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**ASSOCIATION OF PREMENSTRUAL SYNDROME TO STRESS
INCIDENT AMONG XI GRADERS IN YOGYAKARTA, INDONESIA**

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ABSTRACT

Background: Menstruation is the blood loss that occurs periodically through the vagina comes from the uterine wall. The discomfort of women before, during and after menstruation the women usually feel discomfort or it is called premenstrual syndrome. The incidence of premenstrual syndrome in Indonesia is about 23%. Premenstrual Syndrome was disturbing about 30-40% of women reproductive age.

Aims: The aim of this study to identify existing correlation stress premenstrual syndrome female adolescent girls of XI grade in SMK X Yogyakarta Indonesia.

Methods: This study is a descriptive analytic design with cross sectional. This study population involved 82 students was using purposive sampling. The instrument was a questionnaire to measure the presence or absence of stress and premenstrual syndrome. The data analysis was used chi square.

Results: The level of stress in women adolescents mostly in the mild category 48 (58.5%), the incidence of premenstrual syndrome in adolescents in the category of pre menstruation syndrome (PMS) is 58 (70.7%) and in this study no experience severe stress and very heavy. Students with mild stress who experience premenstrual syndrome were 39 (47.6%), while students with moderate stress experienced premenstrual syndrome were 19 (23.2%). The results of the analysis using Chi-Square showed that the relationship between stress and the incidence of premenstrual syndrome in young women in the category of weak.

Conclusion: There is no relationship between stress and the incidence of premenstrual syndrome in girl adolescents of XI grade in SMK X Yogyakarta Indonesia

Keywords: Stress, Premenstrual Syndrome, Young Women

INTRODUCTION

A few days before menstruation, women may experience discomfort, one or more symptoms before menstruation called premenstrual syndrome (PMS) [1]. Forty percent of women on reproductive age were experienced with premenstrual syndrome [3]. Two to three percent of women have severe symptoms [3]. Peak age began in the mid-30s but premenstrual syndrome can occur at any time in the years. Premenstrual syndrome is a common health problem most commonly reported by reproductive aged women. The incidence of premenstrual syndrome or incidence of about 80%. Epidemiological studies indicate approximately 20% of women of reproductive age experience premenstrual syndrome moderate to weight. Approximately 3-8% have severe symptoms until called Premenstrual Dysphonic Disorder (PMDD) [4].

Premenstrual Syndrome is disturbing about 30-40% of women on reproductive age. PMS toughest cases occur in approximately 2% of women aged 26-35 year [2]. While the study sponsored by the WHO in 1981 showed that the symptoms of premenstrual syndrome experienced by 23% of women Indonesia [1]. The high premenstrual syndrome in women issues will have an impact on work productivity. These symptoms exist that are severe enough to interfere with daily life day. Some women report that life disruption due to severe premenstrual syndrome, which negatively affects their interpersonal relationships, this syndrome is usually easier to occur in women who are more sensitive to hormonal changes in the cycle menstruation. However, there are several factors that increase the risk of premenstrual syndrome are women who have given birth (premenstrual syndrome more weight after giving birth several children), age (premenstrual syndrome increasingly interfere with the increasing age, especially between the ages of 30-45 years), stress (factor aggravate stress disorder premenstrual syndrome). Psychological factors, family problems, social problems also play an important role. More likely to suffer from premenstrual syndrome are women who are more sensitive to hormonal changes in the menstrual cycle and the factors psychology 75.7% of respondents had experienced moderate stress and 63.2% had pre-menstrual syndrome [5].

There is a positive relationship with the correlation being between stress levels with the incidence of premenstrual syndrome menstruation. According to a preliminary study that researcher's do in SMK X Yogyakarta Indonesia found that many obstacles in the learning process, Adolescent in XI grade SMK X Yogyakarta, the duties and obligations of students that can cause stress. The samples of preliminary study were 10 female students in SMK X Yogyakarta. The respondents were questioned by questionnaires about symptoms of premenstrual syndrome, symptoms of affective and somatic symptoms. The result found that 7 of the 10 were complained of irritability, breast pain and abdominal pain before menstruation. Based on these reasons, the researchers interested in conducting research with the title "The relationship between the incidence of premenstrual syndrome in female students of XI grade Academic Year 2013 / 2014 in SMK X Yogyakarta Indonesia."

METHODS

This research is a part of descriptive analytic correlation with cross sectional approach. This study examined the correlation of stress with the incidence of premenstrual syndrome. The research was conducted at SMK X Yogyakarta Indonesia. The population of this study were all female students in XI grade academic year 2013/2014 as many as 534 students. The sampling technique is purposive sampling. The data analysis of this study was univariate. It describes the characteristics of each of the variables in the form of a frequency distribution table and bivariate analysis is to determine whether there is a correlation using chi square test.

RESULTS

The table 1 shows that the age of menarche in female students of XI grade academic year 2013/2014 in SMK X Yogyakarta Indonesia aged 10-13 years by 82 (100.0%). The menstrual cycle of female students in XI grade of academic year 2013/2014 at SMK X Yogyakarta Indonesia mostly \geq 3 weeks as many as 65 (79.3%) of respondents.

Table 1. Frequency Distribution of menarche and menstrual of female students in XI grade academic year 2013/2014 at SMK X Yogyakarta Indonesia

Menarche Age	Frequency	Percentage (%)
10-13 Year	82	100,0
14-16 Year	0	0
Total	82	100,0
Menstrual Cycle	Frequency	Percentage (%)

≥3 weeks	65	79,3
≤3 weeks	17	20,7
Total	82	100,0

Table 2 shows that the stress level in female students in XI grade of the school year 2013/2014 in SMK X Yogyakarta Indonesia mostly in the lightweight category were 48 (58.5%) of respondents and from research conducted no student is experiencing severe stress and very heavy.

Table 2. Frequency Distribution of Stress in Young Women Class XI Academic Year 2013/2014 at SMK X Yogyakarta Indonesia

Stress in Young Women	Frequency	Percentage (%)
Light	48	58,5
Average	34	41,5
Total	82	100,0

Table 3. Frequency Distribution Genesis Premenstrual Syndrome in Young Women Class XI Academic Year 2013/2014 at SMK X Yogyakarta Indonesia

The incidence of PMS	Frequency	Percentage (%)
PMS	58	70,7
Not PMS	24	29,3
Total	82	100,0

Based on Table 3 the incidence of premenstrual syndrome in adolescent girls class XI of the school year 2013/2014 in SMK X Yogyakarta Indonesia mostly in the category of PMS as many as 58 (70.7%) of respondents.

Table 4. Characteristics of Stress in Young Women Class XI Academic Year 2013/2014 at SMK X Yogyakarta Indonesia

Characteristics	Stress in Young Women				Total	
	Mild		Moderate			
	F	%	F	%	F	%
Age of menarche (10-13 years)	48	58,5	34	41,5	82	100,0
Menstrual cycle						
≥3 weeks	39	47,5	26	31,7	65	79,2
≤3 weeks	9	11,0	8	9,8	17	20,8
Total	48	58,5	34	41,5	82	100,0

Based on table 4 of the result of cross tabulation age of menarche in young women with stress class XI of the school year 2013/2014 in SMK X Yogyakarta Indonesia aged 10-13 years most experienced mild stress as many as 48 (58.5%) of respondents. Correlation with the menstrual cycle of stress on young women class XI of the school year 2013/2014 in SMK X Yogyakarta Indonesia mostly ≥3 weeks experienced mild stress as many as 39 (47.5%) of respondents.

Table 5. Characteristics of the Genesis Premenstrual Syndrome in Young Women Class XI Academic Year 2013/2014 at SMK X Yogyakarta Indonesia

Characteristics	Genesis Premenstrual Syndrome				Total	
	PMS		Not PMS		F	%
	F	%	F	%		
Age of Menarche (10-13 years)	58	70,7	24	29,3	82	100,0
Menstrual cycle						
≥3 Week	47	57,3	18	22,0	65	79,3
≤3 Week	11	13,4	6	7,3	17	20,7
Total	58	70,7	24	29,3	82	100,0

According to the table of the results of the cross tabulation 5 menarche with Premenstrual Syndrome incidence in young women class XI of the school year 2013/2014 in SMK X Yogyakarta Indonesia aged 10-13 years mostly have PMS as many as 58 (70.7%) of respondents. Relationship with the incidence of menstrual cycle Premenstrual syndrome in adolescent girls class XI of the school year 2013/2014 in SMK X Yogyakarta Indonesia mostly ≥3 weeks PMS as many as 47 (57.3%) of respondents.

Table 6. Relationship with Genesis Premenstrual Stress Syndrome in Young Women Class XI Academic Year 2013/2014 at SMK X Yogyakarta Indonesia

Stress in Young Women	Premenstrual Syndrome Genesis				Total	X ²	p-value	C	
	PMS		Not PMS						
	F	%	F	%	F	%			
Light	39	47,5	9	11,0	48	58,5	6,187	0,013	0.265
Moderate	19	23,2	15	18,3	34	41,5			
Total	58	70,7	24	29,3	82	100,0			

Results from cross-tabulations in Table 6 unknown stress on young women mostly have mild premenstrual syndrome incidence in the category of PMS as many as 39 people (47.5%). The stress in adolescent girls who are largely having events in the category PMS premenstrual syndrome as many as 19 people (23.2%).

DISCUSSION

Characteristics of Respondents

The results of the frequency distribution characteristics of respondents in adolescent girls class XI of the school year 2013/2014 in SMK X Yogyakarta Indonesia showed that the age of menarche in adolescents aged 10-13 years are as much as 82 (100%) of people, and experienced a ≥ 3 weeks of the menstrual cycle as much as 65 (79.3%) persons. This indicates that the characteristics of adolescents who experience menarche in normal age.

Menarche is a time period / menstruation comes first to a woman who is being stepped up. Age girls experience menarche at a time different, because it depends on genetic factors (heredity), body shape, and nutrition person. Generally menarche occurs at age 10-15 years, but the average going at the age of 12.5 years. However, there are also experiencing faster / under that age. Menarche occurs before the age of 8 years called menstruation praecox [6].

Stress in Young Women

The results of the frequency distribution of stress on young girls class XI of the school year 2013/2014 in SMK X Yogyakarta Indonesia mostly in the lightweight category were 48 (58.5%), while the other teens experience stress was about 34 (41.5), and not there are experiencing severe or very severe stress. This means that the stress in adolescent girls class XI of the school year 2013/2014 in SMK X Yogyakarta Indonesia is included in mild stress. Stress is an environmental event or stimulus that causes people to feel tense. Stress refers to the events of the perceived harm someone's physical and psychological well-being [7].

Genesis Premenstrual Syndrome in Young Women

The resulting distribution of frequency of occurrence of premenstrual syndrome in adolescent girls class XI of the school year 2013/2014 in SMK X Yogyakarta Indonesia in the category of PMS as many as 58 respondents (70.7%) and PMS as many as 24 (29.3%). This means that the incidence of premenstrual syndrome in adolescent girls class XI of the school year 2013/2014 in SMK X Yogyakarta Indonesia mostly experiencing PMS. Premenstrual syndrome (PMS) is a condition that consists of multiple physical changes, emotional and behavior experienced by a woman before the arrival of the menstrual cycle, which caused it to crash in the functions and activities of everyday life, these symptoms will disappear when menstruation arrives [8].

Stress Levels in Young Women by Characteristics

Based on the results of cross tabulation characteristics of the respondents relationship with the stress on girls in class XI of the school year 2013/2014 in SMK X Yogyakarta Indonesia. This suggests that the association menarche in young women with stress class XI of the school year 2013/2014 in SMK X Yogyakarta Indonesia aged 10- 13 years most experienced mild stress as many as 48 (58.5%) of respondents. Relations with the menstrual cycle of stress on young women class XI of the school year 2013/2014 in SMK X Yogyakarta Indonesia mostly ≥ 3 weeks experienced mild stress as many as 39 (47.5%) of respondents.

Age 10-13 years with menstrual circles ≥ 3 weeks is a normal thing experienced by teenagers. The normal menstrual cycle is calculated from the first day of bleeding during the initial months up to the first day of bleeding in the following month. But each menstrual cycle on every woman is different. Female adolescents usually do not keep their menstrual cycle, disco, this is still considered normal. Have a disease, weight changes, and stress can make menstrual cycles easily disturbed by the condition. it can be concluded that the teenage years when he is stressed, although adolescents experience a mild stress, the menstrual cycle on the adolescent will also change even irregular [9].

Genesis Premenstrual Syndrome in Young Women by Characteristics

Cross tabulation of menarche relationship with the incidence of premenstrual syndrome in adolescent girls class XI of the school year 2013/2014 in SMK X Yogyakarta Indonesia aged 10-13 years mostly have PMS as many as 58 (70.7%) of respondents. Relationship with the incidence of menstrual cycle Premenstrual syndrome in adolescent girls class XI of the school year 2013/2014 in SMK X Yogyakarta Indonesia mostly ≥ 3 weeks PMS as many as 47 (57.3%) of respondents. Normal ovulation cycle triggers to events Premenstrual syndrome in women who have an abnormal response to progesterone that can be caused by a deficiency of serotonin function [10].

Relationship with Genesis Premenstrual Stress Syndrome in Young Women Class XI Academic Year 2013/2014 at SMK X Yogyakarta Indonesia

Based on the results of cross tabulation relationship with the incidence of premenstrual stress syndrome in young girls class XI of the school year 2013/2014 in SMK X Yogyakarta Indonesia, that girls who fall into the category of mild stress and experience premenstrual syndrome, 39 (47.5%) of respondents, while young women who fall into the category of moderate stress and premenstrual syndrome experienced by 19 (23.2%) of respondents and respondents who experience severe stress and is very heavy in this study was not found. In fact, both mild stress and stress were all regulars there who experience premenstrual syndrome was due not only stress that become a factor in the premenstrual syndrome, but there are other factors such as diet, deficiency of macro and micro nutrients, marital status and age [1].

CONCLUSION

All respondents had experienced menarche at age 10 to 13 years with the menstrual cycle is about 3 weeks (73,9%). Young women stressed lightweight category (58,5%) and most are premenstrual syndrome (70,7%). There is a relationship between stress and the incidence of premenstrual syndrome in young women SMK X Yogyakarta Indonesia with a value of $X^2 \text{ count} > X^2 \text{ table}$ ($6.187 > 3.841$) and $p \text{ value} = 0.013 (p < 0.05)$, the relationship with the incidence of premenstrual syndrome in young women in weak category ($C = 0,265$).

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