

## The Effect of Teenage Girls Class Model to Reduce Anxiety Symptoms of Premenstrual Syndrome



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**ABSTRACT:** Premenstrual Syndrome (PMS) occurs about 75% in women of reproductive age. The impact of anxiety symptoms experienced during PMS is that it can interfere with daily activities both academic, work, family and social problems. The PMS symptom reduction strategy carried out in this study was the Young Women Class with the guidance of a Young Women Class Implementation Module which was created by the researcher containing Stress Management Materials, Personal Hygiene Guidelines and Yoga Exercises for teenagers. The purpose of this study was to analyze the effect of female adolescent class on reducing anxiety symptoms of premenstrual syndrome in female adolescents in 2021. The research method used a quasiexperimental design with a pretest-pottest with control design. This Young Women class starts after menstruation is over. Therapy is given once a month and observed 4 weeks later. Reassessment (post test) of premenstrual syndrome anxiety by using the Hamilton Anxiety Rating Scale (HAM-A) on the respondents of both groups. The results showed that most of the control group had a menstrual period of less than 7 days (70%), and had no history of PMS (56.7%). Likewise with the intervention group, most of the menstruation was less than 7 days (60%), and had no history of PMS (83.3%). There was a significant difference in the level of PMS anxiety reduction between the intervention and control groups, where the difference in the mean before and after the intervention in the form of regular counseling in the control group was only 0.97, while in the intervention group that carried out the Young Women's Class program it was 5.94. Based on the results of data analysis with the Mann Whitney test, a significance value of 0.000 was obtained. Based on this value, because the p value < 0.005, it can be concluded that the Young Women Class has an effect on reducing PMS anxiety. The results of the multivariate analysis showed that the adolescents who did not attend the class had a higher anxiety level of 5.88 than those who attended the female youth class and those who had menstruated for more than 7 days experienced a higher anxiety level of 0.76 than those who had menstruation for less than 7 days. 7 days. It is recommended that midwife education and services can develop midwifery care on adolescent reproductive health in achieving optimal health status for adolescents, so that it becomes an investment to prepare for the process of pregnancy and give birth to a quality generation.

**KEYWORDS:** Young Women Class, PMS, adolescent reproductive health

### I. INTRODUCTION

Women who will menstruate can experience physical and psychological changes called Premenstrual Syndrome (PMS). Premenstrual Syndrome (PMS) occurs about 75% in women of reproductive age. The impact of anxiety symptoms experienced during PMS is that it can interfere with daily activities both academic, work, family and social problems. This situation can cause teenagers to experience problems in terms of achievement in school and social relations with peers or disruption of daily activities if PMS is not handled properly. This situation is exacerbated by the COVID-19 pandemic, which can cause academic stress due to online learning and piling up assignments. To reduce PMS symptoms can be done with stress management, complementary therapies such as yoga and breathing exercises. The PMS symptom reduction strategy carried out in this study was the Young Women Class with the guidance of a Young Women Class Implementation Module which was created by the researcher containing Stress Management Materials, Personal Hygiene Guidelines and Yoga Exercises for teenagers.

Before taking action on the 2 groups, the researcher informed that the purpose of the study was to reduce the symptoms of anxiety experienced by premenstrual syndrome. In the control group, regular counseling was given, while in the intervention group, the Young Women class was made which started after menstruation was over.<sup>37</sup> Based on the literature that 2 weeks

## The Effect of Teenage Girls Class Model to Reduce Anxiety Symptoms of Premenstrual Syndrome

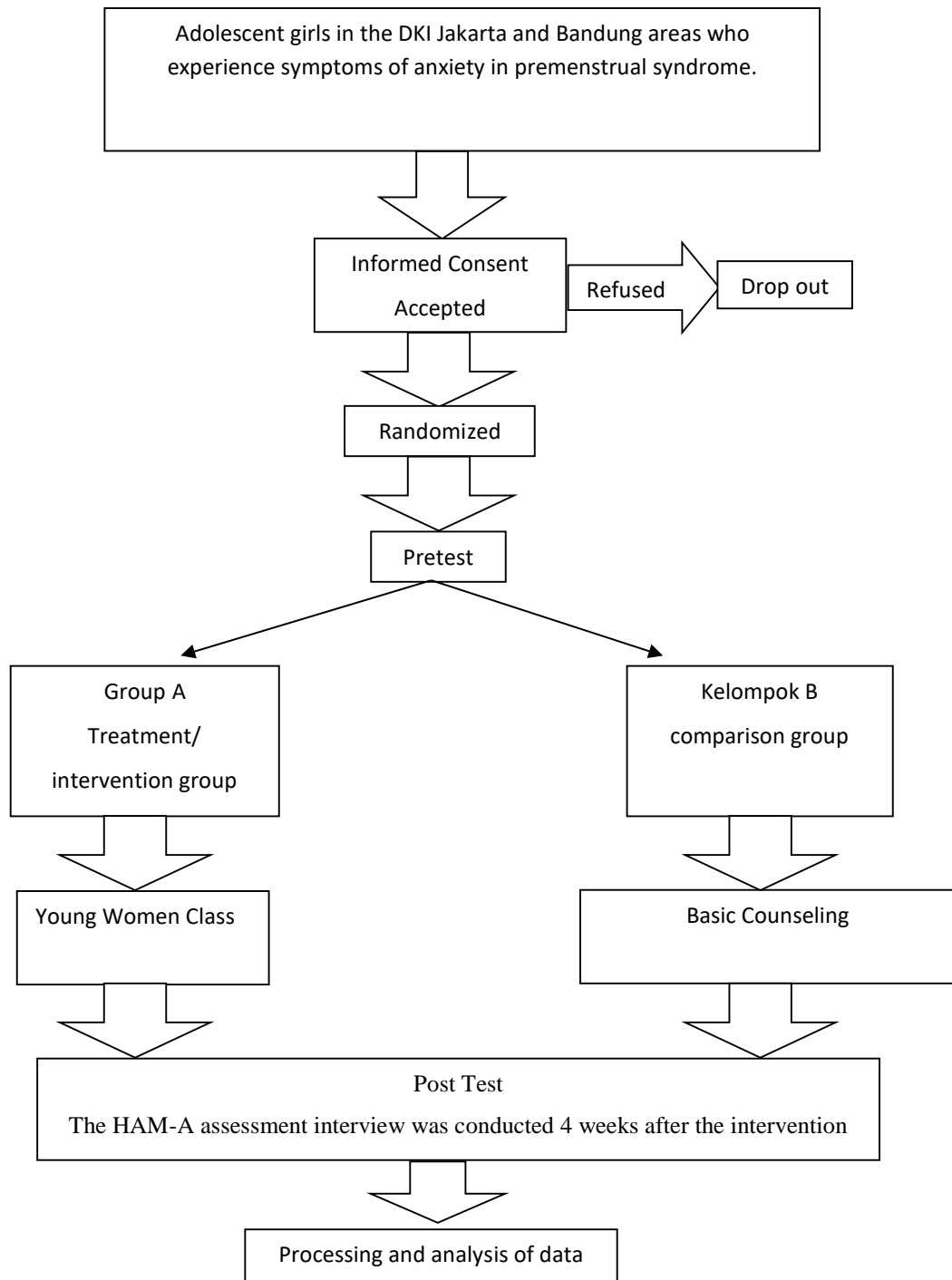
before menstruation is the luteal phase where PMS symptoms occur, so the researcher assumes that before the PMS phase occurs, young women are already equipped with strategies to reduce anxiety during PMS. Therapy is given once a month and observed 4 weeks later.<sup>18,28,32</sup> Reassessment (post test) of premenstrual syndrome anxiety using HAM-A on both respondents in both groups. The final results of this study are expected to be able to contribute to midwifery services and midwifery education in order to support fitness care for adolescents. The results of this study are also expected to be a guide for adolescent health service providers so that young women in Indonesia become adolescents who are physically and psychologically prosperous so that they are able to prepare themselves for the next reproductive phase (pregnancy, childbirth and postpartum).

### II. METHOD

This research method is Quasi Experimental with Pretest-Pottest with Control Design. This study aims to analyze the influence of female adolescent classes to reduce anxiety symptoms of premenstrual syndrome in young women in 2021. The population in this study were young women who experienced premenstrual syndrome who lived in the DKI Jakarta area. Due to the Covid-19 Pandemic conditions, the research which was originally going to be conducted face-toface (outside the network), was finally conducted online (within the network) to young women in the DKI Jakarta area from April to November 2021. The number of respondents was 60 people, consisting of of 30 control groups and 30 intervention groups.

The instrument in this study was a questionnaire used to collect data. The instrument used is the Shortened Premenstrual Assessment Form (SPAF) to identify subjects who experience PMS symptoms and not PMS.<sup>15,16</sup> After getting the subjects who had PMS, the subjects were then weighed and weighed to calculate the Body Mass Index (BMI). Respondents were given an anxiety scale assessment questionnaire using the Hamilton Anxiety Rating Scale (HAM-A) to obtain research subjects (adolescent girls) who experienced anxiety. HAM-A assessed by Researchers.<sup>18</sup> Each HAM-A scale varies from 0 to 4, with higher scores indicating more severe anxiety. The classification of symptoms on each sub-scale can be rated with 0 if none, 1 if mild, 2 if moderate, 3 if severe and Anxiety 4 if very severe. This instrument has been widely used in research both in America and in other countries including Indonesia and this instrument has been validated.<sup>17,18,32</sup> Data collection was done by distributing questionnaires via google form. Then the subject filled out a questionnaire for 1430 days according to their menstrual cycle. Adolescent Class Interventions and adolescent health counseling are conducted online via Zoom. Both groups continued to fill out the questionnaire until the next menstruation return. Bivariate data analysis using Mann-Whitney test, and multivariate analysis using multiple logistic regression.

# The Effect of Teenage Girls Class Model to Reduce Anxiety Symptoms of Premenstrual Syndrome



**Gambar 1. Alur Penelitian**

### III. RESULTS

This research is a collaboration between Poltekkes Kemenkes Jakarta 1 and STIKES Budi Luhur which aims to analyze the Effect of Adolescent Girls Classes to Reduce Anxiety Symptoms of Premenstrual Syndrome in Young Women. This research was conducted by taking data from DPN Junior High School students who were given treatment in the Young Women class for the intervention group and the control group who was given counseling.

## The Effect of Teenage Girls Class Model to Reduce Anxiety Symptoms of Premenstrual Syndrome

**Table 1. Univariate analysis of respondent characteristics based on age, menarche age, menstrual cycle, weight, Height, and BMI**

Variable	Intervention Group			Control Group		
	Mean	Min-Max	SD	Mean	Min-Max	SD
Age	14,13	13-16	0,973	17,93	13-16	2,137
Menarche Age	11,57	9-14	1,278	15,23	9-14	2,003
Menstrual Cycle	30,33	28-35	6,177	30,43	25-47	4,057
Weight	50,13	35-71	9,723	48,43	40-63	5,500
Height	156,77	140-172	7,074	155,80	146-175	5,536
BMI	20,43	14-30	3.540	19,93	13-25	2,333

In table 1, it can be concluded that the average age of respondents in the intervention and control groups is 14 and 17 years and the minimum age is 13 years and the maximum age is 16 years. The average age at menarche of respondents in both groups was 11 and 15 years with a minimum age of 9 and a maximum age of 14 years. The average menstrual cycle of respondents in both groups was 30 days with a minimum of 25 days and a maximum of 3 days. The average body weight of respondents in both groups was 50 kg and 48 kg with a minimum weight of 35 kg and a maximum of 71 kg. The average height of the respondents in both groups was 156 cm with a minimum height of 140 cm and a maximum of 172 cm. The average BMI of respondents in both groups is 20 with a minimum BMI of 14 and a maximum of 30.

**Table 2. Univariate analysis of respondents' characteristics based on the length of menstruation and maternal history**

Variable	Intervention Group		Control Group	
	Frequency (n =30)	%	Frequency (n = 30)	%
<b>Menstruation Length</b>				
➤ Less than 7 days	18	60	21	70
➤ More than 7 days	12	40	9	30
<b>Mother's PMS History</b>				
➤ Yes	5	16,7	13	43,3
➤ No	25	83,3	17	56,7

Based on table 2, obtained from 60 respondents consisting of 30 intervention groups and 30 control groups. In both groups, the majority of respondents experienced menstruation less than 7 days with a percentage of 60% in the intervention group and 70% in the control group. In the history of the respondent's mother who experienced PMS, the majority in both groups found that the mother did not experience PMS, which was 83.3% in the intervention group and 56.7% in the control group.

**Table 3. Bivariate Analysis of the Effect of Young Women's Class on Reducing PMS Anxiety in Both Groups**

PMS Anxiety	Mean	Different Mean	SD	P Value
<b>Intervention Group</b>				
Before Afetr	23,77		2,063	0,000
	17,83	5,94	0,834	
<b>Control Group</b>				
Before Afetr	24,60	0,97	2,415	0,000
	23,63		2,205	

From table 3, it is known that there is an effect of the treatment of the female adolescent class which is shown in a significant difference in the mean in the intervention group between the PMS anxiety scores before and after the intervention with a mean difference of 5.94. While in the control group there is a mean difference of about 0.97 after being given regular counseling.

## The Effect of Teenage Girls Class Model to Reduce Anxiety Symptoms of Premenstrual Syndrome

**Table 4. Bivariate Analysis of the Effect of Young Women's Class on Reducing PMS Anxiety In Both Groups**

PMS Anxiety	Mean	Different Mean	Z	P Value
Intervention Group(N=30)	15.50	30	-6.709	0,000
Control Group (N=30)	45,50			

From table 4, it can be analyzed that there is a significant difference in mean between the group that was given the intervention of the adolescent class and the control group who was given counseling of 30. Based on the results of data analysis with the Mann Whitney test, a significance value of 0, 000 was obtained. Based on this value, because the p value < 0.005 it can be concluded that the Young Women Class has an effect on reducing PMS anxiety.

**Table 5. Multivariate Analysis of the Influence of Young Women's Class on PMS Anxiety Reduction**

Model	Standardized B	Coefficients Std.Error	Standardized Coefficients Beta	t	Sig.
(Constant)	10.889	.947		<b>11.501</b>	<b>.000</b>
Groups	5.876	.425	.882	13.802	.000
Menstruation Length	.763	.446	.109	1.710	.093

From table 5 above, the following equation can be made:

$$Y = 10,889 + 5.88 \text{ Youth Class} + 0.76 \text{ Menstruation Length}$$

- In adolescents who do not attend classes, their anxiety level will be 5.88 higher than those who take youth classes
- Adolescents who experience menstruation for more than 7 days will experience higher anxiety 0.76 compared to those who experience menstruation for less than 7 days

## IV. DISCUSSION

### Effect of Young Women Class on PMS Anxiety Reduction

Based on the results of the study, there was a significant effect between the intervention group who received the female adolescent class and the control group who only received intervention counseling, showing a significant decrease in anxiety indicators in PMS during 3 months of observation compared to the control group who only received regular counseling interventions. The follow-up results showed that the effects continued and persisted even after 3 months. This proves that the integration of a holistic stress management program for adolescent girls combined with Yoga for adolescents can effectively reduce PMS stress and anxiety levels. This finding is similar to the results of previous studies (Deckor, et al, 2016) (Johnson, et al, 2016) (Galegos, et al 2015) which highlighted that providing interventions related to stress management, mind management and yoga in adolescents significantly reduced anxiety, depression, and stress. This study provides research evidence for classroom/group interventions among adolescent girls and facilitates wider coverage for primary care providers to implement such interventions in school settings.

On the concept of mental health, as a general aspect that refers to all measures used to prevent the development of mental disorders, the mental health training developed can be considered as one of the most effective methods for creating a healthy society and preventing stress and anxiety. (Kokkinis, 2017) The results showed that the training class, in this case the young women class, was effective in reducing the average anxiety and sleep disturbances. The results of the study by Vigerland et al. (2016) Kilburn et al (2018) and Li et al (2017) are in line with this study. The results of Chandra-Mouli and Patel's research show that class/group training is effective in reducing menstrual symptoms and problems (PMS) and helps obtain information about this period. (Mouli, et al, 2017). These studies confirm that support from family and friends along with class/group health training can reduce anxiety and will improve mental health in adolescent groups. In addition, training interventions are effective in providing information and problem-solving skills; they can improve their quality of life and reduce their anxiety. (Willems, et al, 2017).

The results showed that the average incidence of PMS anxiety in the intervention group was significantly lower than the control group. The research of Khodakarami et al. which aims to investigate the effect of group counseling on the severity of premenstrual syndrome among high school students in Hamedan found a positive effect of training. (Khodakarami, 2017) The

## The Effect of Teenage Girls Class Model to Reduce Anxiety Symptoms of Premenstrual Syndrome

results of research conducted by Akbarzadeh et al. (2018) Zheng et al. (2015) and Li et al. (2015) is also consistent with this study. According to a report by the World Health Organization, in developing countries there are observed rapid changes in social behavior, economic problems and PMS disorders are increasing. The findings of this study identify the importance of psychological characteristics and their interactive effects on the emergence of high-risk behaviors in adolescents and indicate the need for effective assessments and interventions in eliminating negative indicators of mental health and encouraging positive indicators of mental health.

The results showed that the training class was effective in reducing the severity of depression in adolescent girls. Parker et al. (2016) and de Jonge-Heesen et al. (2016) also found that psychological interventions and simple training reduced depressive symptoms. Among the limitations of this study not to mention the many factors that influence PMS anxiety disorder in most of the studies considered a nuisance to investigate the factors that influence the desired PMS anxiety reduction. According to the results of this study, it is recommended that schools, communities, and health workers can work together for the prevention and treatment of mental disorders, emotional growth, and prevention of abnormal behavior in girls and anxiety disorders during PMS.

### V. CONCLUSION

The conclusion of this study is that the Young Women Class Model can affect the decrease in symptoms of premenstrual syndrome anxiety, so that teenagers can be more productive. The integration of a holistic stress management program for adolescent girls combined with Yoga for adolescents can effectively reduce PMS stress and anxiety levels. The suggestion in this study is that the Young Women Class can be continued as the development of midwifery care on adolescent reproductive health to practice the health efforts that have been taught as an effort to help reduce physical and psychological discomfort throughout the menstrual cycle. The hope is that teenagers can achieve optimal health status, so that it becomes an investment to prepare for the process of pregnancy and give birth to a quality generation.

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## The Effect of Teenage Girls Class Model to Reduce Anxiety Symptoms of Premenstrual Syndrome

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## The Effect of Teenage Girls Class Model to Reduce Anxiety Symptoms of Premenstrual Syndrome

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