



Factors affecting premenstruation syndrome in adolescent women Class XII IPA SMAN 1 Uluan Year 2022

Lilis Novitarum¹, Helinida Saragi², Rotua Pakpahan³, Flora manurung⁴

^{1,2,3,4}STIKes Elisabeth Medan, Sumatra Utara, Indonesia

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ABSTRACT

Premenstrual syndrome (PMS) is a collection of symptoms experienced by women before their menstrual period, which is 7-14 days before menstruation and will disappear at the beginning of menstruation, causing pain or swelling in the breasts, aches and pains, headaches, etc. Several factors that influence premenstrual syndrome are age at menarche, knowledge, body mass index and stress. The purpose of the study is to identify the factors that influence premenstrual syndrome (PMS) in on of IPA class XII of SMAN 1 Uluan 2022. The research method was descriptive research, the number of respondents are 57 people. The sampling technique is total sampling. The results obtained that some respondents experienced late menstruation at the age of >13 years, namely the majority were 26 people (45.6%) and the minority is at the age of early menarche <11 years, namely 8 people (14%). The results of data from 57 respondents who have good knowledge are 19 people (33.33%), 33 people (58%), and less are 5 people (8.5%). the results of 57 respondents, namely the majority had a normal body mass index (BMI) of 28 people (49%) and the minority had a body mass index (BMI) of obesity II as many as 2 people (3.5%). The results of the 57 respondents are the severe majority as many as 44 people (77.2%) and the mild minority as many as 13 people (22.8%). It is expected that on of IPA class XII of SMAN 1 Uluan 2022 can play an active role in reducing premenstrual syndrome problems, consuming healthy foods, avoiding foods that are taboo during menstruation. Regular exercise to reduce stress and deepen knowledge about premenstrual syndrome.

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Corresponding Author:

Flora s Manurung,
STIKes Santa Elisabeth Medan, bachelor of nursing
+6282267650962, North Sumatra, 20211, Indonesia
Email: manurungf48@gmail.com

1. INTRODUCTION

Adolescence is a period when individuals develop for the first time showing signs of sexuality until they reach sexual maturity, individuals experience psychological development and patterns of

identification from childhood to adulthood (Ilmi et al., 2022). One of the changes that occur in adolescents, especially young women is a change in sexuality. Menstruation in adolescents usually begins between the ages of 10 and 16, occurring approximately once a month until a woman reaches the age of 45 – 50 years. Cycle length can vary from one woman to another depending on many things, including the woman's physical, emotional and nutritional health (Ilmi et al., 2022)

One of the symptoms or health problems that women often experience before or during menstruation is "pre-menstrual syndrome" or more popularly known as PMS (Pre-menstrual syndrome). Pre-menstrual syndrome (PMS) is a collection of unpleasant symptoms, both physical and psychological, experienced by women before their menstrual period, which is about one or two weeks before menstruation (American Congress of Obstetricians and Gynecologists/ACOG, 2016). Premenstrual syndrome (PMS) is a condition where a number of symptoms occur regularly and are related to the menstrual cycle (Mariana & Yarsi Samarinda Nursing Academy, 2018)

PMS that lasts mild is a symptom that doesn't need to be too worried because it is not a serious health problem, and with mild treatment it can be overcome and can even recover on its own. However, if the symptoms are severe enough, for example to cause prolonged headaches, high fever, or even fainting, then you should watch out for more serious health problems and need a doctor's help.

According to the World Health Organization (WHO), in 2015 premenstrual syndrome was experienced by around 900 million adolescents aged 10-19 years and almost all of them lived in developing countries. The prevalence of women of childbearing age who experience PMS is 47.8% worldwide. Premenstrual syndrome prevalence rates in Indonesia obtained from the Ministry of Health in 2013 showed that 40% of Indonesian women experience premenstrual syndrome, and 2-10% experience severe symptoms.

Factors that are thought to be related to the incidence of premenstrual syndrome include age, body mass index (BMI), reproductive history such as age at menarche and duration of menstruation. Behaviors related to premenstrual syndrome are stress levels, alcohol and coffee drinking habits, smoking habits, diet and physical activity, while social factors that influence are education and income levels. (Ilmi et al., 2022)

The latest medical data states that there are more than 100 symptoms related to PMS, but those that are most often experienced by women, include: Swelling and pain in the breasts, acne breakouts, increased appetite, especially for sweet and salty snacks, weight gain, Stomach feels heartburn and bloating, sometimes even cramps, constipation (constipation), headaches, aches, cramps etc.

Hormonal changes that occur before menstruation is one of the main causes or triggers for PMS. It is suspected that women who experience PMS may have abnormal hormone levels or at least experience disruption of hormonal regulation or regulation. However, from the many studies conducted lately, it can be concluded that it is not abnormal hormone levels that cause PMS, but rather a person's level of sensitivity or sensitivity to changes in hormone levels that occur in the body during menstruation.

Several research results prove that changes that occur in levels of the hormone progesterone play a greater role in the pathogenesis of PMS than changes in levels of the hormone estrogen. Decreasing levels of the hormone progesterone in the blood results in a decrease in progesterone metabolite compounds, one of whose functions is as a kind of sedative in the brain, which causes a feeling of relaxation and calm. Several studies have shown that higher levels of progesterone metabolites are positively correlated with milder PMS symptoms. However, giving progesterone supplements to someone who suffers from PMS has not been able to relieve the symptoms of PMS. Therefore, the effect of progesterone on PMS is still being researched.

According to the results of research conducted (Tas'au et al., 2021) female students who have an abnormal body mass index and do not do good and regular sports activities will tend to experience premenstrual syndrome. Statistical test results also showed a significant relationship between body mass index and sports activity with the degree of premenstrual syndrome. Therefore

students of the Faculty of Public Health, Nusa Cendana University Kupang need to maintain an ideal body weight by consuming nutritious and healthy food and balanced with regular sports activities so that the body mass index is normal and avoids premenstrual syndrome problems and achieves optimal health (Tas 'au et al., 2021).

According to the results of the research conducted (Kamilah et al., 2021) the results of the study after the Chi-square test were carried out for physical activity a value of $p = 0.030$ ($p \leq 0.05$), which means there is a relationship between physical activity and the incidence of premenstrual syndrome, and for the age of menarche the value of $p = 0.073$ ($p \geq 0.05$) which means there is no relationship between the age of menarche and the incidence of premenstrual syndrome. Habits for proper and routine physical activity and reducing stress can overcome and reduce complaints of premenstrual syndrome experienced (Kamilah et al., 2021).

According to the results of the research conducted (Damayanti & Samaria, 2021) there is a correlation between stress and PMS, and the external variable associated with PMS is the age at menarche. The prevalence of stressed female students is 34.9% and the prevalence of PMS is 32.8%. Severe symptoms felt by respondents were physical symptoms (22.3%) such as breasts feeling tight, headache, muscle and joint pain, bloating, increased body weight, fatigue or weakness (21.6%), decreased desire to do activities at home or hostel (18.1 %). Female students who are stressed are more likely to experience PMS than female students who are not stressed (Damayanti & Samaria, 2021).

From the background above, the researcher is interested in conducting research on "Factors Influencing Premenstrual Syndrome (PMS) in Young Girls Class XII IPA at SMAN 1 ULUAN".

2. RESEARCH METHOD

The design used in this research is descriptive research. The research location was carried out at SMAN 1 ULUAN and the time of implementation was from March 23 2022 to May 24 2022. Primary data collection was carried out with the help of research instruments. The instrument used in this research is a questionnaire, which is used to collect all the variables studied. After all the required data has been collected by the researcher, the data is processed by means of statistical calculations to determine the factors of menarche age, knowledge, body mass index (BMI), stress. The reliability test is a challenge for a research instrument related to alignment and harmony of measurement methods (Grove, Gray, and Burns, 2015). The reliability test uses the Cronchbach alpha test with the conclusion that if Cronchbach's alpha is > 0.7 . In this study, it did not carry out validity and reliability tests because it had been declared valid in research on behalf of (Putri, 2017) with cronchbach alpha results of 0.911 (Putri, 2017)

3. RESULTS AND DISCUSSIONS

Based on table 1, data was obtained that of the 57 respondents who had their first menstruation, the majority had a late menarche > 13 years, namely 26 people (45.6%), after normal menarche 12-13 years 23 people (40.4%) and menarche age fast < 11 years, namely 8 people (14%).

Table 1. Distribution of the frequency and percentage of menarche age

Menarche age	F
Hurry < 11 years	8
Normal 12-13 years	23
Late > 13 years	26
Total	57

Based on table 2, the results obtained from 57 respondents, the majority had sufficient knowledge of 33 people (58%), good knowledge of 19 people (33.33%), and less knowledge of 5 people (8.5%).

Table 2. Distribution of frequency and percentage of knowledge about

Knowledge	F
Good	19
Enough	33
Not enough	5
Total	57

From table 3, the result is that of the 57 respondents at SMAN 1 Uluan who answered the most correct questions in question no 1. Physical changes that occur before menstruation are called premenstrual syndrome, namely 54 people (93%), and respondents who the most wrong answers, namely in question no 7. Stomach ache is a symptom that occurs before menstruation, namely as many as 53 people (94.7%) and only 4 people (5.3%) are correct.

Table 3. Distribution of the frequency and percentage of each statement regarding knowledge about premenstrual syndrome

No	Questions		f	%
1	Physical changes that occur before menstruation are called premenstrual syndrome.	Correct	53	93
		Wrong	4	7
		Total	57	100
2	Premenstrual syndrome is a symptom that occurs after menstruation.	Correct	28	49,1
		Wrong	29	50,9
		Total	57	100
3	Premenstrual syndrome is caused by an imbalance of hormones in our body.	Correct	48	84,2
		Wrong	9	15,8
		Total	57	100
4	Premenstrual syndrome appears due to disease.	Correct	35	61,4
		Wrong	22	38,6
		Total	57	100
5	Premenstrual syndrome symptoms will return to normal after menstruation is over	Correct	49	86
		Wrong	8	14
		Total	57	100
6	Premenstrual syndrome symptoms appear 7-10 days before menstruation.	Correct	44	77,2
		Wrong	13	22,8
		Total	57	100
7	Abdominal pain is a symptom that occurs before menstruation.	Correct	3	5,3
		Wrong	54	94,7
		Total	57	100
8	Just before menstruation, women experience breasts that feel tight and feel hard.	Correct	43	75,4
		Wrong	14	24,6
		Total	57	100
9	The psychological symptoms experienced during premenstrual syndrome are anxiety and irritability.	Correct	52	91,2
		Wrong	5	8,8
		Total	57	100
10	The symptoms experienced by women just before menstruation are the same.	Correct	37	64,9
		Wrong	20	35,1
		Total	57	100
11	As you get older, the symptoms of Premenstrual syndrome decrease.	Correct	43	75,4
		Wrong	14	24,6
		Total	57	100
12	The habit of eating foods that are high in sugar, salt and chocolate can relieve the symptoms of Premenstrual syndrome.	Correct	31	54,4
		Wrong	26	45,6
		Total	57	100
13	Consuming traditional herbs or painkillers can reduce the risk of premenstrual syndrome.	Correct	47	82,5
		Wrong	10	17,5
		Total	57	100
14	Consuming lots of green fruits and vegetables cannot reduce the symptoms of Premenstrual	Correct	34	59,6
		Wrong	23	40,4

	syndrome	Total	57	100
15	Exercise habits and regular physical activity can help reduce the symptoms of Premenstrual syndrome.	Correct	52	91,2
		Wrong	5	8,8
		Total	57	100

Based on table 5.5, the results were obtained from 57 respondents, namely the majority had a normal body mass index (BMI) of 28 people (49%) and a minority had an obese body mass index (BMI) II of 2 people (3.5%).

Table 4. Distribution of frequency and percentage of body mass index (BMI)

Body mass indeks (IMT)	F	%
<i>Underweight</i> <18,5	12	21
Normal 18,5-22,9	28	49,3
<i>Overweight</i> >23-24,9	11	19,2
Obesity I 25-29,9	4	7
Obesity II ≥30	2	3,5
Total	57	100

Based on table 5.4, the results were obtained from 57 respondents, namely the heavy majority were 44 people (77.2%) and mild were 13 people (22.8%).

Table 5. Distribution of the frequency and percentage of stress

Sress	F
Light	13
Weight	44
Total	57

From table 6. the results are obtained, out of 57 respondents who answered statements in the category almost never the majority were in statement number 8. In the past month, how often have you felt that you were on top of everything?, as many as 18 people (31.6) %, and a minority in statement number 7. In the past month, how often have you been able to feel annoyed in your life?, as many as 4 people (7%).

Table 6. Distribution of the frequency and percentage of each statement regarding stress about premenstrual syndrome

No	Question	Almost never		Sometimes		Often enough		Very often	
		f	%	F	%	f	%	f	%
1.	In the past month, how often have you been angry because something happened suddenly?	5	8,8	25	43,9	18	31,6	9	15,8
2	In the past month, how often have you felt that you were unable to control the important things in your life?	10	17,5	25	43,9	16	28,1	6	10,5
3	In the past month, how often have you felt nervous and stressed?	5	8,8	32	56,1	11	19,3	9	15,8

4	In the past month, how often have you felt confident about your ability to handle your personal problems?	6	10,5	20	35,1	24	42,1	7	12,3
5	In the past month, how often have you felt that something you were going to do was going your way?	7	12,3	34	59,6	9	15,8	7	12,3
6	In the past month, how often have you felt that you couldn't handle all the things that you should have done?	9	15,8	25	43,9	17	29,8	6	10,5
7	In the past month, how often have you been irritated in your life?	4	7,0	21	36,8	20	35,1	12	21,1
8	In the past month, how often have you felt that you were on top of things?	18	31,6	24	42,1	12	21,1	3	5,3
9	In the past month, how often have you been angry because of things that were out of your control?	5	8,8	25	43,9	22	38,6	5	8,8
10	In the past month, how often have you felt that difficulties had piled up so much that you couldn't overcome them?	5	8,8	27	47,4	11	19,3	14	24,6

The category is sometimes the majority in statement number 5. In the past month, how often do you feel that something you are going to do is going your way?, as many as 34 people (59.6%), and a minority in question number 4. At one In the past month, how often have you felt confident about your ability to handle your personal problems?, as many as 20 people (35.1%). Category quite often the majority in statement number 4. In the past month, how often did you feel confident about your ability to handle your personal problems?, namely as many as 24 people (42.1%), and a minority in statement number 5. At one In the past month, how often have you felt that something you were going to do was going your way? , namely as many as 9 people (15.8%).

The category is very often the majority in statement number 10. In the past month, how often do you feel that difficulties have piled up so much and you can't overcome them?, namely as many as 14 people (24.6%) and are a minority in statement number 8. In one month Recently, how often do you feel that you are on top of everything?, as many as 3 people (5.3%).

Menarche age factor that affects premenstrual syndrome (PMS) in young girls of class XII IPA SMAN 1 Uluan in 2022

Based on the results of research conducted by researchers at SMAN 1 Uluan, through questionnaires that were distributed online or online obtained from 57 respondents the results obtained that the majority of students in class XII IPA SMAN 1 Uluan had menarche age > 13 years as many as 26 people (45, 6%), aged 12-13 years were 23 people (40.4%) and aged <11 years were 8 people (14%).

Age of onset of menstruation (menarche) is the age when menstruation first occurs, which is a characteristic of the maturity of a healthy, non-pregnant woman. The nutritional status of young women greatly influences the occurrence of menarche both from the age factor at menarche, the presence of complaints during menarche and the length of the menarche days. Physiologically, adolescent women who experience menstruation for the first time complain of pain, discomfort, and complain that their stomach feels full (according to Rahayu, 2012 in Putri's 2017 study).

The researcher assumes that class XII IPA students at SMAN 1 Uluan at the age of the first menstruation or the age of menarche are categorized as late, namely at the age of > 13 years. This is caused by a lack of economy so that the fulfillment of nutritional needs is not fulfilled, for example, such as a lack of consuming green vegetables (spinach, broccoli and others). Parents of students the average has a job as a farmer, and what they produce is rice. As for those who have a vegetable garden but the results are sold to the market.

Apart from not consuming enough vegetables, students rarely drink milk. Milk contains calcium which helps human growth and development, while green vegetables are a source of magnesium. If a lack of magnesium can cause premenstrual syndrome, because magnesium can reduce pain during menstruation.

It is also caused by hormone levels that are not balanced. Decreasing levels of the hormone progesterone in the blood results in a decrease in progesterone metabolite compounds, one of whose functions is as a kind of sedative in the brain, which causes a feeling of relaxation and calm. This research is supported by (Estiani & Nindya, 2018), which states that low levels of the hormone progesterone and excess levels of the hormone estrogen before menstruation can cause premenstrual syndrome, also states that intake of magnesium that is not in accordance with needs can also increase the risk of premenstrual syndrome. . magnesium intake during the luteal phase until menstrual blood comes out can reduce symptoms. Magnesium helps relax muscles, transmit nerve signals, reduce migraines, and acts as a scientific tranquilizer that women need when experiencing premenstrual syndrome.

This research is also supported by (Marfuah & Mayasari, 2018), the better the nutritional status of adolescents, the lighter the level of menstrual pain that is felt, also states that poor nutrition will affect the growth and function of organs which causes disruption of the reproductive system due to lack of nutrition. , it can cause an imbalance or decrease in the hormone progesterone so that it can increase prostaglandins which eventually cause menstrual pain.

Knowledge factors that influence premenstrual syndrome (PMS) in young girls of class XII IPA SMAN 1 Uluan in 2022

Based on the results of research conducted by researchers at SMAN 1 Uluan, through questionnaires that were distributed online which were obtained from 57 respondents, the results were obtained from class XII IPA students SMAN 1 Uluan has good knowledge, namely 19 people (33.33%), enough, namely 33 people (58%), and less 5 people (8.5%). The results of this study have sufficient majority knowledge, namely 33 people (58%).

Researchers assume that class XII IPA students at SMAN 1 Uluan are categorized as having sufficient knowledge about premenstrual syndrome, which is shown from the results of data on 33 people (58%). This is caused by according to the researcher's lack of knowledge of the respondents. This study shows that respondents did not know or lack curiosity about premenstrual syndrome, lack of counseling and the latest information about premenstrual syndrome.

The researcher assumes that the cause of the lack of knowledge is that the source of student information is generally obtained from the father or mother of the teacher at the school. Counseling about premenstrual syndrome can also be obtained from health center staff who come to school.

However, information was obtained from one of the students, that they had never received counseling or seminars regarding premenstrual syndrome. so they have less knowledge about premenstrual syndrome.

In addition, the researchers also assumed that students lacked curiosity about premenstrual syndrome, nowadays information is easy to get, the average female student already has a smartphone, with a smartphone, information is very easy to reach. There is a lot of information about premenstrual syndrome on the internet, but laziness and lack of curiosity lead to a lack of knowledge about premenstrual syndrome.

The researcher assumes that there are also some students who have good knowledge, because some students take the initiative to find out the causes of premenstrual syndrome, and find out what are the symptoms just before menstruation by opening the internet using their respective smartphones.

Supported by (Nia Desriva, 2018), the lack of knowledge about premenstrual syndrome that most students have is because students have not received reproductive health material that studies premenstrual syndrome, knowledge about reproductive health is very important, so that they have characteristics and behaviors that are responsible for their own health.

Research (Yulianingsih et al., 2020) says that counseling activities about premenstrual syndrome provide a positive value to the knowledge of young women, especially related to premenstrual syndrome material, the knowledge of young women has increased.

Factors of body mass index (BMI) that affect premenstrual syndrome (PMS) in young women of class XII IPA SMAN 1 Uluhan in 2022

Based on the results of research conducted by researchers at SMAN 1 Uluhan, through questionnaires that were distributed online which were obtained from 57 respondents, the results were that class XII IPA students at SMAN 1 Uluhan had a normal majority body mass index (BMI) of 28 people (49%) and a minority have obesity body mass index (BMI) II as many as 2 people (3.5%). Body mass index is a measure of predicting the percentage of fat in the human body. Fat is one of the compounds in the body that affects the process of forming the hormone estrogen, Eso (2016).

Researchers assume that class XII IPA students at SMAN 1 Uluhan are categorized as having a normal body mass index (BMI) (18.5-22.9) for premenstrual syndrome, as shown by the results of 28 people (49%). This is because the students of SMAN 1 Uluhan consume foods that are low in fat and high in carbohydrates. It can be seen that in the village of Lumban Nabolon there are no junk food users or fast food sellers. In addition to this, many respondents still came to school on foot. By walking the respondents have done light exercise every day.

Researchers assume that students who are underweight are caused by frequent consumption of ready-to-eat food, such as indomie. It is clear that we know that Indomie does not have vitamins. Some students are also required to work in the fields to help their parents after school. When vitamins are not sufficient and forced to work hard it will cause stunted growth and it can also cause premenstrual syndrome.

The researcher assumes that students who are overweight may be caused by the adequate economic status of their parents. The majority there are farmers but there are still some parents of students who work as civil servants and others. Give more pocket money to children and do not supervise food which was consumed by his son. Every day they don't have breakfast from home and only eat food in the cafeteria around the school. Eating unhealthy food and excess food can cause overweight.

This research is supported by (Marfuah & Mayasari, 2018) which says excessive nutritional intake in adolescents causes body weight to increase due to the large consumption of ready-to-eat food (junk food) and soft drinks (soft drinks) which also adds to excess calorie intake in adolescents. so they tend to be overweight.

This research is also supported by (Maharani & Samaria, 2021) Poor eating patterns can affect the incidence of premenstrual syndrome. Premenstrual syndrome can be caused by sweet foods, junk food, consuming caffeine, and not consuming enough fruits and vegetables. Carbohydrate

consumption can cause an increase in glucose, causing the hormone serotonin to work. The hormone serotonin can affect mood which reduces the symptoms of premenstrual syndrome.

Stress factors that affect premenstrual syndrome (PMS) in young girls of class XII IPA SMAN 1 Uluan in 2022

Based on the results of research conducted by researchers at SMAN 1 Uluan, through questionnaires that were distributed online which were obtained from 57 respondents, the results obtained were that the class XII IPA students at SMAN 1 Uluan had a heavy majority of stress, namely as many as 44 people (77.2%) and light minority, namely as many as 13 people (22.8%). Stress is a reaction to one's responsibility, both physically and psychologically because of changes, anger, anxiety and other forms of emotion are reactions to stress. Stating that tension is a person's physiological and physiological response to a stressor changes to fear, anger, anxiety, frustration, or autonomic nervous activity (Damayanti, 2013).

According to research conducted by Putri (2017) it showed that the results of respondents who had mild stress were as great as those with severe stress, namely 27 people (50%) had premenstrual syndrome. this is caused because students or respondents are carrying out final exams so they experience stress which affects premenstrual syndrome. The same thing was experienced by young women in class XII IPA SMAN 1 Uluan, the respondents were categorized as experiencing stress because they were taking final exams. They are afraid of this so they have trouble sleeping, their chests are pounding, they are dizzy. When they are resting they cannot rest in peace because of what they are feeling, this can cause stress and this can disrupt their menstruation.

Researchers also assume, the thing that causes them to experience stress is their current situation. They are confused with his life after graduating from high school. Some of them are waiting for the results of the SNMPTN (State University Entrance Selection). They are afraid if they don't graduate because their parents demand that they have to go to a state university. This is one of the causes of stress for young women in class XII IPA at SMAN 1 Uluan.

This research is supported (Fidora & Yuliani, 2020) which states that tension is a person's psychological and physiological response to stressors in the form of anger, academic pressure, anxiety, irritability and frustration or autonomic nervous activity. Stress causes irregularities in the production of β -endorphin which can cause some of the symptoms of premenstrual syndrome. Changes in endorphin levels have important effects on mood and behavior.

4. CONCLUSION

Based on the results of research conducted with a total of 57 respondents regarding the factors that influence premenstrual syndrome in young women in class XII IPA SMAN 1 Uluan in 2022 it can be concluded: The age of first menstruation or the age of menarche in class XII IPA students at SMAN 1 Uluan in 2022 is later than 13 years, namely 26 people (45.6%). Knowledge about premenstrual syndrome possessed by young women in class XII IPA SMAN 1 Uluan in 2022 is sufficient, namely 33 people (58%). Body mass index (BMI) in class XII IPA girls at SMAN 1 Uluan in 2022, which is normal for 28 people (49%). Stress in class XII IPA young women at SMAN 1 Uluan in 2022, namely severe stress as many as 27 people (50%). For health workers it is hoped that health workers will come to schools, especially SMAN 1 Uluan to conduct counseling or seminars to add information and insight about premenstrual syndrome. For researchers it is hoped that future researchers can examine the relationship between menarche age and premenstrual syndrome.

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syndrome. For researchers It is hoped that future researchers can examine the relationship between menarche age and premenstrual syndrome.

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