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The Relationship between Knowledge, Information, and School Sanitation Facility with Menstrual Hygiene Practices Among Schoolgirls

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ABSTRACT

Introduction: Menstrual hygiene practices are a form of self-care mainly related to maintaining the hygiene of reproductive organs specifically during menstruation. Based on previous research there are still various challenges for students to be able to maintain their menstrual hygiene in school, these challenges includes knowledge about menstruation, information, as well as school sanitation facility.

Objective: The study aims to identify the relationship of knowledge, information, and school sanitation with menstrual hygiene practices in junior highschool students.

Method: This study uses cross sectional carried out at one of Juniorhigh School in Wonokromo, Surabaya. The population in this study was a total of 45 girls, and the sample used 41 girls. The data analysis method is descriptive and analytical, using a chi-square test with ($\alpha=5\%$ or 0.05) to identify the relationship of knowledge, information, and school sanitation facility with student menstrual hygiene practices.

Result: The results of the study showed that 29 girls (71%) have good menstrual hygiene practices, and 12 other girls (29%) have poor menstrual hygiene practices. 32 girls (78%) stated that menstrual hygiene information in the school was adequate and 9 girls (22%) said that the school's menstrual hygiene information was insufficient. Furthermore, 32 girls (78%) stated that school sanitation facilities were sufficient and could support the implementation of the Menstrual Hygiene Management (MHM), while the other 9 girls (22%) stated that the school hygiene facilities weren't sufficient for girls. The results of the bivariable analysis shows that there are meaningful relationships between knowledge, information and school sanitation facility with menstrual hygiene practices.

Conclusion: This study shows the relationship between knowledge, information, and school sanitation facility with menstrual hygiene practices among schoolgirls.

Keywords: Menstrual Hygiene; Junior Highschool; Knowledge; Information; School Sanitation Facility

INTRODUCTION

Menstruation is defined as the “breakdown” process of the upper layer of the uterine lining after the luteal phase of the ovarian cycle. Menstruation can be physically seen by the flow of blood through the vagina that occurs periodically every month. During this phase, female reproductive hygiene is mostly important to be taken care of in order to avoid infection by germs or bacteria that can potentially enter the reproductive tract because the blood vessels and uterus are susceptible to infection (1). Therefore menstrual hygiene is an important aspect in the menstruation phase. Menstrual hygiene practices are a form of self-care mainly related to maintaining the hygiene of reproductive organs specifically during menstruation.

However studies have found that menstrual hygiene in school still has a lot of challenges. Based on Burnett’s Institute study in 2015, schoolgirls in East Java, East Nusa Tenggara, Papua, and South Sulawesi, only two third of them in the urban area and less than half (41%) in the rural area changes their sanitary pad every 4-8 hours or when the sanitary pad reaches its maximum capacity. While the rest of the schoolgirls (46%) only changes their sanitary pad less than twice a day (2). These poor menstrual hygiene practices can increase the girls risk and make them prone to reproductive organ infection. Moreover, if menstrual hygiene is not implemented correctly then the impacts that can occur are the increased risk of developing a cervical cancer and other reproductive health diseases (3). Study has shown that poor menstrual hygiene practices can cause girls to be at a risk of 1.4 to 25.07 times exposed to Reproductive Tract Infection (RTI) (4). Given the dangers posed by poor menstrual health practices, girls should be supported to be able to maintain, and take care of their reproductive health during menstruation, especially in school.

Study conducted in Pati in 2017 examined several factors that influences the menstrual hygiene practices in schoolgirls, including knowledge about menstruation, parent support, teacher support, menstrual health information, and support from peers (5). Another factor that also influences the menstrual hygiene practices among school girls is the school sanitation facility known as WASH (Water Sanitation, and Hygiene). School sanitation or what is commonly called the presence of water sanitation and hygiene (WASH) is an important means to be taken into consideration for the use of menstruation hygiene for school children. The purpose of adequate Water Sanitation and Higiene facilities in the school environment is to facilitate and provide comfort to students to carry out menstrual sanitation practices safely, comfortably, and correctly (5). Other factor that also contributes are the availability of school sanitation facility or WASH (*Water Sanitation, and Hygiene*). The purpose of adequate water sanitation and hygiene facilities in the school environment is to facilitate and provide comfort to perform menstrual hygiene practices safely, comfortably, and correctly. The Water Sanitation and Hygiene (WASH) facilities include clean water, drainage, soap, and toilet tissue (2).

In addition to that, other determinant that also plays a role in menstrual hygiene practices in school is the availability of sanitary hygiene information available in school. According to United Nations Children's Fund (UNICEF) survey conducted in Indonesia in 2019, a third of teenagers did not get the correct information about hygiene during menstruation (6). In fact, the information obtained will influence their knowledge and the right knowledge will affect the proper behavior in maintaining reproductive health.

Therefore, menstrual hygiene practices, especially in school-age girls, still more attention. The lack of adequate knowledge of menstruation hygiene, as well as many challenges related to menstruation can result in health, education, and psychosocial disorders. Based on these proposed study, the researcher aimed to identify the relationship between knowledge, information, and sanitation with the practice of menstrual hygiene of one of the junior high school students in Kelurahan Wonokromo.

METHOD

The study uses cross sectional research designs that is carried out in February 2024 at a Junior High School in Wonokromo, Surabaya. The population in this study is the female students of a Junior High School, which has a total of 45 students, then the number of samples that are used are 41 students. The data collection was carried out by questionnaires that were filled by the students of 7th, 8th grade and 9th grade. Data analysis methods are descriptive and analytical, descriptive by describing each research variable by paying attention to the distribution and presentation of each variable as well as data analysis using a chi-square test with a ($\alpha=5\%$ or 0,05) to identify the relationship of knowledge, information, and school sanitation facilities with menstrual hygiene practices.

RESULT

Characteristics of Respondents

Table 1. Characteristics of Respondents

Characteristics	Frequency	Percentage
Grade		
Grade 7	12	29%
Grade 8	15	37%
Grade 9	14	34%
Age		
12-15	35	85%
16-19	6	15%
Menarche		
10	1	2%
11	5	12%
12	12	29%
13	11	27%
14	8	20%
15	4	10%
Total	41	100%

Source: Primary Data, 2024

Based on the table above, the respondents were divided into groups of 7th grade 12 students (29%), 8th grade 15 students (37%) and 9th grade 14 students (34%). The age ranges from 12 to 19, with details of 2 students aged 12, 5 students aged 13, 15 students aged 14, 14 students aged 15, 4 students aged 16, and 1 students aged 17 and 19. The age of menarche or their first menstruation varies between 10 and 16 years, 1 student (2%) 10 years, 5 students (12%) 11 years, 12 students (29%) 12 years, 11 students (27%) 13 years old, 8 schoolgirlies (20%) menarcher at 14 years old and 4 (10%) menarches at 15 years old. So the total of respondents in this study was 41 students.

Menstrual Hygiene Knowledge

Table 2. The Distribution of Menstrual Hygiene Knowledge

Knowledge	Frequency	Percentage
Menstrual Hygiene Knowledge		
Adequate	34	83%
Poor	7	17%
Total	41	100%

Source: Primary Data, 2024

Based on the table above, it was found that 34 students (83%) had adequate knowledge about menstrual hygiene, while the other 7 (17%) had poor menstrual hygiene knowledge. These aspects includes the understanding and concepts of menstruation in general, as well as knowledge related to how to maintain personal hygiene during menstruation such as replacement of sanitary pad, maintenance of female organ hygienes, disposal of sanitary pad, the use of underwear with the right material, and the habits of washing before and after changing the sanitary pad.

Menstrual Hygiene Information in School

Table 3. The Distribution of Menstrual Hygiene Information in School

Keterangan	Frequency	Percentage
Menstrual Hygiene Information		
Adequate	32	78%
Insufficient	9	22%
Total	41	100%

Source: Primary Data, 2024

Based on the table above, it was found that the majority of students stated that there was adequate information related to how to maintain personal hygiene at the time of menstruation, with details of 32 students (78%) said that menstrual hygiene information in school is already adequate and 9 students (22%) said that menstrual hygiene information at school is still insufficient. The information referred to included providing education to Adequate pupils at the time of school hours and outside school hours through the implementation of the School Health Initiative. (UKS).

School Sanitation Facility

Table 4. The Distribution of School Sanitation Facility

Keterangan	Frequency	Percentage
School Sanitation Facility		
Adequate	32	78%
Insufficient	9	22%
Total	41	100%

Source: Primary Data, 2024

Based on the table above, it was found that the majority of students stated that there was adequate school sanitation facility that supports in maintaining menstrual hygiene management (MHM) in school, with details of 32 students (78%) said that school sanitation facility is already adequate and 9 students (22%) said that school sanitation facility is still insufficient. Sanitary facilities include a bathroom with access to clean water, soap, toilet paper (tissue), and waste bin for sanitary pad disposal.

The Junior High School has almost met the standards of the School Sanitation Facility as listed in the Guidelines School Sanitary Program organized by the Ministry of Education, which are listed below:

Water sources around the school environment. The main source of water used is protected water that comes from Piped water or usually called PDAM water. In addition, the water needs required by students and teachers have been fulfilled in accordance with the standards.

Toilet according to standard and separated between men and women. The toilet has been separated according to gender with a total of 3 toilets for female students which also corresponds to a ratio of 1:30 toilets to girls.

Hand Washing Facilities with Soap. There is also a hand washing facility with soap around the bathroom so that students can wash their hands before and after leaving the bathroom.

The garbage compartment. The school have provide toilet with a closed trash compartment in the women's bathroom for the disposal of sanitary pad.

Other supporting facilities. These includes the availability of clean sanitary pad and plastic wrappers for disposing the used sanitary pad that can be accessed by students.

Menstrual Hygiene Practices

Table 5. Distribution of Menstrual Hygiene Practices

Keterangan	Frequency	Percentage
Menstrual hygiene practices		
Adequate	29	71%
Poor	12	29%
Total	41	100%

Source: Primary Data, 2024

Based on the table above, it has showed that 29 students (71%) have adequate menstrual hygiene practices and 12 students (29%) have poor menstrual hygiene practices. As for menstrual hygiene practices, these include replacement of sanitary in schools, maintenance of female organ hygiene, disposal of used sanitary pad, the use of underwear with the right material, and washing hands habits.

Bivariate Analysis

The Relationship of Menstrual Hygiene Knowledge and Menstrual Hygiene Practices

Table 6. The Relationship of Knowledge and Menstrual Hygiene Practices

Knowledge	Practices		p-value ($\alpha=5\%$)
	Adequate	Poor	

Adequate	27	7	0.007
Poor	2	5	
Total	29 (71%)	12 (29%)	41 (100%)

Source: Primary Data, 2024

The results of the statistical test using the chi-square test showed a p -value of 0.007, where the p -value is < 0.05 . Then it can then be concluded that there is a relationship between menstrual hygiene knowledge and menstrual hygiene practices in students.

The Relationship of Menstrual Hygiene Information and Menstrual Hygiene Practices

Table 7. The Relationship of Menstrual Hygiene Information and Menstrual Hygiene Practices

Information	Practices		P Value ($\alpha=5\%$)
	Adequate	Poor	
Adequate	26	6	0.005
Insufficient	3	6	
Total	29 (71%)	12 (29%)	41 (100%)

Source: Primary Data, 2024

The results of the statistical test using the chi-square test showed a p -value of 0.005, where the p -value is < 0.05 . Then it can then be concluded that there is a relationship between menstrual hygiene information and menstrual hygiene practices in students.

The Relationship of School Sanitation Facility and Menstrual Hygiene Practices

Table 8. The Relationship of School Sanitation Facility and Menstrual Hygiene Practices

School Sanitation Facility	Practices		p -value ($\alpha=5\%$)
	Adequate	Poor	
Adequate	26	6	0.005
Insufficient	3	6	
Total	29 (71%)	12 (29%)	41 (100%)

Source: Primary Data, 2024

The results of the statistical test using the chi-square test showed a p -value of 0.005, where the p -value is < 0.05 . Then it can then be concluded that there is a relationship between school sanitation facility and menstrual hygiene practices in students.

DISCUSSION

The Relationship of Menstrual Hygiene Knowledge and Menstrual Hygiene Practices

Based on the statistical test results using the chi-square test showed a p -value of 0.007, where the p -value is < 0.05 . It can then be concluded that there is a relationship between menstrual hygiene knowledge and menstrual hygiene practices in schoolchildren. This findings ia also supported by recent research carried out in Indonesia in 2018 by Davis, whereas inadequate or poor knowledge of menstrual hygiene increases the likelihood of poor mental health practices. Schoolwomen with less adequate knowledge, are three times more likely to undertake Poor Menstrual Hygiene Management (MHM) practices than students with an adequate level of knowledge (7).

In addition to that, a study conducted by Meika on a high school student in the state of Mojowarno in 2018, the study result shows that there is influence and relationship of knowledge on menstrual hygiene practices with p -value (0,000), in which adolescents who have adequate knowledge will have an effect on a positive behavior (8).

Furthermore, a study conducted by Sri Purwanti on students in Pati in 2017 found that there was a significant relationship between hygiene practices during menstruation and the level of knowledge of respondents with p value (0,01). Based on an OR score it was obtained that respondents who had knowledge that Poor were 2.6 times more likely to do hygiene practice during the menstruation than respondents 32 who had adequate knowledge related to hygiene (5).

The Relationship of Menstrual Hygiene Information and Menstrual Hygiene Practices

Based on the test results using the Chi-square test showed a p -value of 0.005, where the p -value is < 0.05 . menstrual hygiene information is closely related to menstrual hygiene practices, according to study which Anjan research in 2019, it is stated that there is a significant relationship between sources of information to personal hygiene behaviour during menstruation teenage students of MTS N 1 Gamping Sleman (3).

The same result found on the study conducted by Erni and Sitti on students in Yogyakarta in 2015 found that the results of the chi-square test showed that there was a significant relationship between the source of information and the knowledge of menstrual hygiene in students with a p -value (0,05), the sources of school-related hygiene of menstruation among them were through various sources, which are information received by students from mothers of 64 students (81%), information received by students from sisters of 57 students (72,2%), information received by students from teachers of 53 students (67,1%), information received by students from social media of 50 students (63,3%) and information received by students from peers of 40 students (50,6%) (9).

Similar research results were found in a study conducted at one of the boarding schools in Depok in 2019, it is found that there was a significant relationship between the exposure to information and menstrual hygiene behavior with p -value (0,003) (10). In addition, similar results were found in a study conducted in Lampung in 2015. The results of a chi square test with a p -value (0,012) show that there is a meaningful relationship between mass media exposure and menstrual hygiene practices (11).

Therefore, schools have become an important role in providing Menstrual Hygiene Management (MHM) interventions through various efforts such as including a Menstrual Hygiene Management program in the school curriculum, by strengthening sexual and reproductive health education for boys and girls through the role of School Health Unit or (UKS). Students need to be given adequate and positive information through a variety of ways in the school environment. Including the role of teachers and School Health Unit (UKS) in providing menstrual hygiene information to students so that these students who have been exposed to such information are expected to have a positive impact menstrual hygiene practices.

The Relationship of School Sanitation Facility and Menstrual Hygiene Practices

The results of the statistical test using the chi-square test showed a p -value of 0.005, where the p -value is < 0.05 . It can then be concluded that there is a relationship between school sanitation facility and menstrual hygiene practices in students. According to research conducted in Ethiopia, there is a relationship between menstrual hygiene practices and water, hygiene and sanitation with p -value (0,001) and OR 3.15 (1,43-5,91) (12). The availability of sanitation facility is an important factor in supporting menstrual hygiene practices in adolescents.

Studies related to the analysis of factors related to personal hygiene behavior during menstruation carried out by Saints in 2021 showed the results of factors associated with personal hygienic behaviour during the menstruation namely attitudes about personal health with a p -value (0,000), peer support with p -value (0,048), and the availability and condition of WASH facilities in schools with the p -valued (0,050) (13).

Students need a clean place and plenty of water to be able to change the sanitary pad every 3-4 hours during their menstruation in school. The sanitation facility, in this case that supports the menstrual hygiene practices is including the availability of water and sanitation that can make it easier for teenagers to manage their menstrual hygiene practices while at school. Toilet facilities in this case include the availability of Water, Hygiene, and Sanitation (WASH) facilities. These facilities includes clean water in schools, physical facilities such as trash bin, sanitary pad, soaps, tissue toilets. Both the facility and resources are frequently linked to hygiene practices during menstruation performed by students especially related to frequency of sanitary pad changes in school. The uncomfortable WASH facilities have been proven to make students unwilling to change the sanitary pad regularly in school. Which in order to keep the genitalia clean, the sanitary pad needs to be replaced every four hours and the vagina needed to be cleaned thoroughly with clean water. So it can be concluded that adequate sanitation facilities can support students in performing adequate menstrual hygiene practices in school.

CONCLUSION

From this study, it can be concluded that there is relationship between menstrual hygiene knowledge and menstrual hygiene practices ($p=0.007$), there is a relationship between menstrual hygiene information in school with menstrual hygiene practices ($p=0.005$), there is a relationship between the school sanitation facility and the menstrual hygiene practice ($p=0.005$).

SUGGESTION

The study recommends that the school continue its efforts to support the implementation of Menstrual Hygiene Management (MHM) for students, including the availability of sanitary pad and plastic bags that are accessible to students who are menstruating. In addition, menstrual hygiene information can also be given during teaching hours

or outside teaching hours. These can also be done through innovating health promotion media or methods that suits the students interest.

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