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FACTORS ASSOCIATED WITH MENSTRUAL PAIN IN FEMALE ADOLESCENTS

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ABSTRAK : FAKTOR-FAKTOR YANG BERHUBUNGAN DENGAN NYERI MENSTRUASI PADA REMAJA PEREMPUAN

Latar Belakang: Menstruasi adalah keluarnya darah dan sel-sel tubuh secara berkala dari vagina, yang berasal dari lapisan rahim pada wanita. Dampak dismenore pada wanita meliputi kelemahan fisik, mobilitas berkurang, dan stres. Berbagai faktor risiko dapat menyebabkan peningkatan keparahan
dismenore, termasuk usia, riwayat keluarga dismenore, menarche dini, dan indeks massa tubuh.

Tujuan: Untuk mengidentifikasi faktor-faktor yang berhubungan dengan nyeri menstruasi pada remaja putri di SMK Ma'arif Nu 6 Sekampung, Kabupaten Lampung Timur.

Metode: Penelitian analitik ini menggunakan pendekatan cross-sectional. Populasi adalah seluruh remaja putri yang mengalami nyeri haid, berjumlah 161 orang, dengan jumlah sampel sebanyak 115 responden yang dipilih secara accidental sampling. Penelitian dilakukan di SMK Ma'arif Nu 6 Sekampung, Kabupaten Lampung Timur, pada bulan Mei sampai dengan Juni 2024. Pengumpulan data dilakukan dengan menggunakan kuesioner. Analisis data dilakukan dengan analisis univariat dan bivariat (uji chi square).

Hasil: Penelitian ini menemukan bahwa sebanyak 66 responden (57,4%) memiliki status gizi baik, sebanyak 58 responden (50,4%) mengalami menarche pada usia < 12 tahun, sebanyak 99 responden (86,1%) tidak memiliki riwayat keluarga dismenore, dan sebanyak 62 responden (53,9%) mengalami nyeri haid.

Kesimpulan: Terdapat hubungan yang signifikan antara status gizi (p-value = 0,001), usia menarche (p-value = 0,001), dan riwayat keluarga (p-value = 0,008) dengan kejadian nyeri haid pada remaja putri di SMK Ma'arif Nu 6 Sekampung Kabupaten Lampung Timur. Disarankan kepada remaja agar mengatur pola makannya untuk mencapai berat badan ideal dan memahami faktor-faktor yang dapat menyebabkan terjadinya nyeri haid.

Kata kunci : Faktor-faktor yang berhubungan dengan nyeri haid dan remaja

ABSTRACT

Background: Menstruation refers to the periodic discharge of blood and body cells from the vagina, originating from the uterine lining in women. The impact of dysmenorrhea on women includes physical weakness, reduced mobility, and stress. Various risk factors can lead to an increase in the severity of dysmenorrhea, including age, family history of dysmenorrhea, early menarche, and body mass index.

Objective: To identify the factors associated with menstrual pain in female adolescents at SMK Ma'arif Nu 6 Sekampung, East Lampung Regency.

Methods: This analytical study employed a cross-sectional approach. The population consisted of all adolescent girls experiencing menstrual pain, totaling 161 individuals, with a sample size of 115 respondents selected through accidental sampling. The research was conducted at SMK Ma'arif Nu 6 Sekampung, East Lampung Regency, from May to June 2024. Data were collected using a questionnaire. Data analysis was performed using univariate and bivariate analysis (chi-square test).

Results: The study found that 66 respondents (57.4%) had good nutritional status, 58 respondents (50.4%) had menarche at age < 12 years, 99 respondents (86.1%) had no family history of dysmenorrhea, and 62 respondents (53.9%) experienced menstrual pain.

Conclusion: There is a significant relationship between nutritional status (p-value = 0.001), age at menarche (p-value = 0.001), and family history (p-value = 0.008) with the occurrence of menstrual pain in adolescents girls at SMK Ma'arif Nu 6 Sekampung, East Lampung Regency. It is recommended that adolescents manage their diet to achieve an ideal body weight and understand the factors that can cause menstrual pain.

Keywords : Factors associated with menstrual pain and adolescents

JKM (Jurnal Kebidanan Malahayati), Vol 11, No. 2. February 2025,
ISSN (Print) 2476-8944 ISSN (Online) 2579-762X, Hal 124-133

INTRODUCTION

Menstruation refers to the periodic expulsion of blood and body cells from the vagina, originating from the wall of a woman's uterus. Menstruation typically begins between the ages of 10 and 13, depending on various factors, including the woman's health, nutritional status, and body weight relative to height. Menstruation occurs once a month until women reach the ages of 45 to 50 (Manuaba, 2019).

Generally, many women experience discomfort in the form of pain during menstruation, which lasts for 2-3 days, starting the day before menstruation begins. The pain experienced during menstruation (dysmenorrhea) varies among women; some may feel only slight discomfort, while others may be so severely affected that they cannot carry out their daily activities, leading them to rest or even miss school (Andriyani, 2013).

Data from the World Health Organization (WHO) indicate that approximately 1,769,425 women (90%) experience dysmenorrhea, with 10-15% suffering from severe dysmenorrhea. This finding is supported by research conducted in various countries, which shows that the incidence of primary dysmenorrhea exceeds 50% in each country (WHO, 2016).

The global incidence of menstrual pain (dysmenorrhea) is significant, with more than 50% of women in each country affected. In the United States, the prevalence of primary dysmenorrhea among women aged 12-17 years was reported to be 59.7% in 2012, with 49% experiencing mild dysmenorrhea, 37% moderate dysmenorrhea, and 12% severe dysmenorrhea, resulting in 23.6% of sufferers missing school. In Egypt, 75% of adolescent girls reported experiencing dysmenorrhea in 2012, with 55.3% experiencing mild dysmenorrhea, 30% moderate dysmenorrhea, and 14.8% severe dysmenorrhea. A study conducted in India found a prevalence of dysmenorrhea at 73.83%, with cases classified as severe dysmenorrhea (Nurwana, 2017).

The impact of dysmenorrhea on women includes physical weakness, reduced mobility, and stress. As a result of menstrual pain, many young women seek medical consultation and treatment. Pain experienced before and during menstruation is often accompanied by nausea, dizziness, and weakness. This pain can be so intense that it forces sufferers to rest, often leading women to leave their work, which can disrupt their learning activities and decrease concentration, ultimately reducing productivity (Dinengsih, 2019).

The causes of dysmenorrhea are varied and may include conditions such as pelvic inflammatory disease, endometriosis, uterine tumors or abnormalities, excessive stress or anxiety, and hormonal imbalances, which may not necessarily be related to reproductive organs (Taqiyah et al., 2022). Dysmenorrhea pain can be alleviated through both pharmacological and non-pharmacological methods. Non-pharmacological approaches to relieve dysmenorrhea pain include getting adequate rest, consuming warm water with high calcium content, practicing deep relaxation or breathing techniques, and engaging in physical activities that focus on the abdomen (Widyanthi et al., 2021).

Several risk factors can contribute to an increase in the severity of dysmenorrhea pain, including age, family history of dysmenorrhea, early menarche, and body mass index (Zuhkrina, 2023). Most previous studies support the finding that women with a family history of dysmenorrhea have an increased risk of experiencing it, which is related to genetic factors within the family (Zuhkrina, 2023).

According to Syafitri (2015), low nutritional status can result from poor dietary intake, including insufficient iron, which can lead to anemia. Anemia is one of the factors that can reduce the body's resistance to pain, resulting in dysmenorrhea during menstruation. Therefore, it can be concluded that anemia may be a significant factor contributing to dysmenorrhea, indicating a significant relationship between anemia and the level of dysmenorrhea among students at SMA Muhammadiyah 3 Surakarta. The pain is attributed to the unstable hormonal cycle experienced by women, as well as anemia and psychological instability (Anurogo, 2018).

Research by Jayanti (2021) found a relationship between age at menarche and the incidence of dysmenorrhea among Level I Semester II students, with a p-value of 0.002. Similarly, research by Savitri et al. (2019) indicates a relationship between age at menarche and the incidence of dysmenorrhea, with a p-value of 0.005. This is because women who experience early menarche experience longer exposure to prostaglandins, causing cramps and abdominal pain. In addition, because the reproductive organs have not developed and function optimally and there is still a narrowing of the cervix (Manuaba, 2016) . Research (Puterida et al., 2020) with the results of family history (p-value = 0.001 <0.05) with the incidence of dysmenorrhea in FKIP students of the BK study program at UNISKA MAB Banjarmasin in 2020 is in accordance with the theory because people with dysmenorrhea can experience it because there are genetic factors from their family.

The handling or treatment of dysmenorrhea is quite varied ranging from simple ways by using warm water compresses on the abdomen, using analgesic

drugs, other ways that can be done are with hormonal drugs, nonsteroidal anti-prostaglandin drugs according to the doctor's prescription. Dysmenorrhea can also be reduced or prevented by regular exercise, adequate rest, increasing consumption of vitamin E, vitamin B6, or fish oil, and avoiding consumption of alcohol, coffee, fatty foods, ice cream, and chocolate because they can increase estrogen levels which can trigger the release of prostaglandins (Proverawati, 2020)

The results of the pre-survey conducted in April 2024, it was found that out of 10 adolescent girls who experienced menstrual pain, it was known from the results of interviews from 10 women who experienced menstrual pain there was 1 person who had to be forced to miss school due to pain during menstruation. From 10 adolescent girls are known as many as 3 (30%) with BMI> 25 while as many as 7 (70%) with BMI between 19-24. Of the 10 adolescent girls, 8 (80) with menarche age of 11 years and 2 (20%) respondents with menarche age of 9 years, 3 (30%) respondents said that their mothers also experienced menstrual pain.

So based on the above phenomenon, the researcher is interested in conducting research with the title " Factors Associated with the Incidence of Menstrual Pain in Adolescent Girls at SMK Ma'arif Nu 6 Sekampung, East Lampung Regency ".

RESEARCH METHODS

The type of research conducted in this study is quantitative, utilizing an analytical approach with a cross-sectional design. This research was carried out at SMK Ma'arif Nu 6 Sekampung, East Lampung Regency. The population for this study consisted of all adolescent girls experiencing menstrual pain at the school, totaling 161 individuals. The sample included 115 respondents, selected through accidental sampling. The dependent variable in this study is blood pressure, while the independent variable is the use of injectable contraceptives, specifically depo medroxyprogesterone acetate (DMPA).

RESEARCH RESULTS

Univariate Analysis

It was found that out of 115 respondents where 66 (57.4%) with good nutritional status, 58 (50.4%) respondents with age < 12 years, 99 (86.1%) respondents with no family history, 62 (53.9%) respondents experienced menstrual pain.

Table 1
Frequency distribution of nutritional status, age at menarche, family history, and menstrual pain among adolescent girls at SMK Ma'arif Nu 6 Sekampung

Variables	Category	Frequency	Percent
Nutritional status	Not good	49	42,6
	Good	66	57,4
Age of menarche	<12 years	58	50,4
	≥12 years	57	49,6
History	History	16	13,9
	No history	99	86,1
Pain	pain	62	53,9
	No pain	53	46,1

Bivariate Analysis

Table 2
Relationship between nutritional status and the incidence of menstrual pain in adolescent girls at SMK Ma'arif Nu 6 Sekampung

Nutrition Status	Incidence of menstrual pain				Total		*P-Value*	OR 95% CI
	pain		No menstrual pain					
	n	%	n	%	N	%		
Not good	36	73,5	13	26,5	49	100,0	0,001	4,260 (1,907 9,517)
Good	26	39,4	40	60,6	66	100,0		

It is known from 49 respondents with poor nutritional status, 36 (73.5%) respondents experienced menstrual pain and 13 (26.5%) respondents did not experience menstrual pain. Of the 66 respondents with good nutritional status, 26 (39.4%) respondents experienced menstrual pain and

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JKM (Jurnal Kebidanan Malahayati), Vol 11, No. 2. February 2025,
ISSN (Print) 2476-8944 ISSN (Online) 2579-762X, Hal 124-133

40 (60.6%) respondents did not experience menstrual pain.

The statistical test results obtained *p-value* = 0.001 which means p <α = 0.05 (Ha is accepted and Ho is rejected), it can be concluded that there is a relationship between nutritional status and the incidence of menstrual pain in adolescent girls at SMK Ma'arif Nu 6 Sekampung, East Lampung Regency. With an OR value of 4.2, it means that respondents with poor nutritional status have a 4.2 times chance of experiencing menstrual pain when compared to respondents with good nutritional status.

Table 3
Relationship between menarche age and the incidence of menstrual pain in adolescent girls at SMK Ma'arif Nu 6 Sekampung

Age of menarche	Incidence of menstrual pain				Total		*P-Value*	OR 95% CI
	pain		No menstrual pain					
	n	%	n	%	N	%		
<12 years	42	72,4	16	27,6	58	100,0	0,001	4,856 (2,199 10,723)
≥12 years	20	35,1	37	64,9	57	100,0		

Of the 58 respondents with menarche age < 12 years, 42 (72.4%) respondents experienced menstrual pain and 16 (27.6%) respondents did not experience menstrual pain. Of the 57 respondents with menarche age ≥12 years, 20 (35.1%) respondents experienced menstrual pain and 37 (64.9%) respondents did not experience menstrual pain.

The statistical test results obtained *p-value* = 0.001 which means p <α = 0.05 (Ha is accepted and Ho is rejected), it can be concluded that there is a relationship between menarche age and the incidence of menstrual pain in adolescent girls at SMK Ma'arif Nu 6 Sekampung, East Lampung Regency. With an OR value of 4.8, it means that respondents with menarche age < 12 years have a 4.8 times chance of experiencing menstrual pain when compared to respondents with menarche age≥ 12 years.

Table 4
Relationship between family history and the incidence of menstrual pain in adolescent girls at SMK Ma'arif Nu 6 Sekampung

History	Incidence of menstrual pain				Tota		*P-Value*	OR 95% CI
	pain		No menstrual pain					
	n	%	n	%	N	%		
History	14	87,5	2	12,5	16	100,0	0,008	7,438 (1,605 34,455)
No history	48	48,5	51	51,5	99	100,0		

It is known that out of 16 respondents with a family history, 14 (87.5%) respondents experienced menstrual pain and 2 (12.5%) respondents did not experience menstrual pain. Of the 99 respondents with no family history, 48 (48.5%) respondents experienced menstrual pain and 51 (51.5%) respondents did not experience menstrual pain.

The statistical test results obtained *p-value* = 0.008 which means p <α = 0.05 (Ha is accepted and Ho is rejected), it can be concluded that there is a relationship between family history and the incidence of menstrual pain in adolescent girls at SMK Ma'arif Nu 6 Sekampung, East Lampung Regency. With an OR value of 7.4, it means that respondents with a family history have a 7.4 times chance of experiencing menstrual pain when compared to respondents with no family history.

DISCUSSION

Univariate Analysis

Nutrition Status

Based on the results of the study, 49 (42.6%) respondents with poor nutritional status and 66 (57.4%) with good nutritional status.

In line with Mandasari's research (2021) 153 respondents (82.7%) had a body mass index. Lail's research (2019) of 32 adolescent girls who experienced dysmenorrhea, there were 10 people (31.3%). Meanwhile, 22 young women who did not experience dysmenorrhea (68.8%). Syafriani's

research (2021) more than half of the students had abnormal nutritional status, namely 52 people (65%).

Nutritional status is a measure of the condition of a person's body that can be seen from the food consumed and the use of nutrients in the body. Nutritional status is divided into three categories: undernourished, normal, and over nourished (Supariasa, 2016).

According to researchers, underweight or limited nutrition will not only affect growth, organ function, but will also cause disruption of reproductive function. This will have an impact on menstrual pain, but will improve if the nutritional intake is good, because nutritional status is one of the risk factors for menstrual pain disorders, low nutritional status (*underweight*) can be caused by insufficient food intake, including iron which can cause anemia. Based on the theory and opinions above, it can be said that nutritional status can have a relationship with menstrual pain disorders even though there are other studies that state there is no relationship. Nutritional status indicates the condition of adolescent girls. If adolescent girls experience poor nutritional status, they are prone to menstrual pain so that one of the efforts to prevent menstrual pain is to improve nutritional status to normal.

Age of Menarche

Based on the results of the study, 58 (50.4%) respondents with menarche age < 12 years and 57 (49.6%) respondents with menarche age ≥ 12 years.

In line with Mandasari's research (2021) 152 respondents (82.2%) had normal menarche age. Syafriani's research (2021) some female students experienced the age of menarche too early as many as 44 people (55%). Lail's research (2019) of 32 adolescent girls who experienced menarche age < 12 years were 9 people (28.1%), while menarche age ≥ 12 years were 23 people (71.9%).

Menarche is at the age of 9 to 12 years. This period will change behavior from several aspects, such as psychology and others. And there are those who experience menstruation (*menarche*) at the age of 12-15 years. The normal menstrual cycle occurs every 21-35 days, with the length of menstruation for 2-7 days (Kusmiran, 2018) .

According to the researcher, the age of menarche < 12 years at the first occurrence of menstruation experienced menstrual pain and the menstrual cycle was 28 days and at the time of menstrual pain some respondents took medication and some did not take medication, some went to the doctor and some did not go to the doctor, and respondents experienced at the first occurrence of menstruation the respondent said it greatly disturbed learning activities and did not go to school and felt anxious, while the age of menarche ≥ 12 years the respondent experienced little menstrual pain and was cooperative and optimistic during the learning process and was never absent from school.

Family history

Based on the results of the study, it is known that 16 (13.9%) respondents have a family history and as many as 99 (86.1%) respondents have no family history.

In line with Puterida's research (2021) there was a family history of 40 people (62.5%). Sari's research (2022) had a family history of 50 people (61.0%) and not as many as 32 people (39.0%). Destariyani's research (2023) in the case group, the family history of dysmenorrhea was 20 respondents (66.7%) while the control group had no family history of dysmenorrhea as many as 20 people (66.7%).

Hereditary factors or family history (mother or siblings) who experience dysmenorrhea cause a woman to suffer from severe dysmenorrhea, this is related because the anatomical and physiological conditions of a person are generally almost the same as their parents and siblings In addition to these factors, a family history of dysmenorrhea is also one of the most influential factors in primary dysmenorrhea (Puterida et al., 2020).

Researchers assume that women who have a family history of dysmenorrhea have a greater prevalence of dysmenorrhea. Children of mothers who have menstrual problems will experience unpleasant periods, a reason that can be attributed to learned behaviors from the mother. The reason family history is a risk factor for dysmenorrhea may be related to conditions such as endometriosis.

Period Pain

Based on the results of the study, 62 (53.9%) respondents with menstrual pain and 53 (46.1%) respondents with menstrual pain were not dysmenorrhea.

Menstruation is periodic and cyclic bleeding from the uterus, accompanied by the release (desquamation) of the endometrium. Most women do not feel symptoms during menstruation, but most feel heaviness in the pelvis or feel pain (Dysmenorrhea) (Prawirohardjo, 2020) . The causes of dysmenorrhea vary, it can be due to disease (pelvic inflammation), endometriosis, uterine tumors or abnormalities, excessive stress or anxiety, it can also be due to hormonal imbalances and has nothing to do with reproductive organs (Taqiyah et al., 2022)

In line with Mandasari's research (2021) there were 145 respondents (78.4%) who did not

DOI 10.33024, http://ejurnalmalahayati.ac.id/index.php/kebidanan

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ISSN (Print) 2476-8944 ISSN (Online) 2579-762X, Hal 124-133

experience dysmenorrhea. Syafriani's research (2021) most of the female students experienced dysmenorrhea, namely 47 people (58.8%). Sari's research (2022) of 82 respondents found that 34 respondents (41.5%) experienced dysmenorrhea and 48 people (58.5%) did not.

In the opinion of researchers, someone who experiences primary dysmenorrhea often feels uncomfortable during menstruation, this is due to the pain experienced in the lower abdomen making it difficult to carry out daily activities. The incidence of primary dysmenorrhea can affect the quality of life of productivity and utilization of health services during the reproductive period of women. Prevention to overcome dysmenorrhea such as by fulfilling balanced nutrition, reducing consumption of foods and drinks containing caffeine, healthy living, reducing stress or psychological complaints, and doing physical activity or exercise.

Bivariate Analysis

The relationship between nutritional status and the incidence of menstrual pain in adolescent girls

Based on the results of statistical tests obtained *p-value* = 0.001 which means p <α = 0.05 (Ha is accepted and Ho is rejected), it can be concluded that there is a relationship between nutritional status and the incidence of menstrual pain in adolescent girls at SMK Ma'arif Nu 6 Sekampung, East Lampung Regency. With an OR value of 4.2, it means that respondents with poor nutritional status have a 4.2 times chance of experiencing menstrual pain when compared to respondents with good nutritional status.

In line with Mandasari's research (2021) there is a significant relationship between body mass index and the incidence of dysmenorrhea with a p value of 0.000 < α 0.05. Syafriani's research (2021) shows a significant relationship between nutritional status and the incidence of dysmenorrhea in adolescent girls with a p value = 0.01 or p ≤ α (0.05). Lail's research (2019) there is a relationship between nutritional status and dysmenorrhea in adolescent girls with a pvalue = 0.013 <0.05.

According to Supariasa (2016) nutritional problems in adolescents arise due to poor nutritional intake, namely the imbalance between nutritional intake and recommended nutritional adequacy. Nutritional problems that can occur in adolescents are *underweight*, obesity, and anemia.

Based on the results of the study, 49 respondents with poor nutritional status, as many as 36 (73.5%) experienced dysmenorrhea, this is in accordance with the theory which states that nutritional status can be related to menstrual pain. According to researchers, poor or limited nutrition will not only affect growth, organ function, but will also cause disruption of reproductive function. This will have an impact on menstrual disorders, but will improve if the nutritional intake is good, because nutritional status is one of the risk factors for dysmenorrhea, low nutritional status (*underweight*) can be caused by insufficient food intake, including iron which can cause anemia. Anemia is one of the factors that cause a lack of resistance to pain so that during menstruation primary dysmenorrhea can occur, while *overweight* nutritional status can also cause dysmenorrhea because there is excessive fat tissue which can result in hyperplasia of blood vessels or the pressing of blood vessels by fatty tissue in the female reproductive organs, so that the blood that should flow in the menstrual process is disturbed and causes pain during menstruation. And as many as 13 (26.5%) did not experience dysmenorrhea this is because respondents although they had poor nutritional status but did not experience stress, or had good body activity, normal menarche age so that respondents did not experience menstrual pain.

Of the 66 respondents with good nutritional status, 26 (39.4%) experienced dysmenorrhea, it is possible that adolescents have a family history of menstrual pain, respondents experience stress or abnormal menarche age> 12 years, so that respondents experience menstrual pain. and as many as 40 (60.6%) did not experience dysmenorrhea. Based on the theory and opinions above, it can be said that nutritional status can have a relationship with dysmenorrhea even though there are other studies that state there is no relationship. Nutritional status indicates the condition of adolescents, if adolescents experience poor nutritional status then they are vulnerable to dysmenorrhea so that one of the efforts to prevent dysmenorrhea is by increasing nutritional status to normal.

The relationship between menarche age and the incidence of menstrual pain in adolescent girls

Based on the results of statistical tests obtained *p-value* = 0.001 which means p <α = 0.05 (Ha is accepted and Ho is rejected), it can be concluded that there is a relationship between menarche age and the incidence of menstrual pain in adolescent girls at SMK Ma'arif Nu 6 Sekampung, East Lampung Regency. With an OR value of 4.8, it means that respondents with menarche age < 12 years have a 4.8 times chance of experiencing menstrual pain when compared to respondents with menarche age > 12 years.

In line with research by Syafriani (2021) there is a significant relationship between menarche age

and the incidence of dysmenorrhea in adolescent girls with a p value = 0.02 or p ≤ α (0.05). Mandasari's research (2021) there is a significant relationship between the age of menarche and the incidence of dysmenorrhea with a p value of 0.000 <0.05. Lail's research (2019) there is a relationship between age of menarche and dysmenorrhea in adolescent girls with p value = 0.001 <0.05.

Menarche age is the age when a woman gets her first period. The age of a girl's menarche varies greatly. In general, the first menstruation occurs at the age of 12-13 years. There is a tendency that nowadays menarche occurs at a younger age. The younger the age of women experiencing menarche, the less ready they are to accept menstruation because psychologically it is considered a disturbance in a child's response (Anugrah, 2022).

Based on the results of the study, it is known that 58 respondents with menarche age < 12 years, 42 (72.4%) experienced dysmenorrhea, this is in accordance with the theory that age < 12 years is still very young so that the function of hormones produced is not optimal, besides that respondents may experience stress, thus increasing the perception of pain during menstruation and as many as 16 (27.6%) did not experience dysmenorrhea, it is possible that respondents did not experience stress, maintain food patterns that do not stimulate pain such as spicy foods, coffee, soft drinks so that respondents do not experience menstrual pain.

Of the 57 respondents with menarche age ≥12 years, as many as 20 (35.1%) experienced dysmenorrhea, this could be because respondents experienced dysmenorrhea, it is possible that respondents did not experience stress, maintain food patterns that do not stimulate pain such as spicy foods, coffee, soft drinks so that respondents experience menstrual pain and as many as 37 (64.9%) did not experience dysmenorrhea. Based on the results of observations that have been made in adolescents, the relationship between menarche at an early age and the incidence of menstrual pain is due to the age of menarche being too young or too old (< 9 or > 12 years), where if the age of menarche is too young or too old (< 9 or > 12 years). 12 years), where if the age of menarche is too young to experience menstruation, it will cause the reproductive organs to not develop optimally and there is still a narrowing of the cervix, so there will be pain during menstruation because the female reproductive organs are not functioning optimally, The age of menarche that is too fast for some adolescent girls can also cause unrest because mentally they are not ready to experience menstruation so that it is not uncommon for negative psychological reactions to appear during menarche and cause feelings of anxiety, fear, anxiety and depression and when menarche occurs there is often an assumption that everything that comes out of girls' genitals is something dirty, disgusting and a stain for themselves. These negative feelings then lead to feelings of inferiority which result in girls feeling sick during menstruation, in addition to differences in nutritional intake in adolescents. The types of food available in the suburbs and in the middle of the city must also have differences that can affect adolescent health. In addition, adolescent problems stem from organ biological changes due to the maturation of reproductive organs which will provide certain psychological and emotional impulses.

Based on this explanation, it can be seen that the menarche factor at an early age has a very large influence on the incidence of dysmenorrhea. So in this case it should be noted for adolescents who have experienced menarche at a risky age Menarche age is too young or too old (< 9 or > 12 years), in order to prevent the possibility of dysmenorrhea that will be experienced by coordinating with related health practitioners, for example conducting counseling on how to prevent the occurrence of dysmenorrhea in adolescents.

According to the researcher's opinion that menarche is the beginning of adolescents menstruating, where menstruation indicates the reproductive system begins to function, when adolescents experience menstruation that is where adolescents will feel how the menstrual process such as dysmenorrhea at the beginning before menstruation or during menstruation. Whenever adolescents start menarche does not have a harmful effect on their health, by providing a good understanding of menstruation, how to maintain personal hygiene during menstruation, maintain physical activity, and maintain a diet will provide better adolescent health. Understanding pain reduction is one of the effective ways for dysmenorrhea adolescents in overcoming dysmenorrhea, such as consuming warm drinks, massaging the back during dysmenorrhea, consuming avocado juice and many others, will provide a good solution for adolescents.

The relationship between family history and the incidence of menstrual pain in adolescent girls

Based on the results of statistical tests obtained *p-value* = 0.008 which means p <α = 0.05 (Ha is accepted and Ho is rejected), it can be concluded that there is a relationship between family history and the incidence of menstrual pain in adolescent girls at SMK Ma'arif Nu 6 Sekampung, East Lampung Regency. With an OR value of 7.4, it means that respondents with a family history have a

DOI 10.33024, http://ejurnalmalahayati.ac.id/index.php/kebidanan

JKM (Jurnal Kebidanan Malahayati), Vol 11, No. 2. February 2025,
ISSN (Print) 2476-8944 ISSN (Online) 2579-762X, Hal 124-133

7.4 times chance of experiencing menstrual pain when compared to respondents with no family history.

In line with Puterida's research (2021) there is a family history relationship (p value = 0.001 <0.05) with the incidence of dysmenorrhea in FKIP students of the BK study program at UNISKA MAB Banjarmasin in 2020. Sari's research (2022) there is a significant relationship between family history (p value = 0.003 ≤ α 0.05) and the incidence of dysmenorrhea. Destariyani's research (2023) there is a relationship between family history of dysmenorrhea and the incidence of dysmenorrhea in adolescent girls with a p-value = 0.020.

Hereditary factors or family history (mother or siblings) who experience dysmenorrhea cause a woman to suffer from severe dysmenorrhea, this is related because the anatomical and physiological conditions of a person are generally almost the same as their parents and siblings In addition to these factors, a family history of dysmenorrhea is also one of the most influential factors in primary dysmenorrhea (Puterida et al., 2020).

According to researchers, a family history of dysmenorrhea is more likely to occur because it is related to genetic factors that pass on traits to their offspring. One of the properties of genetics is to duplicate itself so that during cell division, genetics will duplicate itself so that the mother's traits can decrease in her offspring. Similarly, the incidence of dysmenorrhea is inherited from the mother. Some other studies explain that family history and the risk of dysmenorrhea can be possible because of the same lifestyle and lifestyle in the family, so even though there is a family history of dysmenorrhea but has a different lifestyle and lifestyle, it can reduce the risk of the incident.

CONCLUSION

It was found that out of 115 respondents where 66 (57.4%) with good nutritional status, 58 (50.4%) respondents with age < 12 years, 99 (86.1%) respondents with no family history, 62 (53.9%) respondents experienced menstrual pain. There is a relationship between nutritional status with the incidence of menstrual pain in adolescent girls at SMK Ma'arif Nu 6 Sekampung East Lampung Regency (*p-value* = 0.001) There is a relationship between menarche age and the incidence of menstrual pain in adolescent girls at SMK Ma'arif Nu 6 Sekampung East Lampung Regency (*p-value* = 0.001) There is a relationship between family history and the incidence of menstrual pain in adolescent girls at SMK Ma'arif Nu 6 Sekampung East Lampung Regency (*p-value* = 0.008).

SUGESSTION

For Respondents, Respondents maintain food intake so that nutritional status as seen from BMI is in the normal category, in addition to maintaining a diet, respondents can also exercise regularly at least 3 times a week such as running, jogging, cycling, swimming and other sports to keep the body from obesity so that nutritional status remains normal. In addition, respondents who experience menstrual pain due to menarche and family history can reduce the menstrual pain they feel by making efforts such as warm compresses, drinking ginger tea. For SMK Ma'arif Nu 6 Sekampung, can counsel adolescents on various matters, especially about the reproductive system such as menstruation, how to deal with menstrual pain, prevent and others. Counseling can be done using interactive media, such as *coded leaflets, videos, booklets* so that it is easy for adolescents to read. For Malahayati University, the results of this study can be used as a reference for academics on campus in improving public health status, especially in research on the incidence of menstrual pain in adolescent girls. For further researchers, the results of this study can be used as a reference for conducting similar research, or developing similar research by adding new variables.

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