

Original article:

Relationship Between Age Of Menarche With Primary Dysmenorrhea In Adolescents

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Abstract

Background: The first period is also known as menarche. The age of early menarche is one of the factors causing menstrual disorders. one of the menstrual disorders is dysmenorrhoea. Dysmenorrhea or also known as menstrual pain that is felt before or during menstruation in the lower abdomen. In Indonesia, 54.89% were found experienced primary dysmenorrhea. **Objective:** to determine the relationship between the age of menarche and the incidence of primary dysmenorrhoea in adolescents. **Materials and Methods:** This research is an observational analytic study with a cross sectional approach. Sampling was carried out by multistage random sampling on 133 female adolescents at Senior High School Number 9 and Senior High School Number 15 in Padang. Data of dysmenorrhoea and age of menarche was obtained by filling out a questionnaire that had been provided, it was analysis by chi square statistical test at the significant level $\alpha = 0.05$. **Results:** 93.8% of respondents who have early menarche age experience primary dysmenorrhea. Relationship between the age of menarche and the incidence of primary dysmenorrhea in adolescents ($p= 0.004$, $OR=4.933$). **Conclusion:** Adolescents with early menarche have a 4.933 times greater risk of experiencing primary dysmenorrhea.

Keywords : Adolescents, Dysmenorrhea, Menstruation, Menarche

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Introduction

Menstruation is the process of breaking down the endometrium which occurs periodically and cyclically. Normally the menstrual cycle is 21 - 35 days with a length of 2-10 days. The amount of blood removed is no more than 80 ml.¹

The first menstruation is also called menarche, at the onset of age menarche is generally prone to menstrual problems or disorders. In recent years, the age of menarche has shifted to a younger age, due to improved general health and nutrition. The current average age for menarche is 11-13 years.²

Menarche complaints are often experienced by adolescents in the early years of menarche.³ One of the most common menstrual complaints is dysmenorrhea, followed by menstrual

irregularities.⁴

Dysmenorrhea or also known as menstrual pain that feels before or during menstruation which is usually cramps that occur in the lower abdomen which can generally interfere with activity. Dysmenorrhea is classified into two types, primary dysmenorrhea and secondary dysmenorrhea.⁵

Primary dysmenorrhea is pain that feels caused by the influence of hormone disturbances without gynecological problems. Secondary dysmenorrhea is pain that is felt due to gynecological problems such as myomas, cysts, and others that require medical treatment.⁶

In general, dysmenorrhea can interfere with activities which have an impact on decreasing work productivity due to pain and discomfort. At

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the age of 15-25 years is the age where primary dysmenorrhea will reach its maximum.⁷

In Indonesia, the problem of dysmenorrhea is 64.25%, with details of 54.89% primary dysmenorrhea and 9.36% secondary dysmenorrhea.⁸ A preliminary study conducted at two schools in the city of Padang found that 76.4% and 83.3% of young girls experienced primary dysmenorrhea at Senior High School Number 9 and Senior High School Number 15. One of the factors causing primary dysmenorrhea in adolescents is the age of early menarche.⁹

Menarche age is the age when the first menstruation occurs. Menarche normally occurs at the age of 12-14 years.¹⁰ The relatively early age of menarche can result in pain in the lower abdomen and in severe conditions it can spread to and be followed by nausea, vomiting, and others. This pain arises because the reproductive organs have not developed and are functioning optimally.¹¹

Materials and Method

This research is a quantitative study with a cross sectional design. This research was conducted at SHS Number 9 and SHS Number 15 Padang in April 2021. The sample taken were 133 female students by multistage random sampling. Inclusion criteria consists of, being healthy, have experienced menstruation, the last 6 months of regular menstruation, having a normal menstrual duration, aged 14 -17 years. The exclusion criteria were smoking and experiencing illness that requires taking analgesics in the last 1 week of the study day. Dysmenorrhea and age of menarche data were obtained by filling out a questionnaire that had been provided directly which will be carried out by interview. Furthermore, the data will be analyzed using the chi square test.

Result

The characteristics of the respondents is illustrated in table 1. In this study had an age range between 15 - 17 years. More than half of the respondents that is 71 people (53.4%) are 16 years old. Most of the respondents 83.5%, had primary dysmenorrhea, and 64 people (48.1%) had menarche in the early age.

Table 1. Characteristics of Respondents

Variable	n	%
Age		
15	3	2.3
16	71	53.4
17	59	44.3
Primary Dysmenorrhea		
Yes	111	83.5
No	22	16.5
Age of Menarche		
Early	64	48.1
Normal	69	51.9

From table 2, it can be seen that 93.8% of respondents who have early menarche age experience primary dysmenorrhea. The p value is 0.004 ($p < 0.05$), which means that there is a relationship between the age of menarche and the incidence of primary dysmenorrhea in adolescents. Other than that an OR (Odd Ratio) value is 4.933 with CI 95% which means that adolescents with early menarche age have a risk of experiencing primary dysmenorrhea 4.933 times greater than adolescents who have normal age of menarche.

Table 2. Relationship between Menarche Age and Primary Dysmenorrhea Incidence in Adolescents

Age of Menarche	Dysmenorrhea Primer				P	OR
	Yes		No			
	n	%	n	%		
Early	60	93.8	4	6.2	0.004	4.933
Normal	51	73.9	18	26.1		

Discussion

Based on the results of this study it is known that more than half of the respondents had early menarche age and had primary dysmenorrhea 93.8 %. In the bivariate analysis, the value ($p = 0.004$) was obtained, which means that there is a relationship between the age of menarche and the incidence of primary dysmenorrhea in adolescents.

The results of this study are in line with research which states that there is a relationship between the age of menarche and the incidence of primary dysmenorrhea with p value = 0.027.¹²

Furthermore, these results are also in line with the results of the study that there is a relationship between the age of menarche and the incidence of dysmenorrhea in adolescent girls with p value of = 0.001.¹³

Menarche is the first period experienced by women. Menstruation is an early sign of a woman's entry into the reproductive period.¹⁴ The age of menarche is uncertain or varies, but there is a tendency that from year to year adolescent women get their first menstruation at a younger age. Menarche is considered an early age if someone menarche at age below 12 years.¹⁵

Relatively early age of menarche that can cause menstrual disorders one of which is dysmenorrhoea. Dysmenorrhea is a condition in which a woman feels pain or cramps in the lower abdomen before and during menstruation which is generally accompanied by other symptoms such as sweating, nausea, headache, vomiting, and diarrhea.¹⁶

Early menarche can cause pain during menstruation. Pain in the lower abdomen is caused because the reproductive organs in adolescents have not yet developed and are functioning optimally which will result in the reproductive organs not having readiness for the arrival of menstruation for the first time. Menarche at an early age occurs when the cervix is still in a narrow condition or has not reached its maximum condition so that the narrowing can result in pain when the uterus contracts during menstruation.¹¹

Conclusion

Based on the results and discussion of the research described, it can be concluded that there is a relationship between the age of menarche and the incidence of primary dysmenorrhea in adolescents ($p=0.004$) and adolescents with early menarche 4.933 times greater risk of experiencing primary dysmenorrhea.

Ethical Approval

Research involving human subjects complied with all relevant national regulations, institutional policies and was stated as ethical conduct with the issuance of Ethical Clearance Number 280/UN.16.2/KEP-FK/2021 by Ethics Committee of Medical Faculty Andalas University, Padang, Indonesia.

Conflict of Interest

Authors state no conflict of interest.

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Author's Contribution

All authors were involved in developing the idea and design of this study. Riska Rusydi was cooperated in data collection, analysis data, and had primary responsibility for final content. All authors read and approved the final manuscript.

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