

## Article

# Knowledge and peer support for increase Menstrual Hygiene Management (MHM) in adolescents

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## Abstract

**Introduction:** During the transitional period of reproductive function development, adolescents require special attention, one of which is menstrual hygiene management (MHM). Teenagers dealing with menstruation have little information and understanding due to the taboo assumption of being more comfortable communicating with peers. Therefore, this study aims to explain the relationship between knowledge and peer support with MHM in adolescent girls.

**Design and Methods:** This study adopted a correlational descriptive design with a cross-sectional approach and 122 students in a public Junior High School in East Java were selected using proportional simple random sampling. Furthermore, the questionnaire was adopted as the study instrument to measure the variables of knowledge level, peer support, and MHM. Data were then analyzed using Spearman Rho Test with a significance level of  $p < 0.005$ .

**Results:** The results showed that there is a significant relationship between the level of knowledge ( $p = 0.000$   $r = 0.619$  and peer support ( $p = 0.000$   $r = 0.534$ ) with MHM in adolescent girls.

**Conclusions:** Adolescent girls with adequate knowledge and peer support have better MHM. Therefore, information and education about MHM are recommended for adolescents.

## Introduction

Menstruation is the process of shedding the uterine lining and bleeding that occurs every month. Considering the insufficient knowledge of teenagers, special attention is required for the maintenance of genital organ cleanliness during this period.<sup>1</sup> The practice of proper Menstrual Hygiene Management (MHM) plays a vital role in determining health status, specifically to avoid Reproductive Tract Infections (RTI).<sup>2</sup> Furthermore, adolescent reproductive organs reach the stage of maturity and are commonly referred to as puberty and according to a 2017 Ministry of Health report, many girls in Indonesia do not have the proper understanding that menstruation is a normal biological process.<sup>3</sup> Girls are new to menstruation at menarche and they often have difficulty

buying or getting sanitary napkins when needed, causing minimal MHM in Indonesia.<sup>4</sup> MHM is most likely influenced by the level of knowledge about reproductive health,<sup>5</sup> and adolescents mainly prefer to tell stories and share information with their peers rather than their parents. This is because peers can provide sources of information and comparisons about things outside the family, hence, teenagers are more comfortable communicating with their friends.<sup>6</sup> Moreover, teenagers feel comfortable talking about menstrual hygiene with their age group, hence, they can explore questions more and discuss it without embarrassment.<sup>7</sup>

A study conducted in Ethiopia from July 2015 to June 2016 found a total of 1,421 cases of Sexually Transmitted Infections (STIs) with STI symptoms, mainly vaginal discharge (52.2%), followed by urethral (25.3%), and lower abdominal pain, below (13.3%), and genital ulcers (7.4%), and a total of 968 cases (68.1%) were women.<sup>8</sup> According to the data from National Development Planning Agency (BKKBN), over 63 million adolescents in Indonesia are at risk of not maintaining the cleanliness of their reproductive organs during menstruation.<sup>9</sup> Furthermore, based on the Indonesian Health Demographic Survey (IDHS) in 2017, the behaviour of adolescent girls in maintaining hygiene during menstruation is still poor (63.9%), due to a lack of knowledge and information about MHM. The rural youth have low, inaccurate, or incomplete knowledge about menstruation and the women do not have access to sanitary products, lack knowledge about their types and methods of use or are too expensive. They mostly rely on reusable cloth sanitary napkins, which they wash and reuse, specifically among adolescents in rural areas and public schools.<sup>10</sup> According to the Indonesian Demographic and Health Survey (IDHS) in 2018, the sources of information for adolescents concerning menstruation were peers (38%), mothers (29%), fathers (1%), siblings (9%), teachers (10%), and 14% understand independently. Proper MHM actions significantly affect the cleanliness and health of women's organs during menstruation.<sup>11</sup> The benefits of MHM are to avoid vaginal infections, keep the area around the vulva clean, and provide a sense of comfort in the genital area. Germs can easily penetrate the genital and causes disease in the reproductive tracts and symptoms, hence, the cleanliness of these area needs to be maintained.<sup>12</sup> Therefore, this study aims to explain the relationship between knowledge and peer support with MHM in adolescents.

### Significance for public health

Adolescents experience physical and psychological changes including menstruation, which is a sign of the maturity of the female reproductive organs and often considered a dangerous disease. Furthermore, menstrual hygiene management (MHM) practices play an important role in avoiding Reproductive Tract Infections (ISR), which have a significant effect on health status. Therefore, it is important to analyze the relationship between the level of knowledge and peer support with MHM in adolescents.

## Design and Methods

This study uses a descriptive correlational design with a cross-sectional approach and data were collected from March to April 2021 at a Junior High school in East Java. The sample size of 122 adolescents was selected using proportional simple random sampling and its criteria include the age of 11-14 years, menarche, and no reproductive organ disease. The dependent and independent variables MHM and the knowledge and peer support, respectively. The instruments used included a demographic questionnaire, level of knowledge, peer support, and MHM. Furthermore, the demographic questionnaire includes information such as age, menarche, length of menstruation, menstrual cycle, and menstrual complaints. The 15 multiple choice questions in the knowledge level questionnaire include the definition and purpose of menstrual hygiene, how to clean the vulva, use of underwear, correct sanitary napkins, and the impact of the use of poor MHM. Each question has a choice of answers a, b, and c, a score of 1 denote "accurate" and 0 for "wrong", with categories such as poor 55%, moderate 56-75%, and good 76-100%. The peer support questionnaire consists of 12 questions structured on a 4-point Likert scale as 1 for "never", 2 for "rarely", 3 for "often", and 4 for "always". Each question has a rating of 1-4, hence, the total score ranges from 12-48 with a low and high category of 65% and >65%, respectively. Furthermore, MHM was measured using The Menstrual Practices Questionnaire (MPQ), which includes 19 questions on a Likert scale. It includes using menstrual materials, changing sanitary napkins, hand and genitalia washing, storage and disposal of sanitary napkins, washing and drying of underwear, and toilet practices during menstruation. Each question has a rating of 1-4, hence the

total score ranges from 19-76 and the results were categorized as poor 55%, moderate 56-75%, good 76-100%. The validity test of 3 variable instruments on 15 female students as a whole was declared valid because the r count was in the range of 0.527-0.880 for the physical activity variable; 0.550-0.917 for the anxiety variable; and 0.552-0.877 for the premenstrual syndrome variable, so that the 3 instrument variables have r arithmetic greater than r table 0.514. The results of the reliability test showed that the Alpha Cronbach value of the physical activity instrument was 0.875; the anxiety of 0.944; and the premenstrual syndrome of 0.863. Obtained  $r_{\alpha} > r_{\text{table}}$  ( $r_{\text{table}} = 0.514$ ), then the instrument is declared reliable Both the descriptive and inferential statistics were adopted for data analysis and the relationship between variables was tested using the Spearman rho with a significance level of  $p < 0.05$ .

## Results and Discussions

Based on demographic data in Table 1, there were 122 female students with the majority (55) aged 13 years old with a percentage of 45.1%. The majority of respondents (43) had their menarche at the age of 12 years accounting for 35.2%. The length of menstruation for the majority of respondents (43) is 6-7 days accounting for 35.6% and the most menstrual cycles were 28 days (44.7%). Furthermore, 77 female adolescents accounting for 63.1% did not experience any complaints during menstruation.

The Spearman rho correlation test results (Table 2) showed the variable level of knowledge is  $p = 0.000$   $r = 0.62$ . This indicated that there is a significant relationship between the level of knowl-

**Table 1. Characteristics of respondents.**

No	Characteristics	Indicator	n	%	Mean	SD
1.	Age (years)	11	1	0.8	13.15	0746
		12	23	18.9		
		13	55	45.1		
		14	43	35.2		
2.	Age of menarche (years)	9	7	5.7	11.4	1.149
		10	22	18		
		11	28	23		
		12	43	35.2		
		13	22	18		
3.	Menstruation Length (days)	4-5	19	15.6	5.6-6.44	1.013
		5-6	30	24.6		
		6-7	43	35.2		
		>7	30	24.6		
4	Menstrual Cycle	14 days	13	10.6	26	0.932
		21 days	19	15.4		
		28 days	55	44.7		
		>30 days	35	28.5		
5	Complaints during menstruation	Yes	45	36.9		0.489
		No	77	63.1		

**Table 2. Knowledge level, peer support, and Menstrual Hygiene Management (MHM).**

Variable	Category	Menstrual Hygiene Management (MHM)						Total Spearman Rho		P	r
		Poor		Moderate		Good		n	%		
		n	%	n	%	n	%	n	%		
Knowledge Level	Poor	39	60	15	23.1	11	16.9	65	53.3	0.000	062
	Moderate	5	14.3	7	20.0	23	65.7	35	28.7		
	Good	0	0	3	13.6	19	86.4	22	18		
Peer Support	Low	39	50.6	21	27.3	17	22.1	77	63.1	0.000	0.53
	High	5	11.1	4	8.9	36	80.0	45	36.9		

edge and MHM. It further implies that a better level of knowledge in adolescents results in a proper MHM. The result also showed a significant relationship ( $p=0.000$   $r=0.53$ ) between peer support MHM. This indicates that higher peer support results in proper MHM.

Based on the results, only 43.3% of adolescents had good MHM, moderate (20.5%), and many were rated as poor (36.1%). MHM includes the use of clean, sanitary napkins to absorb or collect blood during the menstrual period, soap and water to wash genitals, and access to facilities for disposing of menstrual waste.<sup>13</sup> These practices are influenced by individuals' water, sanitation, and hygiene facilities.<sup>14</sup> MHM is also influenced by the level of knowledge about reproductive health.<sup>5</sup> This is because a lack of knowledge about menstrual hygiene will result in worse MHM. In addition, inadequate MHM practices lead to various reproductive health problems for adolescents, such as itching, vaginal discharge, reproductive tract infections, and cervical cancer.<sup>15</sup> This is consistent with the previous report which shows a significant relationship between the level of knowledge and menstrual hygiene behaviour with a  $p$ -value of 0.000.<sup>16</sup>

Adolescent characteristics such as age, menarche, length of menstruation, menstrual cycle, and complaints during menstruation affect the practice of MHM.<sup>17</sup> Furthermore, as a person's age increases, the knowledge and way of thinking will improve, specifically about MHM. Human beings' capacity differs, some have a lesser level of ability, hence, they experience difficulty in learning. The age of menarche in each teenager is also different, some are quick, while others are slow.<sup>18</sup> Adolescents who experience menarche in their early teens tend to have less knowledge about menstruation, leading to a lack of awareness about the importance of MHM practice. Meanwhile, those who experience menarche at an older age and have received knowledge and information about menstrual hygiene have better MHM practices.<sup>19</sup> The length of menstruation, menstrual cycles, and complaints during menstruation significantly affect the practice of MHM in adolescents. When the length of menstruation and the menstrual cycle is regular, it does not interfere with MHM practice and menstrual complaints. Similarly, MHM practices are not affected when there are no complaints.<sup>20</sup> The practice MHM is influenced by factors such as the level of knowledge, peer support, parental support, information exposure, use of mass media, and the completeness of existing infrastructure suggestions.<sup>19</sup> Based on the results of this study, the majority of respondents have low knowledge about menstrual hygiene, low peer support, and good MHM practice.

There is a strong and positive relationship between the level of knowledge with MHM in adolescent girls. This result indicates that the higher level of knowledge possessed by adolescents results in proper MHM. Adolescents mostly have a low level of knowledge about menstrual hygiene accounting for 53.3% of the total respondents. However, some have a sufficient and good level of knowledge with a percentage of 28.7% and 18%, respectively. A person's knowledge is influenced by extrinsic and intrinsic factors. The intrinsic factors include age, age of menarche, ability and will or willingness, and the extrinsic include education and information obtained from other parties such as mothers, peers, and relatives.<sup>21</sup> Furthermore, adolescent knowledge about reproductive organ hygiene is an essential domain in determining the individual's hygiene behaviour. Suppose the level of knowledge about reproductive organ hygiene was high, then there will be a better level of behaviour. The lack of knowledge of adolescents related to menstrual hygiene is consistent with the previous report that most respondents have poor knowledge about menstrual hygiene, and only 23 accounts for 46% have good knowledge.<sup>22,23</sup> Furthermore, the theory of self-determination states that a major aspect of a per-

son's basic needs is influenced by knowledge and competence to behave well.<sup>24</sup>

There is a moderate and positive relationship between peer support and MHM in adolescents. This indicated that the higher peer support obtained by adolescent girls, the better MHM in adolescents and otherwise. Based on the results, the reward support has the highest value. Respondents have good appreciation from their peers because they are always willing to listen to all menstrual-related complaints. They also reported that their peers support healthy lifestyle behaviour while menstruating. This condition is consistent with the study which shows that adolescent girls receive appreciation in the form of praise while carrying out proper menstrual hygiene practices and good information support from peers concerning MHM.<sup>25</sup> In addition, adolescent girls assume that they can freely talk to their friends of the same age group about all problems related to reproduction without feeling awkward in expressing their experiences, including hygiene in their reproductive organs.<sup>26</sup> It is important to note that messages by close friends do not necessarily have the ultimate truth. However, students do not want to clarify and invite discussions from both parents at home or teachers at school.<sup>27</sup> Based on the responses of the respondent that their peers rarely care about their menstrual hygiene, it can be concluded that the lowest type of peer support is emotional. Peers rarely motivate to clean genitals during menstruation. This is also consistent with the previous results which shows that the support and responses from friends of teenage girls related to menstrual hygiene were still lacking.<sup>28</sup> It may be attributed to the introverted and shy nature of women experiencing growth while talking about menstruation. Meanwhile, social support is better both psychologically and materially and it comes from family, friends, or the religious community.<sup>29</sup>

The data from peer support questionnaire is categorized into two, namely high and low. The data showed that most adolescents have low peer support (63.1%), while some already have high (36.9%). Low support concerning menstrual hygiene in adolescents results in poor MHM. Adolescents spend more time telling stories and sharing experiences with peers to provide adequate information and support. Furthermore, there is a relationship between peer support and menstrual hygiene practices in adolescent girls.<sup>29</sup> This is contrary to the study which states that there is no relationship between peer support and menstrual hygiene.<sup>30</sup> The theory of self-determination suggests that some aspects of basic human needs are influenced by relatedness including personal social relations in interacting with other individuals in a community, one of which is peers. Adolescents who receive reproductive health information from sources other than their parents are also influenced by their peers because they spend more time with their friends. This study was conducted online with a form such that the respondents were not accompanied directly due to the pandemic situation of online data collection. Researchers have emphasized respondents fill out the questionnaire honestly. In addition, the MHM instrument did not thoroughly measure the activity of adolescents during menstruation because it is subjective from the answers submitted by respondents. Measurement of MHM in future studies needs to be done during the adolescent menstrual cycle.

## Conclusions

Conclusively, there are only a few adolescents that practice MHM in the "excellent" category, while a large number falls in "good and less". Furthermore, adolescents who have a good level of knowledge and high peer support have better MHM. Future

studies are expected to analyze adolescent girls' psychosocial and cultural aspects with MHM.

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