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PREMENSTRUAL SYNDROME (PMS) IN ADOLESCENTS AT SMPN 2 SIDOARJO

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Abstract

Introduction: Premenstrual syndrome (PMS) is a cyclical disorder that commonly occurs in young and middle women that occurs during the luteal phase of the menstrual cycle, usually occurring regularly 7-14 days before the arrival of menstruation. In women aged 18-49 years in the United Kingdom, PMS symptoms have an impact on quality of life. Premenstrual Syndrome (PMS) is the most common health problem reported by women of reproductive age. Women of childbearing age (women of reproductive age) are women aged 18-49 years who are single, married or widowed. There are facts which reveal that some adolescents experience the same symptoms and the same strength of Premenstrual Syndrome (PMS) as experienced by older women. Purpose: This study was used to determine premenstrual syndrome (PMS) in adolescents at SMPN 2 Sidoarjo. Method: The research design given is descriptive using quantitative methods, the sampling technique is total sampling and the number of 50 respondents is obtained. Data collection was carried out by distributing questionnaires. Results: Of the 50 female respondents at SMPN 2 Sidooarjo, 50% had moderate PMS, 42% had mild PMS, and 8% had severe PMS. It can be concluded that female students at SMPN 2 Sidoarjo tend to experience moderate PMS. Analysis: the analysis in this scientific paper uses cross tabulation. Discussion: And the results of this study concluded that PMS can occur in every teenager and can be influenced by age and weight.

Keywords : *Premenstrual Syndrome, Age.*

INTRODUCTION

Adolescence is the transition from childhood to adulthood. Every teenager will experience changes both biological, psychological, physiological and social, one of the changes experienced by young women is changes in the reproductive organs. Adolescence is a period that begins with signs of puberty which leads to the level of maturity of the reproductive organs. Puberty in this case is a prominent physical change, a change in mindset that was initially afraid to be brave and also hormonal changes in the sex cells. These changes occur due to sexual maturity which is characterized by the arrival of menstruation. (Fabiana Meijon Fadul, 2019).

Menstruation is a biological process associated with achieving sexual maturity, fertility, non-pregnancy, normality, body health, and even the renewal of the body itself. Sexual maturity (menstruation, physical maturity) is caused by, among others, the physical constitution of individuals, race, ethnicity, climate, way of life, and environment. Physical conditions that are not maintained or problems that can occur during menstruation are amenorrhea, dysmenorrhoea, menorrhagia, *premenstrual dysphoric disorder* and *premenstrrual syndrome* (Fabiana Meijon Fadul, 2019).

Premenstrual Syndrome (PMS) is the most commonly reported health problem by women of reproductive age. According to BKKBN (Family Planning Welfare Agency) in 2018, women of childbearing age (women of reproductive age) are women aged 18-49 years who are unmarried, married or widowed. There are facts that reveal that some adolescents experience the same symptoms and strength of *Premenstrual Syndrome* (PMS) as experienced by older women (Freeman, 2023).

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STDs have the highest prevalence (67%), dysmenorrhoea (33%), primary amenorrhea (5.3%), secondary amenorrhea (18.4%), oligomenorrhoea (50%), polymenorrhoea (10.5%) and *Premenstrual Dysphoric Disorder* (3-8%). One of the highest prevalence that can affect menstrual patterns is Premenstrual Syndrome (Santi, 2018). *Premenstrual Syndrome* is a set of symptoms that are physical and mental disorders that usually occur for several weeks to a few days before menstruation and disappear after menstruation, although it lasts until the end of menstruation (Meita, 2020).

PMS symptoms are physical and psychological symptoms. Physical symptoms include flatulence, swollen breasts and tenderness, fatigue, pelvic pain, back and muscle pain, and headaches. While psychological symptoms include irritability, emotions, irritability, easy crying, difficulty concentrating, forgetfulness and depression. The impact of *Premenstrual Syndrome* is on the decline in work productivity, school and interpersonal relationships of sufferers is quite large. Excessive anxiety, irritability, tension in the breasts, increased or decreased appetite, nausea, vomiting, acne, low back pain, to fainting so that Premenstrual Syndrome has a tendency to reduce the productivity of adolescents in general whose symptoms of Premenstrual Syndrome have been reported to affect as many as 90% of women of reproductive age (Mahareni Meita Wulandari, Nurulistyawan, 2020)

PMS consists of several types A (*anxiety* or easily anxious) is a psychological symptom in PMS that is most experienced by women, which is as much as 80%. Psychological symptoms that are felt such as anxiety, sensitivity, tense nerves and labile feelings even some women experience mild to moderate depression before getting menstruation, type H (*Hyperhydration*) is more common in physical symptoms and about 60% are included in type H PMS symptoms that are felt namely edema (swelling), flatulence, pain in the breast and swelling of the legs and hands, type C (*Craving*) occurrence as much as 40% of PMS symptoms are included in type C (desire) with hypoglycemia symptoms such as fatigue, palpitating heart, dizziness to fainting, type D (Depression) as much as 20% of PMS is included in type D which is characterized by depression, crying, weakness, sleeplessness, forgetfulness, confusion and difficulty pronouncing words (verbalization), and finally type P (*Plain*) with symptoms such as acne, oily skin and hair, dysmenorrhoea, nausea and vomiting (Meita, 2020) The incidence of PMS is influenced by several factors including physical activity, factors of physical activity with high to very high intensity for a long time, resulting in stress because it causes high levels of fatigue that affect the emergence of PMS (Kamilah et al., 2021).

Research (Kroll-Desrosiers et al., 2017) is inversely proportional that there is no relationship between physical activity and PMS, from the results of the study did not find the prevalence of PMS in women who participate in physical activity or even without physical activity, stress stress factors, which are the biggest factors in the occurrence of PMS, and will increase if in a person continues to experience psychological pressure (Hidayah Bohari et al., 2020), women who experience stress are more likely to experience PMS than those who do not (Nuvitasari et al., 2020).

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As a result of all four factors, the most dominant for the incidence of PMS is stress. Stress causes a deviation in beta-endorphin secretion that can cause some PMS symptoms. Changes in endorphin levels have an effect on mood and behavior, when women experience ongoing stress there will be an imbalance between the hormones estrogen and progesterone which causes a decrease in serotonin which tasks affect the mood associated with symptoms of depression, anxiety, attraction, fatigue, dietary changes, difficulty sleeping, aggression and increased appetite. From the background above, researchers are interested in conducting research on "*Premenstrual Syndrome* (PMS) in adolescents at SMPN 2 Sidoarjo".

3. RESEARCH METHOD

Research Design

This study used quantitative research, with a non-experimental research design. This study used an analytical observational method, where the research was carried out only through observation, without any intervention on the research subject (Notoatmodjo, 2012). This study illustrates the experience of adolescents facing PMS

The approach used in this study was cross sectional. Cross sectional is a type of research that emphasizes the time of measurement/observation of independent and dependent variable data only once at a time. In this type, independent and dependent variables are assessed simultaneously at a time, so there is no follow-up.

Population

The population in this study was all students of grades 9A-9C SMPN 2 Sidoarjo

Sample

The sample in this study was a grade 9 student of SMPN 2 Sidoarjo. The sampling method of this study is total sampling. So that all populations that have met the inclusion and exclusion criteria are sampled in this study. The sample in this study was 50 people.

The inclusion criteria of this research sample are:

1. 9th grade student
2. Students who are willing to be researched and willing to fill out questionnaires
3. All female students who have experienced menstruation

While the exclusion criteria of this research sample are:

1. Students who are sick or suffering from illness
2.

Definition of Operational

An operational definition is a definition based on the observed characteristics of something defined, thus enabling the researcher to Make careful observations or measurements of an object or phenoma. The operational definition is formulated for the importance of accuracy, communication, and replication (Nursalam, 2013).

Data Collection Techniques

The data collection technique in this

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study used the method of giving questionnaires. Questionnaires are given to respondents and filled out by respondents according to the time determined by the researcher. Each respondent was given as many as 1 questionnaire about respondents' demographic data, knowing about the factors and symptoms of Premenstrual Syndrome

Data Collection Instruments

The instrument used to collect data in this study was a questionnaire. Questionnaire is a way of collecting data carried out by circulating a list of questions that have been well arranged, mature, where respondents only need to give answers or by giving certain signs (Notoatmodjo, 2018). The questionnaire used in this study consisted of questions used to obtain information from respondents, including: Questionnaire on *Premestrual Syndrome* This questionnaire provides an overview of *Premenstrual syndrome* at SMPN 2 Sidoarjo

Data Collection Instruments

This questionnaire uses open-ended statements that are used to obtain information from respondents. The questionnaire consists of respondents' identities including name, weight, age, class. To determine adolescents' understanding of *premenstrual syndrome* , researchers provided 22 questions.

Data Collection Procedure

The data collection stage in this study was to distribute questionnaires to research subjects. Researchers collected data after obtaining permission from the head of the D3 Nursing Sidoarjo study program, then the researcher asked permission from Smpn 2 Sidoarjo to collect data. Furthermore, researchers *provide informed consent or ask for a sign* of consent of respondents through an informed consent *sheet* and provide questionnaire sheets to respondents filling out questionnaires about *Premenstrual Syndrome* in adolescents. After all questions were answered, the respondent gave the questionnaire sheet back to the researcher

Data Presentation

1. Data Assessment (Editing)
   For the review of research data, re-examine respondents who are willing to do the object of research and observe the results.
2. Coding
   It is an activity to convert data in the form of letters into data in the form of numbers. The purpose of coding is to make it easier when entering data.
3. Young women demographic data
4. Questionnaire *Premenstrual Syndrome*
5. Scoring

Research Ethics

The research was conducted after obtaining approval from supervisors and educational institutions because the respondents studied were humans. Thus, researchers try to pay attention to the rights of respondents. In conducting the study, researchers submitted respondents' consent letters to fill out questionnaires with emphasis on ethical issues including:

1. Research consent sheet or informed consent
   Informed consent is a research consent sheet given to respondents with the aim of making the subject know the intent
   The purpose and impact of research with the principle of no coercion to prospective respondents and respect their rights.
2. No name or *anonymity*
   Aiming to maintain the confidentiality of the subject's identity, the researcher will not put the subject's name on the observation sheet, the sheet is only filled in using certain initials and codes.
3. Confidentiality or *confidientialy*

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The information to be provided by the subject will be guaranteed confidentiality by the researcher. Only certain groups of data will be presented or reported as a result of the study

RESULTS AND DISCUSSION

SMPN 2 Sidoarjo is one of the public junior high schools of Sidoarjo Regency which is located at Jl. Raya Ponti, RT.19/RW.6, Wismasarinadi, Magersari, Sidoarjo District, Sidoarjo Regency, East Java 61211. SMPN 2 Sidoarjo has several classes at each level. SMPN 2 Sidoarjo has competent teachers / educators in their fields so that they are qualified and become one of the best in Sidoarjo Regency. SMPN 2 Sidoarjo also has an organization to support the interests of its students, both student councils, paskibras, scouts. This study was conducted on all female students of grades 9A-9C with a total of 50 female students.

1. General data

Common data in the study included age, grade and history of STDs.

1. Frequency distribution of respondents according to age at SMPN 2 Sidoarjo

Table 4.1 Frequency distribution of respondents by age at SMPN 2 Sidoarjo

AGE	Sum	
	Value	Percentage %
14 years old	9	18
15-17 years	29	58
18-19 years	12	24
Total	50	100

Data source : Primary Data 2023

Based on table 4.1 shows that of the 50 respondents, the most are 15 years old, which is 29 people (58%), while the least aged <14 years as many as 9 people (18%).

1. Frequency distribution of respondents by class at SMPN 2 Sidoarjo

Table 4.2 Frequency distribution of respondents by class at SMPN 2 Sidoarjo

Class	Sum	
	Value	Presentation (%)
9A	17	34
9B	18	36
9C	15	30
Total	50	100

Data source : Primary Data 2023

Based on table 4.2, most of the 50 respondents of class 9C are at least with 15 (30%) while class 9B has the most with 18 (36%).

1. Frequency distribution of respondents according to body weight at SMPN 2 Sidoarjo

Table 4.3 Frequency Distribution of respondents according to body weight at SMPN 2 Sidoarjo

WEIGHT	Sum	
	Value	Presentation (%)
38kg	2	4
40kg	3	6
41kg	2	4
42kg	5	10
43kg	2	4
45kg	2	4
46kg	2	4
47kg	7	14
48kg	5	10
49kg	4	8
50kg	9	18
51kg	5	10
52kg	2	4
Total	50	100

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Data source : Primary Data 2023

From the results of table 4.3, some of the 50 respondents weighed 38kg as many as 2 female students (4%), 40kg as many as 3 female students (6%), 41kg as many as 2 female students (4%), 42kg as many as 5 female students (10%), 43kg as many as 2 female students (4%), 45kg as many as 2 female students (4%), 46kg as many as 2 female students (4%), 47kg as many as 7 female students (14%), 48kg as many as 5 female students (10%), 49kg as many as 4 female students (8%), 50kg as many as 9 female students (18%), 51kg as many as 5 female students (10%), 52kg as many as 2 female students (4%).

Custom Data

1. PMS level of female students at SMPN 2 Sidoarjo

Table 4.4 Distribution of *premenstrual syndrome levels* of female students at SMPN 2 Sidoarjo

PMS LEVELS	Sum	
	Value	Presentation (%)
Light	21	42
Keep	25	50
Heavy	4	8
Total	50	100

Data source : Primary Data 2023

Based on table 4.3, it was found that out of 50 respondents of SMPN 2 Sidoarjo students, 50% experienced moderate PMS, 42% experienced mild PMS, and 8% experienced severe PMS. It can be concluded that SMPN 2 Sidoarjo students tend to experience moderate PMS.

1. Premenstrual syndrome *rate* by age at SMPN 2 Sidoarjo

Table 4.5 Frequency Distribution of *premenstrual syndrome* levels by age in SMPN 2 Sidoarjo

Age	PMS levels		
	Light	Keep	Heavy
<14 Years	4(16%)	8(40%)	1(25%)
15-17 Years	12(59%)	14(20%)	1(25%)
18-20 Years	3(25%)	760%)	2(50%)
Total	19(100%)	22(100%)	4(100%)

Data source : Primary Data 2023

Based on table 4.5, of the 19 students of SMPN2 Sidoarjo who experienced mild PMS, there were 59% aged 15-17 years, 25% aged 18-20 years and as many as 16% children aged <14 years. Meanwhile, students who experience severe PMS as much as 50% at the age of 18-20 years, 25% at the age of 15-17 years and as many as 25% at the age of <14 years. In addition, there are as many as 40% at the age of <14 years, 20% at the age of 15-17 years and as many as 30% at the age of 18-20 years.

4.3.3 Premenstrual *syndrome level* by grade at SMPN 2 Sidoarjo

Table 4.6 Frequency distribution of *premenstrual syndrome* levels by grade at SMPN 2 Sidoarjo

Class	PMS levels		
	Light	Keep	Heavy
9A	7(41%)	9(50%)	2(50%)
9B	8(44%)	6(25%)	1(25%)
9C	7(15%)	10/25%)	1(25%)
Total	22(100%)	25(100%)	4(100%)

Data source : Primary Data 2023

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Based on table 4.6 that out of 22 students obtained mild PMS 44% in class 9B, 15% in class 9C and 41% in class 9A. Meanwhile, of the 25 medium PMS students 25% in class 9C, 50% in class 9A and 25% in class 9B. In addition, from 4 heavy PMS students, 25% were obtained in class 9B, 50% in class 9A and 25% in class 9C.

1. Premenstrual syndrome *rate* based on body weight at SMPN 2 Sidoarjo

Table 4.7 Frequency distribution of premenstrual syndrome levels based on weight in SMPN 2 Sidoarjo

Weight	PMS levels		
	Light	Keep	Heavy
38 Kg	1(15%)	1(5%)	-
40Kg	2(20%)	1(5%)	-
41Kg	3(15%)	1(2%)	1(20%)
42Kg	1(10%)	1(4%)	-
43Kg	1(5%)	1(5%)	-
45Kg	1(5%)	1(11%)	-
46Kg	-	2(8%)	-
47Kg	2(5%)	4(10%)	1(20%)
48Kg	3(5%)	2(10%)	-
49Kg	2(5%)	3(15%)	-
50Kg	3(10%)	5(25%)	1(20%)
51Kg	2(5%)	2(10%)	1(20%)
52Kg	-	1(10%)	1(20%)
Total	22(100%)	25(100%)	5(100%)

Data source : Primary Data 2023

Based on table 4.7, 22 students with mild PMS 20% at a body weight of 40kg, 25 students were obtained 25% at a weight of 50kg at medium PMS, and at PMS weighing 5 female students with 20% at a weight of 52kg.

CONCLUSION AND ADVICE

From the results of the research that has been conducted, data on the age of respondents with an age range of 14-16 years with the majority of 15 years old as many as 29 female students (58%), 16 years as many as 12 people (24%), and the least aged 14 years as many as 9 people (18%). Most of the respondents to class 9A were 17 female students (34%), class 9B as many as 18 female students (36%), class 9C as many as 15 female students (30%). %).

Based on the overall age of respondents is the age category of early adolescence. The category of female students at the adolescent development stage ranges from 11-17 to 20 years old which is classified as a late adolescent to early adult age category (Yusuf, 2012). Increasing age and maturity level will also show mental maturity, able to think maturely and can indicate a more rational mindset, can control emotions well, be able to show intellectual, competent, and psychological conditions, and can show tolerance if there are thoughts or behaviors that are not the same as themselves (Christian &; Retired, 2015). This arises because of changes that occur in physical, psychological, and social aspects.

Based on the results of the study obtained, it showed that most respondents had a history of moderate PMS (50%) as many as 20 female students, experienced mild PMS (42%) as many as 21 female students and 4 female students experienced severe PMS (8%). Almost all students of grades 9A-9C SMPN 2 Sidoarjo experience premenstrual syndrome (PMS).

1.Premenstrual Syndrome (PMS) Based on the body weight of SMPN 2 Sidoarjo students

The final results were obtained from the questionnaire on female students with Dan some body weight 38kg as many as 2 female students (4%), 40kg as many as 3 female students (6%), 41kg as many as 2 female students (4%), 42kg as many as 5 female students (10%), 43kg as many as 2 female students (4%), 45kg as many as 2 female students (4%), 46kg as many as 2 female students (4%), 47kg as many as 7 female students (14%), 48kg as many as 5 female students (10%), 49kg as many as 4 female students (8%), 50kg as many as 9 female

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students (18%), 51kg as many as 5 female students (10%), 52kg as many as 2 female students (4%).

Adolescents with body mass index (BMI) ≥ overweight are more likely to experience premenstrual syndrome, while adolescents who do not have premenstrual syndrome have more normal body mass index. Adolescents with a body mass index of more than normal tend to produce higher estrogen hormones so that they will cause PMS symptoms (Nasrawati, 2016)

2.Premenstrual Syndrome (PMS) Based on age at SMPN 2 Sidoarjo

The final results showed that of the 50 respondents, the most were 15 years old, 29 people (58%), while the least <14 years old were 9 people (18%). And of the 50 respondents aged 15-17 years, more experienced moderate PMS with a result of 14 (20%) while at the age of <14 years less experienced severe PMS with a result of 1 (25%).

Every woman who has menstruated is very familiar and understands and is quite disturbed by the symptoms of PMS or premenstrual syndrome, especially with severe pain and for a long time so that daily activities are disrupted.

As we get older, there can indeed be pain that feels more painful and longer than at a young age. Moreover, when the age enters the head of four or approaching menopause, menstrual pain will feel more uncomfortable and disturbing. When entering your 40s or approaching menopause, hormonal fluctuations will begin. These changes cause ovulation to become irregular, periods to become irregular, and sometimes periods will become long, blood flow heavier, and spotting between periods, PMS will also become longer. Changes in the intensity and frequency of pain are caused by hormonal changes that go up and down and changes in lifestyle that can affect hormone activity.

3.Premenstrual Syndrome based on classes at SMPN 2 Sidoarjo

Based on table 4.2, most of the 50 respondents of class 9C are at least with 15 (30%) while class 9B has the most with 18 (36%). Based on table 4.5 that out of 50 respondents, class 9A experienced a lot of severe PMS with a result of 2 (50%) and class 9C experienced more moderate PMS with a result of 10 (25%)

Based on the results of Premenstrual Syndrome research in adolescent girls through filling out questionnaires regarding symptoms felt during Premenstrual Syndrome in adolescent girls at SMPN 2 Sidoarjo, the conclusions that can be drawn from this study are as follows:

1. The characteristics of 50 respondents were obtained from the results of research by the majority of respondents in class 9A with 17 students, class 9B with 18 students, class 9C with 15 students

2.Symptoms that some feel have similarities with each other when going to face Menstruation or PMS

3. The results of the questionnaires that have been filled out by female students are on the same average, namely experiencing moderate PMS

4.Most of the students of SMPN 2 Sidoarjo do not

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