Studio, Purwokerto District. The sampling technique used Accidental Sampling. The number of research samples was 38 women of childbearing age. The yoga practice intervention in this study was carried out 2x a week for 1 month. Each exercise duration is 45 minutes. Data were collected using an anxiety level questionnaire using a standard questionnaire (HRS-A) and a sleep quality questionnaire using a standard PSQI questionaire. Bivariate analysis using Wilcoxon test.

3. RESULTS AND DISCUSSION

The results of this research analysis can be seen in table 1 below:

Table 1. Frequency Distribution of Respondents' Characteristics of Women of Childbearing Age

Variable	Frekuensi (n = 38)	Prosentase (%)
WUS age		
15-25 th	10	26,3
25-35 th	18	47,4
> 35 th	10	26,3
Total	38	100,0
Education		
SMA	21	55,3

PT	17	44,7
Total	38	100,0
Work		
Working	19	50,0
Doesn't work	19	50,0
Total	38	100,0
Marital status		
Marry	18	47,4
Not married yet	16	42,1
Widow	4	10,5
Total	38	100,0
Age at Menarche		
< 10 th	17	44,7
10-15 th	21	55,3
Total	38	100,0
Menstruation Length		
7-14 day	27	71,1
> 14 day	11	28,9
Total	38	100,0

Source: Primary Data 2022

The age characteristics of WUS respondents are mostly aged 25-35 years as many as 18 respondents (47.4%). Most of the respondents' education is high school graduates as many as 21 respondents (55.3%). The job category of respondents in the working and non-working categories has the same number of respondents, namely 19 respondents. The marital status of the respondents was mostly married as many as 18 respondents (47.4%). Most of the respondents aged 10-15 years at the time of menerche were 21 respondents (55.3%). The length of menstruation is mostly in the range of 7-14 days as many as 27 respondents (71.1%).

Table 2. Distribution of anxiety characteristics before and after the intervention.

Variable	Group	n	Median	Mean ± SD	Min-Max	CI 95%
Anxiety	Before	38	22,5	22,71± 2,79	13-28	21,7- 23,63
	After	38	14,5	14,53 ± 5,839	3-24	12,61- 16,45

Based on Table 2 shows the anxiety score before treatment has a mean of 22.71 (SD = 2.79) with the lowest value is 13 and the highest is 28. The interval estimation results are believed that 95% of anxiety scores before treatment are in the range of 21.7 to 23, 63. While the average in the anxiety group after treatment was 14.53 (SD = 5.839) with the lowest value being 3 and the highest 24 and the interval estimation results believed that 95% of the anxiety scores after treatment were in the range 12.61 to 16.45.

Table 3. Distribution of sleep quality characteristics before and after the intervention

Variable	Group	n	Median	Mean ± SD	Min-Max	CI 95%
Sleep Quality	Before	38	8	8,61± 3,389	4-17	7,49- 9,72
	After	38	5	5,00 ± 1,771	2-11	4,42- 5,58

Table 3 shows that the sleep quality group before treatment had a mean of 8.61 (SD = 33.389) with the lowest value being 4 and the highest being 17. The interval estimation results are believed that 95% of the sleep quality scores before treatment are in the range 7.49 to 9. 72. While the mean in the sleep quality group after treatment was 5 (SD=1.771) with the lowest value being 2 and the highest 11 and the interval estimation results believed that 95% of sleep quality scores after treatment were in the range 4.42 to 5.58.

Table 4. Differences in Anxiety before and after the intervention

Variable	n	median	Min- Max	*P value*
Anxiety before	38	22,5	13-28	0,000*
Anxiety after		14,5	3-24	

* Meaning at < 0.05.

Table 4 shows that the results of the Wilcoxon test statistic obtained a significance value of 0.000, meaning the significance value < (0.05). The results of statistical tests showed that there was a significant change between anxiety before and after being given a yoga practice intervention in women of childbearing age when facing premenstrual syndrome.

Table 5 Differences in sleep quality before and after the intervention

Variable	n	median	Min- Max	*P value*
Sleep Quality before	38	8	4-17	0,000*
Sleep Quality after		5	2-11	

* Meaning at < 0.05

Based on table 5 shows that the results of the Wilcoxon test statistical test obtained a significance value of 0.000, meaning the significance value < (0.05). The results of statistical tests showed that there was a significant change between sleep quality before and after being given yoga practice interventions in women of childbearing age when facing premenstrual syndrome.

DISCUSSION

1. The Effect of Yoga Practice on Anxiety Levels in Women of Childbearing Age

The results of the study illustrate that there is a significant difference between the average anxiety scores before and after yoga practice, a significance value of 0.000, means a significance value < (0.05). The results of statistical tests showed that there was a significant change between anxiety before and after being given a yoga practice intervention in women of childbearing age when facing premenstrual syndrome. This is in line with research which concluded that there was an effect of decreasing anxiety in adolescent girls during menstruation before and after yoga exercise in the yoga group compared to the regular exercise group, indicated by the results of the yoga group anxiety score of 13.5 points and the statistical test results showed that there was a significant effect before and after yoga exercise with a value (p <0.05) [10].

Yoga practice is a method of balancing the body sistem saraf otonom which has an influence on physical and psychological disorders associated with anxiety. According to the theory that by doing yoga practice it will stimulate an increase in GABA or Gamma Amino Butyric Acis where GABA plays an important role in reducing individual psychological disorders. The main function of GABA is to reduce aggression and reduce anxiety. In this case the role of yoga practice is very important to reduce anxiety. Regular yoga practice can increase GABA activity by as much as 13%. In line with research that suggests practicing yoga 4 times a week can significantly reduce anxiety.

Yoga can also increase oxytocin levels in the blood, in this case oxytocin has an effect in reducing cortisol levels so as to minimize psychological conditions experiencing stress or anxiety. Anxiety when

facing premenstrual syndrome will make a person's physical condition weak and affect menstrual bleeding abnormally, so that in conditions like this a person needs to regulate their activity patterns.

Yoga practice creates a state of conscious relaxation by systematically guiding to a deeper state of relaxation [11]. One of the causes of anxiety during premenstrual syndrome is related to hormonal factors in women due to an imbalance in the hormones estrogen and progesterone. Complaints experienced during premenstrual syndrome include headache, back pain, breast pain, unusual abdominal pain, nausea and vomiting, and feeling weak. This causes anxiety every month in women who always experience premenstrual syndrome. Anxiety responses experienced such as cold sweats, anxiety, fear, sleep disturbances and other health problems.

Based on the results of research on the relationship between anxiety levels and premenstrual syndrome with the results of anxiety scores in the moderate category as much as 69.7% and mild anxiety 12.2%. This can be due to an individual tendency that the lighter the level of anxiety, the lighter the symptoms of premenstrual syndrome.

2. The Effect of Yoga Practice on Sleep Quality for Women of Childbearing Age

The results of this study indicate that the Wilcoxon test statistical test results obtained a significance value of 0.000, meaning the significance value < (0.05). The results of statistical tests showed that there was a significant change between sleep quality before and after being given a yoga practice intervention in women of childbearing age when facing premenstrual syndrome. In line with the research that there was a significant difference in the intervention group compared to the control group, it showed a p value of 0.000 where the p value <0.005 concluded that there was an effect of yoga exercise on improving sleep quality in students. Reinforced by the results of research on the relationship between yoga exercise and nighttime sleep quality in insomnia patients with the results of the statistical rank correlation test (Spearman) 0.001 meaning p <0.005 [12].

Yoga practice is a combination of physical activity, breathing exercises, stretching and meditation. In yoga itself, the most important aspect is that the breath is done by taking a deep breath for 7 counts and then exhaling slowly through the mouth for 8 counts, it relaxes the body so that the quality of sleep increases. There is an increase in the production of endorphins which can improve a person's sleep. One of the positive impacts of yoga practice is on the part of the brain in the central nervous system so as to create peace of mind that affects a person's sleep quality. The hormones that affect sleep factors include serotonin, norepinephrine, L-tryptophan and acetylcholine. One of the causes of sleep disorders in premenstrual syndrome conditions comes from the hormone serotonin. These hormones affect mood, diet, and rest patterns. The decrease in serotonin levels during the luteal phase is due to a decrease in estrogen levels, resulting in a decrease in sleep quality with symptoms of sleep disorders [13].

Based on research, it is proven that respondents who experience premenstrual syndrome in the moderate (57.5%) and severe (33.8%) categories, the majority of their sleep quality is categorized as poor, namely 27.5% and 21.3%, so that there is a significant relationship between premenstrual syndrome. with sleep quality as evidenced by the results of Kendall's Tau correlation analysis p=0.014 [14]. Agree with the study which concluded that respondents with moderate and severe premenstrual syndrome had poor sleep quality categories (89.6%). It was explained by that one of the risk factors in disturbed sleep patterns is premenstrual syndrome [15].

Sleep quality is associated with a person's sleep pattern. This condition affects the secretion of various hormones in the body. Women who have poor sleep quality are likely to experience premenstrual syndrome [16]. Someone who has poor sleep quality will affect physical and mental conditions due to the inability to rest the brain. Physiologically, the sleep nerve center is located in the brain, which will regulate the individual's physiology which plays an important role in health. If women experience sleep disturbances during menstruation, it will increase the severity of the condition of premenstrual syndrome. Asanas or yoga movements maximize oxygen intake so that they are able to maintain body fitness and affect the negative energy disposal system from the body so as to provide a relaxing effect that affects improving sleep quality [8].

4. CONCLUSION

Based on the results and discussion of this study, it can be concluded that there is an effect of yoga practice on anxiety levels and sleep quality of women of childbearing age when facing premenstrual syndrome. Yoga practice is a method of body fitness to relax the body condition which is very effectively applied as a non-pharmacological action.

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