



**FACTORS AFFECTING SCHOOL ABSENCE AMONG SCHOOLGIRLS IN
SOUTH TANGERANG, INDONESIA**

**Faktor yang Mempengaruhi Ketidakhadiran Siswi Sekolah Dasar di
Tangerang Selatan, Indonesia**

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Abstrak

Latar belakang: Remaja perempuan sering memiliki pengetahuan yang kurang mengenai kesehatan reproduksi termasuk menstruasi, dan masalah menstruasi dapat mempengaruhi kehadiran siswi di sekolah. Penelitian ini bertujuan untuk mengetahui faktor yang berhubungan dengan ketidakhadiran siswi sekolah dasar selama masa menstruasi.

Metode: Penelitian cross-sectional dilakukan di sembilan sekolah dasar di Kota Tangerang Selatan. Informasi yang dikumpulkan antara lain karakteristik demografi, umur menarche, durasi menstruasi, dismenore, pengetahuan, dan sumber informasi mengenai menstruasi dari remaja siswi. Partisipan terdiri dari 133 siswi yang telah mengalami menstruasi. Uji chi-square dan regresi logistik digunakan dalam data analisis.

Hasil: Frekuensi siswi yang tidak masuk sekolah saat menstruasi cukup tinggi (19%). Rata-rata ketidakhadiran sebanyak 2,4 hari setiap siklus menstruasi, dan alasan utama ketidakhadiran di sekolah antara lain takut tembus (69%), rasa sakit/tidak nyaman (62%), dan ejekan dari siswa laki-laki (19%). Pengetahuan yang buruk tentang menstruasi (AOR = 5,24; 95% CI = 1,69-16,30) dan dismenore (AOR = 6,05; 95% CI = 1,32-27,69) mempunyai hubungan positif yang signifikan dengan ketidakhadiran di sekolah ($p < 0,05$), sementara pendidikan ibu secara signifikan dapat mencegah ketidakhadiran siswi pada masa menstruasi ($p < 0,05$).

Kesimpulan: Faktor-faktor yang mempengaruhi ketidakhadiran siswi di sekolah adalah pengetahuan tentang menstruasi, dismenore, dan status pendidikan ibu. Penelitian ini menunjukkan bahwa memberikan pengetahuan dan manajemen menstruasi dapat bermanfaat dalam mengurangi ketidakhadiran siswi akibat menstruasi di sekolah.

Kata kunci: menstruasi, menarche, pengetahuan, ketidakhadiran di sekolah

Abstract

Background: Adolescent girls often have limited knowledge regarding reproductive health including menstruation, and challenges associated with menstruation may affect girls' school attendance. This study aimed to examine factors associated with school absence during menstruation among schoolgirls.

Method: A cross-sectional study was conducted in nine elementary schools in the South Tangerang City. The information included the schoolgirls' demographic background, menarche age, duration of menstrual, dysmenorrhea, knowledge about menstruation, and source of information related to menstruation. Participants were 133 schoolgirls who had experienced first menstruation. Chi-square test and logistic regression were used for data analysis.

Results: The frequency of schoolgirls who missed school during menstruation was slightly high (19%). Absentee schoolgirls missed an average of 2.4 days each menstrual cycle, and main reasons for school absence were fear of leakage (69%), pain/discomfort (62%), and boys ridiculed (19%). Poor knowledge about menstruation (AOR = 5.24; 95% CI = 1.69-16.30) and dysmenorrhea (AOR = 6.05; 95% CI: 1.32-27.69) revealed significant positive association with school absence during menstruation ($p < 0.05$), while mother's education had significantly prevented the schoolgirls from school absence during menstruation ($p < 0.05$).

Conclusion: Factors affecting school absence of schoolgirls included knowledge of menstruation, dysmenorrhea, and mother's education status. The findings suggest that providing knowledge and menstrual management could benefit on reducing school absenteeism among schoolgirls due to menarche at school.

Keywords: menstruation, menarche, knowledge, school absence

INTRODUCTION

Menstruation is a natural process that occurs throughout a woman's reproductive life.¹ Managing the menstrual hygiene, however, can be a challenge for many women and girls, especially in developing countries.²⁻⁴ Menstruation in adolescence girls is of concern as they enter puberty unprepared and the information they receive is often selective and surrounded by taboos.^{5,6} Many developing countries have developed comprehensive reproductive education policies and context-specific curricula. However, their full implementation is often hindered by challenges around program planning and roll-out at the national and local level.⁷ In fact, previous studies conducted in Indonesia showed that many adolescent girls had a lack of knowledge about menstruation.⁸⁻¹⁰

Numerous studies have described several challenges associated with menstruation in girls, including poor access to comprehensive information about menstruation, lack of appropriate materials to manage menstrual bleeding, and inadequate facilities to change, clean and dispose absorbents.¹¹ These issues may subsequently contribute to increase risks of reproductive health problems.¹² In addition, inadequate social support can lead to psychosocial consequences such as shame, fear, anxiety and distraction.¹³ Menstruation can also potentially cause school absenteeism. UNICEF estimates that 1 in 10 school age African girls do not attend school during menstruation.¹⁴ Similarly, several studies indicated that 43%-50.7% students were absent from school, ranging from one day to four days because of menstruation.^{2,4,15} In an Ethiopian study, about 58% of girls stated that their academic performance at school declined after menarche.¹⁶

Problems encountered by schoolgirls regarding menstruation, especially poor school attendance, may hamper progress towards

Sustainable Development Goals (SDG-3) on good health and well-being, and SDG-4 on quality education.¹⁷ To date, studies on menstruation among primary schoolgirls are limited in Indonesia. Consequently, the determinants and impacts of menstruation among the schoolgirls, especially on school absence, are not well understood. Thus, this study was to examine the factors associated with school absence during menstruation among primary schoolgirls.

METHODS

Study design and participants

A school-based cross-sectional study was conducted to assess menstrual hygienic management among schoolgirls from September to October 2016. The purposive sampling technique was used to select participating schools of four public elementary schools and five private elementary schools in South Tangerang City. Eligible participants were schoolgirls grade 4th, 5th, and 6th; aged 9-12 years; registered in the participating schools; and were able to complete the interview. A total of 602 schoolgirls grade 4th, 5th, and 6th were randomly selected from the participating schools, including 307 schoolgirls from public schools and 295 from private schools. This study was a secondary analysis to data from the menstrual hygienic management survey. The sample size for this study was then calculated that at least 115 participants were required, using the proportion of absence during menstruation of 41%², power level of 90%, and confidence level of 95%. In this study, however, a total of 133 schoolgirls who had already experienced their first menstruation were included for final analysis. A short 15-minutes briefing was carried out to explain the participants about the terminologies used in the questionnaires such as menstruation, menarche, and dysmenorrhea.

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Permission was obtained from the school authorities prior to data collection. Written consent was obtained from both schoolgirls and their parents. The study protocol was approved by the Research Ethics Committee of the Faculty of Medicine and Health Sciences Universitas Islam Negeri (UIN) Syarif Hidayatullah, Jakarta, Indonesia, Number: Un.01/F10/KP.01.1/KE.SP/04.24.001 /2016.

Data collection

Each participating schoolgirl was interviewed using a structured questionnaire. The information collected included items relating to the schoolgirls' demographic background, and menstrual characteristics (menarche age, duration of menstrual in days, dysmenorrhea, and severity of dysmenorrhea), knowledge about menstruation, and source of information related to menstruation. The schoolgirls' demographic background included age, parent's occupation, parent's education, and type of school.

Schoolgirls' menstrual knowledge score was calculated out of the 10 knowledge specific questions.⁴ Reproducibility was assessed by Cronbach's alpha test ($\alpha \geq 0.70$). Each correct response earned one point, whereas any wrong response received no point. Knowledge about menstruation was then categorized into poor (≤ 5 correct responses), average (6-7, correct responses) and good (≥ 8 correct responses). Furthermore, the schoolgirls were asked if they missed class during their last three menstrual cycles, the average number of days they were absent per cycle during their last three cycles, and reasons for school absence during menstruation.

Statistical analysis

Descriptive statistics were conducted to evaluate the mean and standard deviation for continuous data, frequencies and proportions for categorical data. Odds Ratio (OR) and 95% Confidence Interval (CI) were calculated using logistic regression analysis to ascertain effect sizes for any association between school absence and predictor variables (mother's highest education, dysmenorrhea, knowledge about menstruation, and source of information-related menstruation). Multivariable models

were adjusted for age, age at menarche (years, continuous) and school type (private or public school). *P*-value was presented as two-sided, and 0.05 were deemed to be significant. Statistical analyses were calculated using SPSS software (SPSS, Inc., version 17).

RESULTS

Table 1 summarizes the characteristics of schoolgirls. The mean age of schoolgirls was 11.0 ± 0.1 years, and more than half of participants (55.6%) were students in the private elementary schools. Half of the schoolgirls' mother (54.9%) and father (53.4%) education were college or university degree. More than one third (40.6 %) of the mothers of the schoolgirls were housewives and more than half of their fathers (55.6%) were government or company officer. The mean age of menarche and duration of menstrual were 10.6 ± 0.1 years and 6.7 ± 0.1 days, respectively. Majority of the schoolgirls (66.9%) reported that they had dysmenorrhea, and half of the schoolgirls (50.6%) had mild severity of dysmenorrhea.

In Table 2, around 19% of out of 133 schoolgirls reported missing school during menstruation. Absentee schoolgirls missed an average of 2.4 days each menstrual cycle. When they were asked for reasons of school absence, 69% reported that they fear of leakage, 62% felt pain/discomfort, 19% reported that boys ridiculed, 11.5% reported because of limited school sanitation facilities, and 4% said their guardians forbade them to go to school. Schoolgirls' knowledge of menstruation is presented in Table 2. Majority of participants (95.5%) knew correctly that menstruation is a normal biological process. The mean score of the schoolgirls' knowledge of menstruation was 7.5 ± 1.2 on a scale of 4–10. The level of knowledge of menstruation among schoolgirls revealed that 59.4% had good knowledge, 23.3% had average knowledge, and 17.3% had poor knowledge. However, knowledge gap was found in specific areas, i.e. only 16.5% schoolgirls knew duration of a normal menstrual cycles and 23.2% of schoolgirls knew about premenstrual symptoms. The leading sources of information were mothers (62.1%), followed by sisters/friends (22.7%), and teachers (12.9%) (Figure 1).

Table 1. Characteristics of Schoolgirls

Characteristics	Frequency	Percentage
Age at interview*, years	133	11.0 ± 0.1
Type of school		
Private school	74	55.6
Public school	59	44.4
Mother's highest education		
No school/elementary school	11	8.3
Middle and high schools	49	36.8
College/university	73	54.9
Mother's occupation		
Housewife	54	40.6
Government/company officer	42	31.6
Others	37	27.8
Father's highest education		
No school/elementary school	16	12.0
Middle and high schools	46	34.6
College/university	71	53.4
Father's occupation		
Trade	46	34.5
Government/company officer	74	55.6
Others	13	9.8
Age at menarche*, years	133	10.6 ± 0.1
Duration of menstrual, days	133	6.7 ± 0.1
Dysmenorrhea		
No	44	33.1
Yes	89	66.9
Severity of dysmenorrhea		
Mild	45	50.6
Moderate	35	39.3
Severe	9	10.1

*Data were presented as mean ± SD

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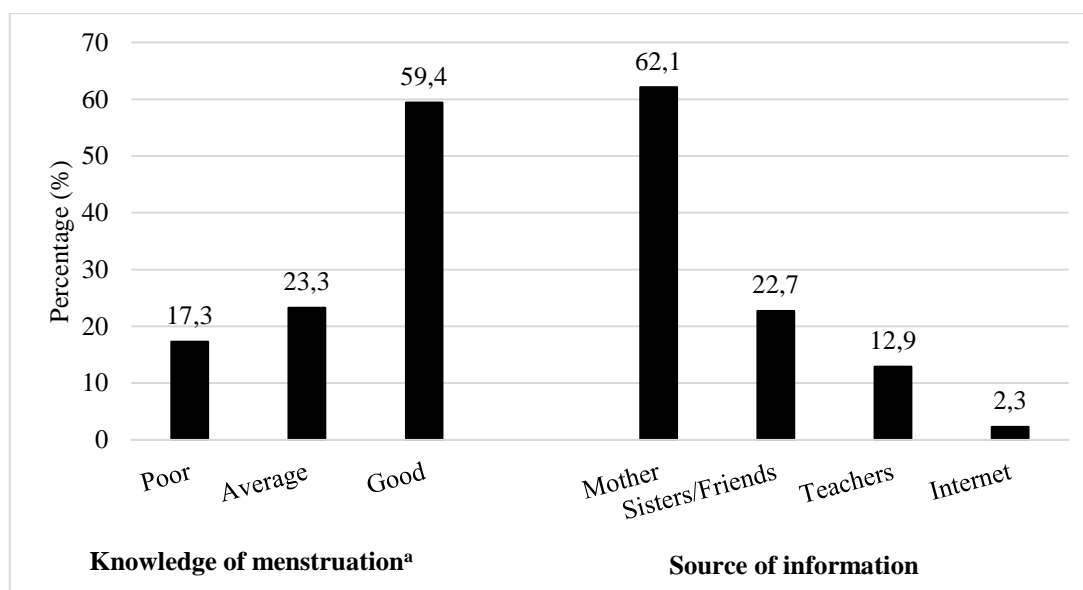
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Table 2. School Absence among Schoolgirls

Indicators	Frequency	Percentage
Absence from school during menstruation	26	18.8
Length of absence, days*	26	2.4 ± 2.5
Reasons for school absence**		
- Forbidden by family	1	3.9
- Limited school sanitation facilities	3	11.5
- Fear of leakage/staining	18	69.2
- Pain/discomfort	16	61.5
- Boys ridiculed	5	19.2

*Data were presented as mean ± SD.

**Multiple responses were possible, and the percent is greater than 100%



^apoor: ≤ 5 correct responses; average: 6-7 correct responses; and good: ≥8 correct responses.

Figure 1. Knowledge of Menstruation and Source of Information Related to Menstruation

Furthermore, the OR associated with school absence during menstruation among schoolgirls were calculated as presented in Table 4. We found that girls whose mothers' highest education were middle school and above were less likely to be absent from school in

multivariable analysis, the adjusted OR associated with school absence for mothers' education at middle or high school and college/university were 0.20 and 0.15, respectively.

Table 3. Schoolgirls' Knowledge of Menstruation (n = 133)

Indicators	Frequency	Percentage
Knew that menstruation is a normal biological process	127	95.5
Knew normal menstrual bleeding duration	124	93.2
Knew duration of a normal menstrual cycle	22	16.5
Became aware that menstruation is due to hormones	103	77.4
Knew about premenstrual symptoms	31	23.2
Knew how to use disposable pads	132	99.2
Became aware that menstrual blood is from uterus	116	87.2
Became aware that menstruation is a sign that a girl biologically can be pregnant	109	81.9
Became aware that a girl can go to school during menstruation	130	97.7
Learned menstruation & its hygienic management in school	110	82.7

Dysmenorrhea was 7.32 times more likely to cause girls absent from school. In addition, girls who had poor knowledge about menstruation were 5.98 times more likely to miss schools compared with those who had good knowledge of menstruation. Further adjustment for age, age

at menarche, and type of school did not appreciably change the associations ($P < 0.05$). Source of information regarding menstruation, however, was not significantly associated with school absence among schoolgirls.

Table 4. Factors Associated with School Absence during Menstruation Days among School Girls

	Crude OR (95% CI)	Adjusted OR ^a (95% CI)
Mothers' highest education		
No school/elementary school	1 (reference)	1 (reference)
Middle or high school	0.24 (0.06-0.94) *	0.20 (0.05-0.84) *
College/university	0.10 (0.03-0.41) *	0.15 (0.03-0.62) *
Dysmenorrhea		
No	1 (reference)	1 (reference)
Yes	7.32 (1.64-32.66) *	6.05 (1.32-27.69) *
Knowledge of menstruation		
Good	1 (reference)	1 (reference)
Average	1.87 (0.60-5.77)	1.97 (0.59-6.57)
Poor	5.98 (2.03-17.58) **	5.24 (1.69-16.30) **
Source of information		
Mother	1 (reference)	1 (reference)
Sisters/friends	1.36 (0.49-3.74)	0.99 (0.34-2.90)
Teachers	0.74 (0.19-2.86)	1.00 (0.24-4.09)

^aAdjusted for age (in years), age at menarche (in years), and type of schools (public elementary and private elementary schools); *p-value < 0.05; **p-value < 0.01.

DISCUSSION

In this study, about 19% of out of 133 schoolgirls reported missing school during menstruation, with an average of 2.4 days each menstrual cycle. The main reasons for school absence were fear of leakage (69%), pain/discomfort (62%), and ridiculed boy (19%). This study found that educated mothers had a significant effect on girls' school attendance during menstruation. Furthermore, this study found that dysmenorrhea and schoolgirls' knowledge of menstruation were significantly associated with girls' absence from school.

Absentee schoolgirls missed an average of 2.4 days each menstrual cycle, constituting approximately 15% of the academic year. Although almost all girls (95.5%) knew that menstruation was a normal biological process, a 17.3% of schoolgirls had poor knowledge about menstruation. The proportion of poor knowledge in this study was somewhat higher than those in previous studies^{16,18}, but was lower than the findings in Bangladesh (64%)² and in Western Ethiopia (39.1%).¹⁹ In Indonesia, schoolgirls receive very limited reproductive health education through the formal school system.²⁰ Discrepancies in the findings can be partly explained by accessibility and availability of information about menstruation.

The schoolgirls' knowledge of menstruation was significantly associated with their school absence during menstruation. Previously several studies have suggested that menstruation affects school attendance. However, one study reported that menstruation had limited impact on school attendance of 198 schoolgirls aged 14.2 years on average.²¹ Apparently, the schoolgirls' age in this study was almost three years younger than that of in the previous study. Thus, this study supports the facts that girls may miss more school days at the beginning of menarche as they may not have fully developed strategies for coping with menstruation.²² In addition, multiple intervention trials conducted in Bangladesh²³ and Ghana²⁴ showed that menstrual hygiene education program improved schoolgirls' knowledge of menstruation and increased girls' school attendance by 9% of a girl's school year. This study found that only few schoolgirls knew duration of a normal menstrual cycles (16.5%)

and knew about premenstrual symptoms (23.2%), indicating girls' lack of knowledge on how to manage with menstruation. Furthermore, we found that limited school sanitation facilities were one reason for school absence during menstruation, suggesting that improvement of school's sanitation facilities is critical to better prepared schoolgirls to manage menstruation in schools.

Interestingly, this study found that educated mothers had a significant effect on girls' school attendance during menstruation. Several studies reported that mother's education level was important predictors of girls' menstrual knowledge that might affect girls' school attendance.^{2,19} In fact, this study revealed that girls who had poor knowledge about menstruation were more likely to miss schools compared with those who had good knowledge about menstruation. Previous studies have shown that young Indonesian lack basic information on reproductive health topics and often receive information from sources that may be misleading or inaccurate.²⁰ In this study, while mothers were the main source of information about menstruation, they may not have sufficient knowledge about menstruation to provide comprehensive and accurate information to girls. In addition, evidence suggests that dysmenorrhea is the most common gynecological complaint in adolescent girl and may result in absences from school.²⁵ A high prevalent of dysmenorrhea (67%) in this study was similar with those findings from previous studies.^{26,27} Furthermore, this study found that dysmenorrhea was the leading cause of school absence, suggesting the need for educating schoolgirls on appropriate and effective management of dysmenorrhea and menstruation.

The present findings should be interpreted in the light of some limitations. This study addressed the sensitive issue about menstruation using questionnaire that might have some social-desirability bias. Another limitation of this study was the cross-sectional nature of data that might limit causal conclusion. The effect of other confounding factors, such as physical exercise, lack of sleep, and parents' socioeconomic status were not considered. However, the present findings have significant implications for adolescent sexual and reproductive interventions in Indonesia.

CONCLUSION

The frequency of schoolgirls who missed school during menstruation was slightly high. Factors affecting school absence included knowledge of menstruation, dysmenorrhea, and mother's education status. The findings suggest that providing knowledge and menstrual management prior to menarche, privacy and a positive social environment around menstrual issues has the potential to benefit students by reducing school absence.

RECOMMENDATION

Health education on menstrual problems targeting schoolgirls and their mothers, and routine screening for menstrual problems by healthcare providers, can help prevent school absenteeism. As mothers were the main source of information and knowledge among schoolgirls in this study, health professionals should involve mothers in general discussions about menstrual problems and how to deal with them.

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