Analysis of Determinants of the Incident of Dysmenorrhea in the Al Mabrur Islamic Boarding School

Sherkia Ichtiarsi Prakasiwi[1,*] Endah Sulistyowati[2]

[1,2]Universitas Muhammadiyah Semarang, Semarang, Central Java 50273, Indonesia

sherkia@unimus.ac.id

Abstract. Adolescence is a period of change, or transition from childhood to adulthood with an age range of 12-21 years. Menstruation is the process of the uterine wall (endometrium) experiencing repeated bleeding secretions every month. The type and severity of pain varies from mild to severe, dysmenorrhea is pain in the lower abdomen before or during menstruation which can cause discomfort, headaches, feeling tired and even nausea and vomiting. Many factors influence the occurrence of dysmenorrhea, namely internal factors and external factors. From a preliminary study, at the Al-Mabrur Islamic boarding school, the majority of female students experienced dysmenorrhea and did not know the appropriate and effective treatment to reduce dysmenorrhea pain. The aim of this research is to analyze the determinants of dysmenorrhea pain at the Al-Mabrur Islamic Boarding School. This research method is quantitative research using a cross-sectional approach. The total sample was 58 female students with a sampling technique using simple random sampling. The results of this study were that female students with a menarche age of 9-11 years experienced moderate dysmenorrhea, 23 people (74.2%), female students with a menstrual period of 5-7 days most experienced moderate dysmenorrhea, 28 people (77.8%) 25 female students who did not stretch experienced moderate dysmenorrhea (69.4%).

Keywords: Dysmenorrhea, Female Student, Menstruation.

1. Introduction

Menstruation is the process of the uterine wall (endometrium) experiencing repeated bleeding secretions every month. The type and severity of pain varies from mild to severe [1]. Various menstrual problems experienced by teenagers, such as gynecological problems that teenagers often complain about, such as menstrual irregularities, menorrhagia, dysmenorrhea, and other related symptoms. Among these complaints, dysmenorrhea is the most commonly reported, occurring in 60%–0% of adolescents, and is the most frequent cause of absence from school and reduction in daily activities [2].

According to the World Health Organization (WHO), the incidence of dysmenorrhea reaches 90%. The prevalence is generally higher in young women in the 17 to 24 year age group, which is estimated at 60-90%. More than 50% of menstruating women in the world report suffering from primary dysmenorrhea [3]. On average, dysmenorrhea in European countries occurs in 45-97% of women, Bulgaria has the lowest prevalence at 8.8% and Finland has the highest prevalence at 94%. The highest prevalence of dysmenorrhea is found in adolescent girls, estimated at 20- 90% [4]. According to 50 studies conducted on adolescent girls and young women in various countries from 2010 to 2015, the prevalence of dysmenorrhea ranged from 34% in Egypt, 94% in Oman, with a prevalence of severe pain of 0.9% in Korea to 59.8% in Bangladesh [5]. In Indonesia, the prevalence of dysmenorrhoea is 64.25%, consisting of primary dysmenorrhea of 54.89% and 9.36% experiencing secondary dysmenorrhoea [6].

Dysmenorrhea or painful menstruation is the most common gynecological complaint. Dysmenorrhea can interfere with daily activities, even to the point of not being able to carry out activities, such as attending school [7]. Dysmenorrhea is divided into two, namely primary and secondary dysmenorrhea. Primary dysmenorrhea is the occurrence of menstruation at the beginning of menstruation (menarche) which is accompanied by pain, but there is no specific disease that is the cause. Meanwhile, secondary dysmenorrhea is pain caused by a collection of symptoms of gynecological diseases, for example endometriosis or fibroids (8).

Primary dysmenorrhea is defined as menstrual pain in the absence of pelvic disease. It is characterized by excess production of prostaglandins by the endometrium which causes hypercontractility of the uterus resulting in uterine muscle ischemia, hypoxia, and subsequently, pain. It is the most common gynecological disease in women in their reproductive years and one of the most frequent causes of pelvic pain. However, it is underdiagnosed, undertreated, and even underestimated by women themselves, who accept it as a normal part of the menstrual cycle (9). Another problem that can cause dysmenorrhea is nutritional status. Adolescents with abnormal nutritional status have a 1.2 times greater risk of experiencing dysmenorrhea. Low nutritional status (underweight) can be caused by insufficient food intake, while overweight nutritional status can also cause dysmenorrhea because there is excessive fat tissue which can cause hyperplasia of blood vessels or pressure on blood vessels by fat tissue in the female reproductive organs. so that the blood that should flow during the menstrual process is disrupted and causes pain during menstruation (10).

According to a literature review conducted (Wulanda, Luthfi and Hidayat, 2020), it is stated that some dysmenorrhea sufferers reduce pain with analgesic drugs without consultation or prescription from a doctor. Side effects of analgesic drugs if consumed excessively or without supervision can cause liver damage, bleeding, diarrhea and nausea

as well as gastric problems and even hypertension. The most dangerous long-term effect is that it can increase the risk of developing Alzheimer's disease (this disease is characterized by confusion, disorientation, memory failure, speech disorders and dementia). Therefore, non-pharmacological measures are needed as an alternative method for treating dysmenorrhea. There are many complications, such as anemia and chronic lack of energy (11).

According to Sukarni and Margareth (2013), several factors play a role in causing primary dysmenorrhea, namely psychiatric factors, constitutional factors, cervical canal obstruction factors, endocrine factors, allergic factors. Apart from that, there are also other factors, namely age and nutritional status. Of the various factors, researchers want to examine further which factors play the most role in the occurrence of dysmenorrhea in female students at the Al Mabrur Islamic Boarding School with the same characteristics as.

2.   Methods

2.1.   Research Design

This research uses a quantitative type of research with a cross sectional approach. Data from respondents was taken by means of structured interviews using questionnaires filled out by researchers. The statistical test used is the chi square test.

2.2.   Setting and Sample

The population in this study were female students at the Al Mabrur Islamic boarding school. The sample in this research was 58 female students at the Al Mabrur Islamic boarding school. This research uses a consecutive sampling technique, namely sample selection by determining that subjects who meet the research criteria are included in the research for a certain period of time, so that the number of respondents can be met.

2.3.   Measurement and Outcome Measures

Characteristics

Respondent's Age

Table 1. Respondent's Age

	Frequency		Percent	Valid Percent	Cumulative Percent
Valid	11.00	2	3.4	3.4	3.4
	12.00	2	3.4	3.4	6.9

Frequency		Percent	Valid Percent	Cumulative Percent
13.00	8	13.8	13.8	20.7
14.00	9	15.5	15.5	36.2
15.00	13	22.4	22.4	58.6
16.00	5	8.6	8.6	67.2
17.00	4	6.9	6.9	74.1
18.00	5	8.6	8.6	82.8
19.00	5	8.6	8.6	91.4
20.00	3	5.2	5.2	96.6
22.00	1	1.7	1.7	98.3
24.00	1	1.7	1.7	100.0
Total	58	100.0	100.0	

Table 1 shows that the most respondents were 15 years old, namely 13 people, followed by 14 year olds, namely 14 people and 13 year olds, namely 8 people. Teenagers are the age group from 10 years to before the age of 18 years. Adolescent health efforts aim to prepare adolescents to become healthy, intelligent, high-quality and productive adults who play a role in maintaining, maintaining and improving their own health.

Education

Table 2 shows that the highest number of respondents at the high school level was 27 people, 16 people at the junior high school level, 9 people at the high school level, and 6 people at the elementary school level. Education also varied among the respondents in this study, in the intervention group most were students and the others were high school students, while the control group looked more diverse, dominated by high school education, there were also students and a small number had junior high school education. According to Sukmadinata in Widharatna (2006), a person's education will have an influence in responding to something that comes from outside, a highly educated person will respond more rationally to the stimulus that comes, and will think about the extent of the benefits they might gain from the idea.

Table 2. Respondent's Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Elementary School	6	10.3	10.3	10.3
	Junior high school	16	27.6	27.6	37.9

	Frequency	Percent	Valid Percent	Cumulative Percent
Senior High School	27	46.6	46.6	84.5
High School Graduate	9	15.5	15.5	100.0
Total	58	100.0	100.0	

Frequency Distribution Overview

Table 3. Frequency Distribution of Dysmenorrhea Events

No.	Determinant	f	%
1.	Dysmenorrhea Occurrence		
	a. Mild Dysmenorrhea	13	22,4
	b. Moderate Dysmenorrhea	8	65,5
	c. Severe Dysmenorrhea	7	12,1
2.	Menarche		
	a. 9-11 years old	31	53,4
	b. 12-15 years old	27	46,6
3.	Long Menstruation		
	a. 5-7 days	36	62,1
	b. 8-10 days	22	37,9
4.	Stretching Habit		
	a. Not Stretching	36	62,1
	b. Stretching	22	37,9

Table 1.3 shows that the majority of respondents experienced moderate dysmenorrhea, 38 people (65.5%), 13 people (13%) with mild dysmenorrhea, and 7 people (12.1%) with severe dysmenorrhea. Most respondents experienced menarche in the 9-11year age range, namely 31 people (53.4%) and 27 people aged 12-15 years (46.6%). The highest length of menstrual period for respondents was in the range of 5-7 days as many as 36 people (62.1%) and the length of menstruation was 8-10 days as many as 22 people (37.9%). The most common stretching habits of respondents were that they did not stretch as many as 36 people (62.1%) and those who did stretch were 22 people (37.9%).

Relationship to Determinants of Dysmenorrhea

Table 4. Determinants of the Incidence of Dysmenorrhoea

No	Determinant	Dysmenorrhea Occurrence								P value
		Mild		Moderate		Severe		Total		
		N	%	N	%	N	%	N	%	
1.	Menarche a. 9-11 years old	3	9,7	23	74,2	5	16,1	31	100	0,03
	b. 12-15 years old	10	37,0	15	55,6	2	7,4	27	100	5
2.	Long Menstruation									
	a. 5-7 days	5	13,9	28	77,8	3	8,3	36	100	0,04
	b. 8-10 days	8	36,4	10	45,5	4	18,2	22	100	3
3.	Stretching Habit									
	a. Not Stretching	4	11,1	25	69,4	7	19,4	36	100	0,00
	b. Stretching	9	40.9	13	59,1	0	0,0	22	100	2

2.4. Data Analysis

This research uses univariate analysis and bivariate analysis. Univariate analysis is an analysis carried out on each variable from the research results. This analysis only produces the distribution and percentage of each variable. Bivariate analysis is an analysis carried out on two variables that are thought to be related or correlated (12). The data obtained were analyzed using the Chi-Square statistical test. This statistical test is used to determine the relationship between the independent variable and the dependent variable with a significance level of 0.05, then the calculation results are compared with table. To make a decision whether the proposed hypothesis is accepted or rejected, the Chi square value needs to be compared with the Chi square table with dk and a certain level of error. In this case, the provisions apply if the calculated Chi square is smaller than the table, then Ho is accepted and if it is greater or equal to ($\geq$) the table value then Ho is rejected

2.5.   Ethical Considerations

In conducting research, researchers submit permission approval to educational institutions to write a letter requesting permission to use data and information as material in preparing a thesis. Then the questionnaire was delivered to the respondents studied with emphasis on ethical issues, which include:

Ethical Clearance

This research is in the process of ethical submission at the UNIMUS Faculty of Nursing and Health Sciences.

Informed Consent (Consent Sheet)

Along with the ethical permission letter, informed consent for respondents has also been adjusted to the PSP desired by the ethics committee.

3.   Conclusion

The conclusion is female students with a menarche age of 9-11 years experienced moderate dysmenorrhea, 23 people (74.2%), female students with a menstrual period of 5-7 days most experienced moderate dysmenorrhea, 28 people (77.8%) 25 female students who did not stretch experienced moderate dysmenorrhea (69.4%).

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