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## 2. MANUSKRIP YANG DISUBMIT

### RELATIONSHIP BETWEEN MENARCH AGE AND DYMENORRHEA PAIN

#### IN FEMALE STUDENTS AT TAHFIDZ BOARDING SCHOOL

AL MABRUR

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### ABSTRACT

*Dysmenorrhea can cause disruption of several activities such as lower academic achievement, inhibit sleep performance and quality, have a negative impact on mood, and cause anxiety and depression. Several studies state that dysmenorrhea can interfere with daily activities. approximately 10-15% of women are absent from school and lost time at work caused by dysmenorrhea. This study aims to determine the relationship between menarche and the incidence of dysmenorrhea in female students at Al-Mabrur Islamic Boarding School. This research is a quantitative research, using primary data (questionnaire). The research method uses a cross sectional method with the aim of knowing the relationship between the independent variables and the dependent variable. Data was collected using a questionnaire, and analyzed using the chi square test. The number of samples was 91 female students who had experienced menstruation, the samples were obtained using the total sampling technique. The result of the calculation of the Pearson chi square statistical test is 20.883 while the chi square table is 5.991. This means that the calculated chi squared value is greater than the table chi squared value. The p value is 0.000 while the significant level is 0.05. This means that the p value is smaller than the significant level. The conclusion is that there is a relationship between the age of menarche and dysmenorrhea.*

**Keywords: Menarche, Dysmenorrhea, female students**

## **Introduction**

Adolescence is a transitional age from children to adults. This period is very important as a determinant of reproductive health. Dysmenorrhea is a health problem that can interfere with daily activities. Epidemiological data from the results of a study show that there are still many young women in Indonesia who experience dysmenorrhea, as indicated by the prevalence data for dysmenorrhea in Indonesia of 64.2%.

Dysmenorrhea has an adverse effect on the lives of adolescents, Bernardi (2017) suggests "dysmenorrhea can cause disruption to several activities such as lower academic achievement, inhibit sleep performance and quality, have a negative impact on mood, and cause anxiety and depression". Several studies state that dysmenorrhea can interfere with daily activities. approximately 10-15% of women are absent from school and lost time at work caused by dysmenorrhea.

World Health Organization (WHO) data for 2017 shows the incidence of dysmenorrhea of 1,769,425 people (90%) of women who experience dysmenorrhea with 10-16% experiencing severe dysmenorrhea. In Indonesia the incidence of dysmenorrhea is estimated at 64.25% consisting of 54.89% primary

dysmenorrhea (menstrual pain without any abnormalities in the reproductive organs, most often occurs in women who have never been pregnant) and 9.36% secondary dysmenorrhea (painful menstruation accompanied by anatomical abnormalities of the reproductive organs). Central Java Province in 2018 had a population of 34,490,835 people with a total of 2,719,115 young girls aged 10-19 years (Central Java BPS, 2017). A total of 1,518,867 people or 55% experienced dysmenorrhea in Central Java Province (Octaviani et al., 2019)

One study found that the highest proportion of dysmenorrhea was found in adolescents aged 14-16 years and the age range of menarche was 11-12 years. The earlier age of menarche <12 years causes the reproductive organs not to function optimally and are not ready to experience changes that cause pain during menstruation. In addition, a younger age is also related to the cervix which is still narrower in nature, resulting in pain during menstruation. Dysmenorrhea experienced by the majority of young women has a considerable impact such as decreased concentration and motivation to learn in individuals. This causes adolescents to be unable to participate in learning activities to the fullest and often even causes absence from school (Rebecca Mutia et al., 2019)

In addition, early menarche can also cause various problems, one of which is dysmenorrhea. Dysmenorrhea is a condition that is felt before or during menstruation which is characterized by pain or cramps in the lower abdomen that arise due to contractions in the myometrium in the form of pain and not due to a particular disease. The first menstruation or menarche experienced by women of childbearing age (WUS) is an early sign of a woman's entry into the reproductive period. The longest age to get menarche is 16 years. The age of getting menarche is uncertain or varies, however there is a tendency that from year to year teenage women get their first menstruation at a younger age. Early menarche is the first menstruation experienced by a fertile woman under the age of 12 years.

### Method

This type of research is correlation analytic, namely research conducted to determine the relationship between two variables (Notoatmodjo, 2005). In this study was conducted to determine the relationship between menarche age and the incidence of dysmenorrhea. The design of this study used a cross-sectional survey, namely the data collection method carried out at the same time. The purpose of this method is to obtain complete data in a relatively short time (Arikunto, 2006). In this study, menarche age and dysmenorrhea pain were measured at the same time. The number of samples in this study were 91 female students who had experienced menstruation.

### Results And Discussion

1. Table 1.1 Cross tabulation of the relationship between menarche age and dysmenorrhea pain

Dysmenorrhea pain level	Menarche age				Total	%	p value
	<12 years		>12 years				
	F	%	F	%			
Mild pain	12	80	3	20	15	100	0,000
Moderate pain	35	76,1	11	23,9	46	100	
Severe pain	5	16,7	25	83,3	30	100	
Total	28	30,8	63	69,2	91	100	

The result of the calculation of the Pearson chi square statistical test is 20.883 while the chi square table is 5.991. This means that the calculated chi squared value is greater than the table chi squared value.

The p value is 0.000 while the significant level is 0.05. This means that the p value is smaller than the significant level. The conclusion is that there is a relationship

between the age of menarche and dysmenorrhea

Menstruation or menstruation is a natural process that occurs repeatedly every month in normal women from puberty to menopause which is accompanied by bleeding. The arrival of this period repeatedly is called the menstrual cycle. The normal menstrual cycle is 28 days. However, for some women this cycle is irregular and varies between 22-25 days. Menstruation that must be experienced by young women can cause problems, one of which is dysmenorrhea. Dysmenorrhea is the most common gynecological problem experienced by women, both adult women and women in their teens. Menstrual pain/dysmenorrhea is an imbalance of the hormone progesterone in the blood, causing pain to arise.

Menarche is the first menstruation or blood that comes out of a woman's vagina when she is healthy, not caused by giving birth to a child or because of an injury, usually occurs in women aged 12-13 years. Under normal circumstances menarche is preceded by a maturation period which can take up to 2 years. Menarche is a sign of the beginning of puberty in girls. During this period, a woman needs the attention of her

parents, because from the first menstrual period it means that there is a possibility of becoming pregnant if she has sex with the opposite sex.

Based on the menarche age cross tabulation table (table 1.1) it is known that 35 respondents who experienced moderate pain dysmenorrhea experienced menarche age at the age of <12 years. This shows that respondents who experience dysmenorrhea can be influenced by the age of menarche <12 years. This is in line with the results of research (Rosanti, 2017) on class VIII students of SMP Negeri 1 Ungaran with the result that there is a relationship between the age of menarche and dysmenorrhea ( $p=0.029$ ). At the age of menarche 11-16 years there were 65.6% and 56.3% who experienced dysmenorrhea. This is due to different nutrition in adolescents. A child with good nutritional intake will have a faster menarche and menopause will be slower, causing pain during menstruation.

Dysmenorrhea is one of the characteristics of endometriosis, which is a disease that can cause infertility in women. This condition needs to be considered because every teenager who experiences dysmenorrhea has a risk of later experiencing infertility (Janssen et al., 2013).

The presence of abdominal pain in women during menstruation (dysmenorrhea), accompanied by pelvic pain, and infertility is a classic triad of symptoms used to diagnose endometriosis. Endometriosis occurs in almost 10% of women of reproductive age and more than 25-40% of infertile women (Andalas et al., 2019).

### Conclusion

The result of the calculation of the Pearson chi square statistical test is 20.883 while the chi square table is 5.991. This means that the calculated chi squared value is greater than the table chi squared value. The p value is 0.000 while the significant level is 0.05. This means that the p value is smaller than the significant level. The conclusion is that there is a relationship between the age of menarche and dysmenorrhea. Respondents who experienced moderate pain dysmenorrhea as many as 35 people experienced menarche at the age of <12 years. This shows that respondents who experience dysmenorrhea can be influenced by the age of menarche <12 years.

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### 3. RIWAYAT REVIEW/REVIEW SUBSTATANSI

Reviewer A				
Reviewer Name	Louise Walker			
Review Form	None / Free Form Review			
REQUEST	UNDERWAY	DUE	ACKNOWLEDGE	
2023-08-06	2023-08-06	2023-08-16	<input type="checkbox"/>	
Recommendation Review	Revisions Required 2023-08-06			
	<input type="checkbox"/> 2023-08-06			
Uploaded files	12200-39084-1-RV.DOC 2023-08-06 Let author view file <input checked="" type="checkbox"/> <input type="button" value="Record"/>			
Reviewer rating	<input type="button" value="5 High"/> <input type="button" value="Record"/>			
Reviewer B				
Reviewer Name	Ramadhan Tosepu			
Review Form	None / Free Form Review			
REQUEST	UNDERWAY	DUE	ACKNOWLEDGE	
2023-08-06	2023-08-07	2023-08-16	<input type="checkbox"/>	
Recommendation Review	Revisions Required 2023-08-07			
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Uploaded files	12200-39103-1-RV.DOC 2023-08-07 Let author view file <input checked="" type="checkbox"/> <input type="button" value="Record"/>			
Reviewer rating	<input type="button" value="5 High"/> <input type="button" value="Record"/>			

#### Review 1

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Dysmenorrhea has an adverse effect on the lives of adolescents, Bernardi (2017) suggests "dysmenorrhea can cause disruption to several activities such as lower academic achievement, inhibit sleep performance and quality, have a negative impact on mood, and cause anxiety and depression". Several studies state that dysmenorrhea can interfere with daily activities. approximately 10-15% of women are absent from school and lost time at work caused by dysmenorrhea.

World Health Organization (WHO) data for 2017 shows the incidence of dysmenorrhea of 1,769,425 people (90%) of women who experience dysmenorrhea with 10-16% experiencing severe dysmenorrhea. In Indonesia the incidence of dysmenorrhea is estimated at 64.25% consisting of 54.89% primary dysmenorrhea (menstrual pain without any abnormalities in the reproductive organs, most often occurs in women who have never been pregnant) and 9.36% secondary dysmenorrhea (painful menstruation accompanied by anatomical abnormalities of the reproductive organs). Central Java Province in 2018 had a population of 34,490,835 people with a total of 2,719,115 young girls aged 10-19 years (Central Java BPS, 2017). A total of 1,518,867 people or 55% experienced dysmenorrhea in Central Java Province (Octaviani et al., 2019)

One study found that the highest proportion of dysmenorrhea was found in adolescents aged 14-16 years and the age range of menarche was 11-12 years. The earlier age of menarche <12 years causes the reproductive organs not to function optimally and are not ready to experience changes that cause pain during menstruation. In addition, a younger age is also related to the cervix which is still narrower in nature, resulting in pain during menstruation. Dysmenorrhea experienced by the majority of young women has a considerable impact such as decreased concentration and motivation to learn in individuals. This causes adolescents to be unable to participate in learning activities to the fullest and often even causes absence from school (Rebecca Mutia et al., 2019)

In addition, early menarche can also cause various problems, one of which is dysmenorrhea. Dysmenorrhea is a condition that is felt before or during menstruation which is characterized by pain or cramps in the lower abdomen that arise due to contractions in the myometrium in the form of pain and not due to a particular disease. The first menstruation or menarche experienced by women of childbearing age (WUS) is an early sign of a woman's entry into the reproductive period. The longest age to get menarche is 16 years. The age of getting menarche is uncertain or varies, however there is a tendency that from year to year teenage women get their first menstruation at a younger age. Early menarche is the first

menstruation experienced by a fertile woman under the age of 12 years.

### Method

This type of research is correlation analytic, namely research conducted to determine the relationship between two variables (Notoatmodjo, 2005). In this study was conducted to determine the relationship between menarche age and the incidence of dysmenorrhea. The

design of this study used a cross-sectional survey, namely the data collection method carried out at the same time. The purpose of this method is to obtain complete data in a relatively short time (Arikunto, 2006). In this study, menarche age and dysmenorrhea pain were measured at the same time. The number of samples in this study were 91 female students who had experienced menstruation.

### Results And Discussion

1. Table 1.1 Cross tabulation of the relationship between menarche age and dysmenorrhea pain

Dysmenorrhea pain level	Menarche age				Total	%	p value
	<12 years		>12 years				
	F	%	F	%			
Mild pain	12	80	3	20	15	100	0,000
Moderate pain	35	76,1	11	23,9	46	100	
Severe pain	5	16,7	25	83,3	30	100	
Total	28	30,8	63	69,2	91	100	

The result of the calculation of the Pearson chi square statistical test is 20.883 while the chi square table is 5.991. This means that the calculated chi squared value is greater than the table chi squared value. The p value is 0.000 while the significant level is 0.05. This means that the p value is smaller than the significant level. The conclusion is that there is a relationship

between the age of menarche and dysmenorrhea

Menstruation or menstruation is a natural process that occurs repeatedly every month in normal women from puberty to menopause which is accompanied by bleeding. The arrival of this period repeatedly is called the menstrual cycle. The normal menstrual cycle is 28 days. However, for some women this cycle is irregular and



varies between 22-25 days. Menstruation that must be experienced by young women can cause problems, one of which is dysmenorrhea. Dysmenorrhea is the most common gynecological problem experienced by women, both adult women and women in their teens. Menstrual pain/dysmenorrhea is an imbalance of the hormone progesterone in the blood, causing pain to arise.

Menarche is the first menstruation or blood that comes out of a woman's vagina when she is healthy, not caused by giving birth to a child or because of an injury, usually occurs in women aged 12-13 years. Under normal circumstances menarche is preceded by a maturation period which can take up to 2 years. Menarche is a sign of the beginning of puberty in girls. During this period, a woman needs the attention of her parents, because from the first menstrual period it means that there is a possibility of becoming pregnant if she has sex with the opposite sex.

Based on the menarche age cross tabulation table (table 1.1) it is known that 35 respondents who experienced moderate pain dysmenorrhea experienced menarche age at the age of <12 years. This shows that respondents who experience dysmenorrhea

can be influenced by the age of menarche <12 years. This is in line with the results of research (Rosanti, 2017) on class VIII students of SMP Negeri 1 Ungaran with the result that there is a relationship between the age of menarche and dysmenorrhea ( $p=0.029$ ). At the age of menarche 11-16 years there were 65.6% and 56.3% who experienced dysmenorrhea. This is due to different nutrition in adolescents. A child with good nutritional intake will have a faster menarche and menopause will be slower, causing pain during menstruation.

Dysmenorrhea is one of the characteristics of endometriosis, which is a disease that can cause infertility in women. This condition needs to be considered because every teenager who experiences dysmenorrhea has a risk of later experiencing infertility (Janssen et al., 2013). The presence of abdominal pain in women during menstruation (dysmenorrhea), accompanied by pelvic pain, and infertility is a classic triad of symptoms used to diagnose endometriosis. Endometriosis occurs in almost 10% of women of reproductive age and more than 25-40% of infertile women (Andalas et al., 2019).

## **Conclusion**

The result of the calculation of the Pearson chi square statistical test is 20.883 while the chi square table is 5.991. This means that the calculated chi squared value is greater than the table chi squared value. The p value is 0.000 while the significant level is 0.05. This means that the p value is smaller than the significant level. The conclusion is that there is a relationship between the age of menarche and dysmenorrhea. Respondents who experienced moderate pain dysmenorrhea as many as 35 people experienced menarche at the age of <12 years. This shows that respondents who experience dysmenorrhea can be influenced by the age of menarche <12 years.

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Child and Adolescent Health and Development.

[https://www.who.int/maternal\\_child\\_adolescent/documents/pdfs/9241591269\\_op\\_handout.pdf](https://www.who.int/maternal_child_adolescent/documents/pdfs/9241591269_op_handout.pdf)

#### 4. MANUSKRIP SETELAH REVIEW Revisi 1

## Relationship Between Menarch Age and Dysmenorrhea Pain in Female Students at Tahfidz Boarding School Al Maburr

Sherkia Ichtarsi Prakasiwi<sup>1</sup>, Fitriani Nur Damayanti<sup>2</sup>

<sup>1</sup>Program Studi Pendidikan Profesi Bidan Unimus

<sup>2</sup>Program S1 Kebidanan Unimus

### Abstract

Dysmenorrhea can cause disruption of several activities such as lower academic achievement, inhibit sleep performance and quality, have a negative impact on mood, and cause anxiety and depression. Several studies state that dysmenorrhea can interfere with daily activities. approximately 10-15% of women are absent from school and lost time at work caused by dysmenorrhea. This study aims to determine the relationship between menarche and the incidence of dysmenorrhea in female students at Al-Maburr Islamic Boarding School. This research is quantitative research, using primary data (questionnaire). The research method uses a cross-sectional method with the aim of knowing the relationship between the independent variables and the dependent variable. Data was collected using a questionnaire and analyzed using the chi-square test. The number of samples was 91 female students who had experienced menstruation, the samples were obtained using the total sampling technique. The result of the calculation of the Pearson chi-square statistical test is 20.883 while the chi-square table is 5.991. This means that the calculated chi-squared value is greater than the table chi-squared value. The p-value is 0.000 while the significant level is 0.05. This means that the p-value is smaller than the significant level. The conclusion is that there is a relationship between the age of menarche and dysmenorrhea.

**Keywords:** menarche, dysmenorrhea, female students

Dismenore dapat menyebabkan terganggunya beberapa aktivitas seperti menurunkan prestasi akademik, menghambat kinerja dan kualitas tidur, berdampak negatif pada suasana hati, serta menimbulkan kecemasan dan depresi. Beberapa penelitian menyatakan bahwa dismenore dapat mengganggu aktivitas sehari-hari. sekitar 10-15% wanita tidak masuk sekolah dan kehilangan waktu kerja yang disebabkan oleh dismenore. Penelitian ini bertujuan untuk mengetahui hubungan antara menarche dengan kejadian dysmenorrhea pada santri putri di Pesantren Al-Maburr. Penelitian ini merupakan penelitian kuantitatif, dengan menggunakan data primer (kuesioner). Metode penelitian menggunakan metode cross-sectional dengan tujuan untuk mengetahui hubungan antara variabel bebas dan variabel terikat. Data dikumpulkan dengan menggunakan kuesioner dan dianalisis dengan menggunakan uji chi-square. Jumlah sampel sebanyak 91 siswi yang telah mengalami menstruasi, sampel diperoleh dengan menggunakan teknik total sampling. Hasil perhitungan uji statistik chi square Pearson adalah 20,883 sedangkan chi square tabel adalah 5,991. Artinya nilai chi kuadrat hitung lebih besar dari nilai chi kuadrat tabel. Nilai p adalah 0,000 sedangkan tingkat signifikan adalah 0,05. Artinya p-value lebih kecil dari taraf signifikan. Kesimpulannya adalah ada hubungan antara usia menarche dengan dismenore.

**Kata Kunci:** menarche, dysmenorrhea, mahasiswi

### Introduction

Adolescence is a transitional age from children to adults. This period is very important as a determinant of reproductive health. Dysmenorrhea is a health problem that can interfere with daily activities. Epidemiological data from the results of a study show that there are still many young women in Indonesia who experience dysmenorrhea, as indicated by the prevalence data for dysmenorrhea in Indonesia of 64.2%.

Dysmenorrhea has an adverse effect on the lives of adolescents, Bernardi et al., (2017) suggest "Dysmenorrhea can cause disruption to several activities such as lower academic achievement, inhibit sleep performance and quality, have a negative impact on mood, and cause anxiety and depression". Several studies state that dysmenorrhea can interfere with daily activities. approximately 10-15% of women are absent from school and lost time at work caused by dysmenorrhea.

World Health Organization (WHO) data for 2017 shows the incidence of dysmenorrhea of 1,769,425 people (90%) of women who experience dysmenorrhea with 10-16% experiencing severe dysmenorrhea. In Indonesia, the incidence of dysmenorrhea

is estimated at 64.25% consisting of 54.89% primary dysmenorrhea (menstrual pain without any abnormalities in the reproductive organs, most often occurs in women who have never been pregnant) and 9.36% secondary dysmenorrhea (painful menstruation accompanied by anatomical abnormalities of the reproductive organs). Central Java Province in 2018 had a population of 34,490,835 people with a total of 2,719,115 young girls aged 10-19 years (BPS, 2018). A total of 1,518,867 people or 55% experienced dysmenorrhea in Central Java Province (Octaviani et al., 2019)

One study found that the highest proportion of dysmenorrhea was found in adolescents aged 14-16 years and the age range of menarche was 11-12 years. The earlier age of menarche <12 years causes the reproductive organs not to function optimally and are not ready to experience changes that cause pain during menstruation. In addition, a younger age is also related to the cervix which is still narrower in nature, resulting in pain during menstruation. Dysmenorrhea experienced by the majority of young women has a considerable impact such as decreased concentration and motivation to learn in

individuals. This causes adolescents to be unable to participate in learning activities to the fullest and often even causes absence from school (Silaen & Ani, 2019).

In addition, early menarche can also cause various problems, one of which is dysmenorrhea. Dysmenorrhea is a condition that is felt before or during menstruation and is characterized by pain or cramps in the lower abdomen that arise due to contractions in the myometrium in the form of pain and not due to a particular disease. The first menstruation or menarche experienced by women of childbearing age (WUS) is an early sign of a woman's entry into the reproductive period. The longest age to get menarche is 16 years. The age of getting menarche is uncertain or varies, however, there is a tendency that from year to year, teenage women get their first menstruation at a younger age. Early menarche is the first

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### Method

This type of research is correlation analytic, namely research conducted to determine the relationship between two variables (Notoatmodjo, 2005). In this study was conducted to determine the relationship between menarche age and the incidence of dysmenorrhea. The design of this study used a cross-sectional survey, namely the data collection method carried out at the same time. The purpose of this method is to obtain complete data in a relatively short time (Arikunto, 2006). In this study, menarche age and dysmenorrhea pain were measured at the same time. The number of samples in this study was 91 female students who had experienced menstruation.

## Result and Discussion

1. Table 1.1 Cross-tabulation of the relationship between menarche age and dysmenorrhea pain

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Based on the menarche age cross-tabulation table (table 1.1) it is known that 35 respondents who experienced moderate pain dysmenorrhea experienced menarche age at the age of <12 years. This shows that respondents who experience dysmenorrhea can be influenced by the age of menarche <12 years. This is in line with the results of research (Rosanti, 2017) on class VIII students of SMP Negeri 1 Ungaran with the result that there is a relationship between the age of menarche and dysmenorrhea ( $p=0.029$ ). At the age of menarche 11-16 years, there were 65.6% and 56.3%

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### Conclusion

The result of the calculation of the Pearson chi-square statistical test is 20.883 while the chi-square table is 5.991. This means that the calculated chi-squared value is greater than the table chi-squared value. The p-value is 0.000 while the significant level is 0.05. This means that the p-value is smaller than the

significant level. The conclusion is that there is a relationship between the age of menarche and dysmenorrhea. Of respondents who experienced moderate pain dysmenorrhea, as many as 35 people experienced menarche at the age of <12 years. This shows that respondents who experience dysmenorrhea can be influenced by the age of menarche <12 years.

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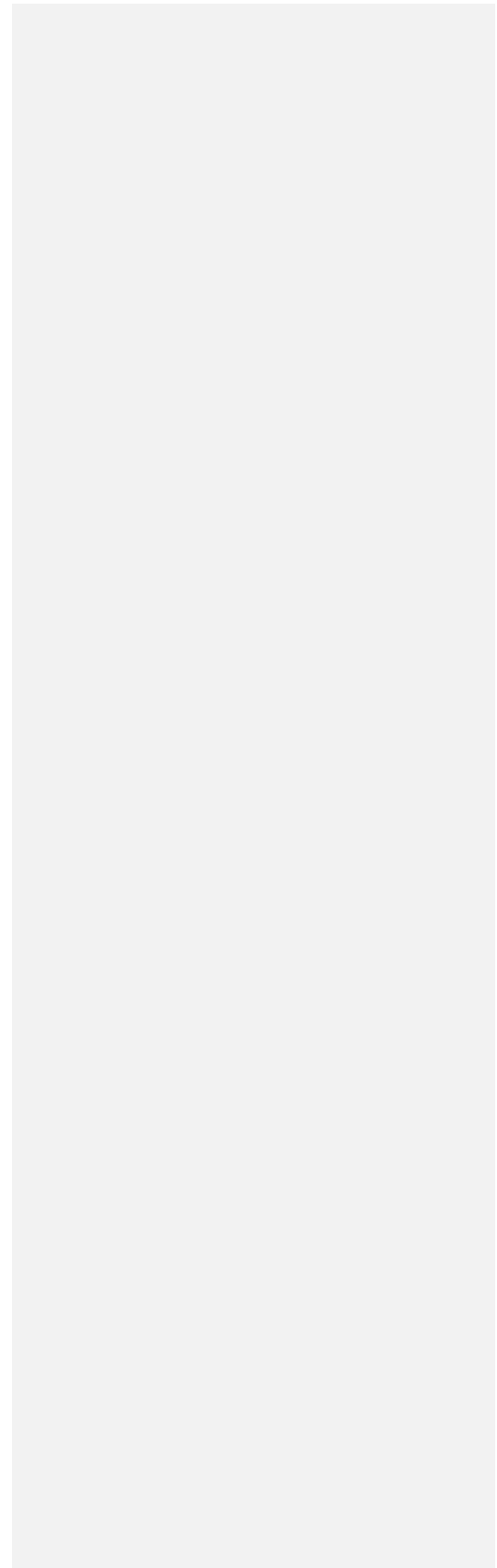
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## Revisi 2

# Relationship Between Menarch Age and Dysmenorrhea Pain in Female Students at Tahfidz Boarding School Al Maburr

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## Abstract

Dysmenorrhea can cause disruption of several activities such as lower academic achievement, inhibit sleep performance and quality, have a negative impact on mood, and cause anxiety and depression. Several studies state that dysmenorrhea can interfere with daily activities. approximately 10-15% of women are absent from school and lost time at work caused by dysmenorrhea. This study aims to determine the relationship between menarche and the incidence of dysmenorrhea in female students at Al-Maburr Islamic Boarding School. This research is quantitative research, using primary data (questionnaire). The research method uses a cross-sectional method with the aim of knowing the relationship between the independent variables and the dependent variable. Data was collected using a questionnaire and analyzed using the chi-square test. The number of samples was 91 female students who had experienced menstruation, the samples were obtained using the total sampling technique. The result of the calculation of the Pearson chi-square statistical test is 20.883 while the chi-square table is 5.991. This means that the calculated chi-squared value is greater than the table chi-squared value. The p-value is 0.000 while the significant level is 0.05. This means that the p-value is smaller than the significant level. The conclusion is that there is a relationship between the age of menarche and dysmenorrhea.

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Based on the menarche age cross-tabulation table (table 1.1) it is known that 35 respondents who experienced moderate pain dysmenorrhea experienced menarche age at the age of <12 years. This shows that respondents who experience dysmenorrhea can be influenced by the age of menarche <12 years. This is in line with the results of research (Rosanti, 2017) on class VIII students of SMP Negeri 1 Ungaran with the result that there is a relationship between the age of menarche and dysmenorrhea ( $p=0.029$ ). At the age of menarche 11-16 years, there were 65.6% and 56.3%

experienced dysmenorrhea. This is due to different nutrition in adolescents. A child with good nutritional intake will have a faster menarche and menopause will be slower, causing pain during menstruation.

Dysmenorrhea is one of the characteristics of endometriosis, which is a disease that can cause infertility in women. This condition needs to be considered because every teenager who experiences dysmenorrhea has a risk of later experiencing infertility (Janssen et al., 2013). The presence of abdominal pain in women during menstruation (dysmenorrhea), accompanied by pelvic pain, and infertility is a classic triad of symptoms used to diagnose endometriosis. Endometriosis occurs in almost 10% of women of reproductive age and more than 25-40% of infertile women (Andalas et al., 2019).

### Conclusion

The result of the calculation of the Pearson chi-square statistical test is 20.883 while the chi-square table is 5.991. This means that the calculated chi-squared value is greater than the table chi-squared value. The p-value is 0.000 while the significant level is 0.05. This means that the p-value is smaller than the

significant level. The conclusion is that there is a relationship between the age of menarche and dysmenorrhea. Of respondents who experienced moderate pain dysmenorrhea, as many as 35 people experienced menarche at the age of <12 years. This shows that respondents who experience dysmenorrhea can be influenced by the age of menarche <12 years.

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## 6. ARTIKEL SUDAH PUBLISH



The screenshot displays the homepage of the Jurnal Kebidanan website. At the top, there is a header with the journal's logo, ISSN numbers (p-ISSN 2301-8372, e-ISSN 2549-7081), and the journal title "Jurnal Kebidanan". Below the header is a navigation menu with links for HOME, ABOUT, USER HOME, SEARCH, CURRENT, ARCHIVES, ANNOUNCEMENTS, and CONTACT. The main content area features the article "The Relationship between Anemia Status and Newborn Weight Outcomes" by Ariyani Lutfitasari<sup>(1)</sup>, Sherkia Ichtiansi Prakaswi<sup>(2)</sup>, Fitriani Nur Damayanti<sup>(3)</sup>, and Lia Mulyanti<sup>(4)</sup>. A "Check for updates" button is visible below the author list. On the right side, there is an "ABOUT THE AUTHORS" section listing the affiliations of each author: Ariyani Lutfitasari (Midwifery Study Program, Universitas Muhammadiyah Semarang, Indonesia), Sherkia Ichtiansi Prakaswi (Midwifery Study Program, Universitas Muhammadiyah Semarang, Indonesia), and Fitriani Nur Damayanti (Midwifery Study Program, Universitas Muhammadiyah Semarang, Indonesia). The footer contains footnotes for each author's affiliation and a note that (\*) denotes the corresponding author.



## Relationship Between Menarch Age and Dysmenorrhea Pain in Female Students

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### Abstract

Dysmenorrhea can cause disruption of several activities such as lower academic achievement, inhibit sleep performance and quality, have a negative impact on mood, and cause anxiety and depression. Several studies state that dysmenorrhea can interfere with daily activities, approximately 10-15% of women are absent from school and lost time at work caused by dysmenorrhea. This study aims to determine the relationship between menarche and the incidence of dysmenorrhea in female students at Al-Mabrur Islamic Boarding School. This research is quantitative research, using primary data (questionnaire). The research method uses a cross-sectional method with the aim of knowing the relationship between the independent variables and the dependent variable. Data was collected using a questionnaire and analyzed using the chi-square test. The number of samples was 91 female students who had experienced menstruation, the samples were obtained using the total sampling technique. The result of the calculation of the Pearson chi-square statistical test is 20.883 while the chi-square table is 5.991. This means that the calculated chi-squared value is greater than the table chi-squared value. The p-value is 0.000 while the significant level is 0.05. This means that the p-value is smaller than the significant level. The conclusion is that there is a relationship between the age of menarche and dysmenorrhea.

**Keywords:** menarche, dysmenorrhea, female students

Dismenore dapat menyebabkan terganggunya beberapa aktivitas seperti menurunkan prestasi akademik, menghambat kinerja dan kualitas tidur, berdampak negatif pada suasana hati, serta menimbulkan kecemasan dan depresi. Beberapa penelitian menyatakan bahwa dismenore dapat mengganggu aktivitas sehari-hari, sekitar 10-15% wanita tidak masuk sekolah dan kehilangan waktu kerja yang disebabkan oleh dismenore. Penelitian ini bertujuan untuk mengetahui hubungan antara menarche dengan kejadian dysmenorrhea pada santri putri di Pesantren Al-Mabrur. Penelitian ini merupakan penelitian kuantitatif, dengan menggunakan data primer (kuesioner). Metode penelitian menggunakan metode cross-sectional dengan tujuan untuk mengetahui hubungan antara variabel bebas dan variabel terikat. Data dikumpulkan dengan menggunakan kuesioner dan dianalisis dengan menggunakan uji chi-square. Jumlah sampel sebanyak 91 siswi yang telah mengalami menstruasi, sampel diperoleh dengan menggunakan teknik total sampling. Hasil perhitungan uji statistik chi square Pearson adalah 20,883 sedangkan chi square tabel adalah 5,991. Artinya nilai chi kuadrat hitung lebih besar dari nilai chi kuadrat tabel. Nilai p adalah 0,000 sedangkan tingkat signifikan adalah 0,05. Artinya p-value lebih kecil dari taraf signifikan. Kesimpulannya adalah ada hubungan antara usia menarche dengan dismenore.

**Kata Kunci:** menarche, dysmenorrhea, mahasiswa

### Introduction

Adolescence is a transitional age from children to adults. This period is very important as a determinant of reproductive health. Dysmenorrhea is a health problem that can interfere with daily activities. Epidemiological data from the results of a study show that there are still many young women in Indonesia who experience dysmenorrhea, as indicated by the prevalence data for dysmenorrhea in Indonesia of 64.2%.

Dysmenorrhea has an adverse effect on the lives of adolescents, Bernardi et al., (2017) suggest "Dysmenorrhea can cause disruption to several activities such as lower academic achievement, inhibit sleep performance and quality, have a negative impact on mood, and cause anxiety and depression". Several studies state that dysmenorrhea can interfere with daily activities. approximately 10-15% of women are absent from school and lost time at work caused by dysmenorrhea.

World Health Organization (WHO) data for 2017 shows the incidence of dysmenorrhea of 1,769,425 people (90%) of women who experience dysmenorrhea with

10-16% experiencing severe dysmenorrhea.

In Indonesia, the incidence of dysmenorrhea is estimated at 64.25% consisting of 54.89% primary dysmenorrhea (menstrual pain without any abnormalities in the reproductive organs, most often occurs in women who have never been pregnant) and 9.36% secondary dysmenorrhea (painful menstruation accompanied by anatomical abnormalities of the reproductive organs). Central Java Province in 2018 had a population of 34,490,835 people with a total of 2,719,115 young girls aged 10-19 years (BPS, 2018). A total of 1,518,867 people or 55% experienced dysmenorrhea in Central Java Province (Octaviani et al., 2019)

One study found that the highest proportion of dysmenorrhea was found in adolescents aged 14-16 years and the age range of menarche was 11-12 years. The earlier age of menarche <12 years causes the reproductive organs not to function optimally and are not ready to experience changes that cause pain during menstruation. In addition, a younger age is also related to the cervix which is still narrower in nature, resulting in pain during menstruation. Dysmenorrhea experienced by the majority of young women has a

considerable impact such as decreased concentration and motivation to learn in individuals. This causes adolescents to be unable to participate in learning activities to the fullest and often even causes absence from school (Silaen & Ani, 2019).

In addition, early menarche can also cause various problems, one of which is dysmenorrhea. Dysmenorrhea is a condition that is felt before or during menstruation and is characterized by pain or cramps in the lower abdomen that arise due to contractions in the myometrium in the form of pain and not due to a particular disease. The first menstruation or menarche experienced by women of childbearing age (WUS) is an early sign of a woman's entry into the reproductive period. The longest age to get menarche is 16 years. The age of getting menarche is uncertain or varies, however, there is a tendency that from year to year, teenage women get their first menstruation

at a younger age. Early menarche is the first menstruation experienced by a fertile woman under the age of 12 years.

**Method**

This type of research is correlation analytic, namely research conducted to determine the relationship between two variables (Notoatmodjo, 2005). In this study was conducted to determine the relationship between menarche age and the incidence of dysmenorrhea. The design of this study used a cross-sectional survey, namely the data collection method carried out at the same time. The purpose of this method is to obtain complete data in a relatively short time (Arikunto, 2006). In this study, menarche age and dysmenorrhea pain were measured at the same time. The number of samples in this study was 91 female students who had experienced menstruation.

**Result and Discussion**

**Table 1.** Cross-tabulation of the relationship between menarche age and dysmenorrhea pain

Dysmenorrhea pain level	Menarche age				Total	%	p value
	<12 years		>12 years				
	F	%	F	%			
Mild pain	12	80	3	20	15	100	0,000
Moderate pain	35	76,1	11	23,9	46	100	
Severe pain	5	16,7	25	83,3	30	100	

Total	28	30,8	63	69,2	91	100
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The result of the calculation of the Pearson chi-square statistical test is 20.883 while the chi-square table is 5.991. This means that the calculated chi-squared value is greater than the table chi-squared value. The p-value is 0.000 while the significant level is 0.05. This means that the p-value is smaller than the significant level. The conclusion is that there is a relationship between the age of menarche and dysmenorrhea.

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