



**THE RELATIONSHIP BETWEEN KNOWLEDGE AND ATTITUDE WITH
MENSTRUAL HYGIENE BEHAVIOR IN ADOLESCENT GIRLS**

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ABSTRACT

Menstrual hygiene or personal hygiene during menstruation in adolescents is very important. Poor menstrual hygiene practices can potentially cause infections such as vaginitis, leucorrhea, and reproductive tract infections. The research aimed to determine the relationship between knowledge and attitudes towards menstrual hygiene behavior in adolescent girls at the Persatuan Islam Tarogong Islamic Boarding School. This study used a quantitative correlation research design with a cross-sectional approach. The study population consisted of all female students in grades 7-9 who had experienced menstruation, with total sampling technique (N=136). Data collection was conducted on February 8, 2024 by administering questionnaires on knowledge, attitudes, and behaviors to respondents. Data were analyzed using the Chi-square test. The correlation test results showed no relationship between knowledge and menstrual hygiene behavior with a P-value=0.995 (P>0.05), but there was a relationship between attitude and menstrual hygiene behavior with a P-value=0.000 (P<0.05). Therefore, it can be concluded that there is no relationship between knowledge and menstrual hygiene behavior, but there is a relationship between attitude and menstrual hygiene behavior in adolescent girls at the Persatuan Islam Tarogong Islamic Boarding School.

Keywords: attitude; behavior; knowledge; menstrual hygiene

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INTRODUCTION

Adolescence is the transition period from childhood to adulthood. According to Kemenkes (2023), adolescents are people aged 10-19 years old. Rapid growth and development occurs during adolescence. According to Hapsari (2019) growth and development in adolescents occurs physically, psychologically, and intellectually. Physically, development in adolescents is marked by the maturation of the reproductive organs. Menarche is a sign that the reproductive organs in adolescent girls have reached maturity. According to Astuty & Sinulingga (2020) menarche menarche or the first menstruation is the release of blood for the first time from the lining of a woman's uterus, indicating that the individual has entered the mature period to begin reproduction.

Menstrual hygiene needs to be practiced by adolescents from the onset of menarche. According to Fitriwati & Arofah (2021) menstrual hygiene is a critical issue that will affect the lives and health status of adolescents in the future. Menstrual hygiene must be applied in daily life. According to Primadi (2017) good menstrual hygiene can be practiced by always changing sanitary pads 4-6 times a day, using clean sanitary pads, and having a place to dispose of used pads. Meanwhile, according to Sinaga et al. (2017) menstrual hygiene

management can be implemented by maintaining hair cleanliness, doing facial and skin care, keeping daily clothes clean, maintaining body hygiene, using sanitary pads every 4-6 hours, and using underwear at least twice a day.

The determining factors for someone having poor menstrual hygiene can be caused by lack of knowledge and unsupportive attitudes. According to Sinaga et al. (2017) someone who lacks knowledge related to the normal menstrual cycle and lacks proper preparation during menarche is a determining factor for having poor behavior related to menstrual hygiene. Poor menstrual hygiene behavior can potentially cause infections, one of which is Reproductive Tract Infection (RTI). According to Wahyudi et al. (2023) women who do not pay attention to the cleanliness and health of their reproductive organs can cause a decrease in the acidic pH balance, resulting in a decrease in natural defenses, making them prone to infections such as RTIs, leucorrhea, or vaginitis. RTIs can be caused by several types of infections, one of which is an endogenous infection due to lack of hygiene in the reproductive organs. According to Ahmad et al. (2022) endogenous infection is a type of RTI that occurs due to excessive growth of germs around the female reproductive tract, such as bacterial vaginosis and vulvovaginal candidiasis.

Based on data from WHO (2013) the highest incidence of RTIs in the world occurs in adolescents, at 35%-42%, and young adults, at 27%-33%, with a global prevalence of bacterial vaginosis reaching 20%-40%. Meanwhile according to Kemenkes (2018) RTIs caused by bacterial vaginosis in Indonesia reach 46%, followed by *Candida albicans* at 29%, occurring in adolescent girls and adult women (in Milla, 2023). Additionally, data shows that 20.9% of adolescents in Indonesia have never discussed menstruation before their menarche with anyone (Kemenkes, 2018). Based on UNICEF data, 1 out of 4 adolescents in Indonesia have never received information about menstruation before their menarche (Umniyati, 2020). Studies in recent years conducted by N. A. Putri & Setianingsih (2017) on 102 respondents found that the knowledge and attitudes in adolescent girls at SMP Patriot regarding menstrual hygiene were related to their behavior, with poor knowledge (53.9%), unfavorable attitudes (80.4%), and poor behavior (70.6%). However, this contradicts the research by Husni & Efendi (2016) which found that the knowledge and attitudes in adolescent girls at SMA Negeri 2 Kota Bengkulu regarding menstrual hygiene were not related to their behavior, with poor knowledge (54.8%), unfavorable attitudes (53.6%), but good behavior (52.4%).

To prevent problems caused by poor menstrual hygiene, the role of health workers, especially nurses, is needed. Nurses can play a role in educating and providing health socialization to adolescents, especially adolescent girls, to increase their knowledge and understanding of menstrual hygiene so that they can properly care for and maintain cleanliness. Based on Nola J. Pender's (1996) nursing theory, which explains the Health Promotion Model (HPM), the role of nurses can focus on promoting health in individuals so that they can maintain their health (Lestari & Ramadhaniyati, 2018). Health promotion is the first step in disease prevention before preventive, curative, and rehabilitative efforts. According to Kemenkes (2013) health promotion is mandatory for local health centers before curative and rehabilitative services. Islamic boarding schools are one of the targets for school health nurses in efforts to promote health.

Islamic boarding schools are places where one lives and studies, especially religious studies. According to Rizqiyah (2021) Islamic boarding schools are Islamic educational institutions where students study with teachers or commonly called *ustadz/ustadzah* and have dormitories as their living quarters. The life of students in Islamic boarding schools is not the same as

regular individual life. According to Zakiudin & Shaluhayah (2016) in boarding schools, students with different individual characteristics live together for 24 hours. Hence, life in Islamic boarding schools is no stranger to various problems, especially regarding health. According to Aulia et al. (2022) common problems in the boarding school environment are lack of discipline, responsibility and honesty, as well as poor hygiene.

Persatuan Islam Tarogong Islamic Boarding School is an educational institution located in Garut Regency. Based on interviews with the head of the dormitory, it is known that research related to menstrual hygiene has never been conducted in the female dormitory of the Islamic boarding school, and the boarding school provides an opportunity for such research to be carried out. During initial data collection, interviews were conducted with 11 students. The interview results found that 7 out of 11 students did not know and did not practice the correct way of cleaning their genitals from front to back, 5 out of 11 students said that they only changed sanitary pads when they were full or less than 4 times a day, and 6 out of 11 students did not know the impact of not maintaining menstrual hygiene, such as abnormal leucorrhea and reproductive tract infections. The aim of this study was to determine the relationship between knowledge and attitudes towards menstrual hygiene behavior in adolescent girls at persatuan islam tarogong islamic boarding school.

METHOD

This type of research uses a quantitative correlation design with a cross-sectional time approach. The population and sample of this study are all female dormitory students in grades 7-9 who are actively studying at the Persatuan Islam Tarogong Islamic Boarding School, totaling 136 students. The sampling technique used is total sampling. The data collection instrument used is a questionnaire sheet. The knowledge and attitude questionnaires are modifications from Liza (2019) and the behavior questionnaire is a modification from Purwaningrum (2017). Construct validity testing has been carried out through consultation with experts (expert judgment), namely lecturers from the Faculty of Nursing, Padjadjaran University. After the expert judgment stated that the questionnaire was acceptable, further validity testing was carried out by the researcher on 29 respondents at the Persatuan Islam Rancaekek Islamic Boarding School. The questionnaire results showed that 11 question items on the knowledge questionnaire, 14 question items on the attitude questionnaire, and 14 question items on the behavior questionnaire were valid, where the calculated r value $> r$ table (0.367).

Ethical feasibility testing has been carried out at the Padjadjaran University Ethics Committee with letter number 113/UN6.KEP/EC/2024. Data collection was conducted on February 8, 2024 by administering questionnaires on knowledge, attitudes, and behaviors to respondents. Data analysis was carried out with two analyses, namely univariate and bivariate. Univariate analysis to describe menstrual hygiene knowledge, menstrual hygiene attitudes, and menstrual hygiene behavior. Then bivariate analysis was carried out to determine the relationship between knowledge and menstrual hygiene behavior as well as the relationship between attitudes and menstrual hygiene behavior in adolescent girls at the Persatuan Islam Tarogong Islamic Boarding School. Bivariate analysis was performed using the Chi-Square Test.

RESULTS

Table 1.
Respondents' Knowledge of Menstrual Hygiene (n=136)

Knowledge	f	%
Good	103	75.7
Had Poor	33	24.3

Table 1. it was found that 33 adolescent girls (24.3%) at the Persatuan Islam Tarogong Islamic Boarding School had poor menstrual hygiene knowledge.

Table 2.
Respondents' Attitude of Menstrual Hygiene (n=136)

Attitude	f	%
Favorable	69	50.7
Unfavorable	67	49.3

Table 2. it was found that 67 (49.3%) of the young women at the Persatuan Islam Tarogong Islamic Boarding School had an unfavorable attitude towards menstrual hygiene.

Table 3.
Respondents' Behavior of Menstrual Hygiene (n=136)

Behavior	f	%
Good	70	51.5
Had Poor	66	48.5

Table 3. it was found that 66 (48.5%) of the adolescent girls at the Persatuan Islam Tarogong Islamic Boarding School had poor menstrual hygiene behavior.

Table 4.
The Relationship Between Knowledge and Menstrual Hygiene Behavior (n=136)

Knowledge	Behavior				Total	P-Value	
	Good		Poor				
	f	%	f	%			
Baik	53	39	50	36.7	103	75.7	0.995
Kurang	17	12.5	16	11.8	33	24.3	

Table 4, it was found that out of 136 adolescent girls at the Persatuan Islam Tarogong Islamic Boarding School, 50 (36.7%) had good knowledge but poor behavior, and 16 (11.8%) had poor knowledge and poor behavior. The chi-square analysis showed a P-value=0.995 (P>0.05). Therefore, it was concluded that there is no relationship between knowledge and menstrual hygiene behavior in adolescent girls at the Persatuan Islam Tarogong Islamic Boarding School.

Table 5.
The Relationship Between attitude and Menstrual Hygiene Behavior (n=136)

Attitudes	Behavior				Total	P-Value	
	Good		Poor				
	f	%	f	%			
Favorable	47	34.6	22	16.1	69	50.7	0.000
Unfavorable	23	16.9	44	32.4	67	49.3	

Table 5. it was found that out of 136 adolescent girls at the Persatuan Islam Tarogong Islamic Boarding School, 22 (16.1%) had a favorable attitude but poor behavior, and 44 (32.4%) had an unfavorable attitude and poor behavior. The chi-square analysis showed a P-value=0.000 (P<0.05), so it can be concluded that there is a relationship between attitude and menstrual hygiene behavior in adolescent girls at the Persatuan Islam Tarogong Islamic Boarding School.

DISCUSSION

Menstrual Hygiene Knowledge

Based on the research results in Table 1. it was found that in adolescent girls at the Persatuan Islam Tarogong Islamic Boarding School, 103 (75.7%) had good menstrual hygiene knowledge and 33 (24.3%) had poor knowledge. This result is in line with Susanti et al. (2020) who found 23 out of 39 people (59%) had good menstrual hygiene knowledge. Maulina (2017) also found 46 out of 55 respondents (83.6%) had good knowledge. Additionally, Amanda & Ariyanti (2020) found 56 out of 77 respondents (72.7%) had good menstrual hygiene knowledge. However, this contrasts with Fauziah et al. (2021) who found 138 out of 163 respondents (84.7%) had poor menstrual hygiene knowledge, with only 25 (15.3%) having good knowledge. Husni & Efendi (2016) also found 46 out of 84 respondents (54.8%) had poor menstrual hygiene knowledge.

Knowledge is the process of an individual gaining understanding from learning and experience by seeking out information until they know and are able to do something (Ridwan et al., 2021). Hygiene knowledge refers to what is known about maintaining cleanliness during menstruation based on the information found. Good menstrual hygiene knowledge among respondents can be influenced by education, environment, age, and culture. The education and environment received in the dormitory for 24 hours full-time can affect the respondents' knowledge. A good, comfortable, and conducive social environment at the Islamic boarding school influences the students' learning achievement (Ilyas, 2018). Though most respondents demonstrated good knowledge overall, some gaps remained, such as not knowing the normal 15-30 day menstrual cycle, needing to bathe at least twice daily, proper wiping technique from front to back, and risks of poor hygiene like reproductive tract infections. Therefore, efforts are still needed to further improve menstrual hygiene knowledge among respondents.

Menstrual Hygiene Attitude

Based on the research results in Table 2. it was found that in adolescent girls at the Persatuan Islam Tarogong Islamic Boarding School, 69 (50.7%) had a favorable attitude towards menstrual hygiene and 67 (49.3%) had an unfavorable attitude. This aligns with Syahraini (2020) study of 80 respondents where 53 (66.2%) had a favorable menstrual hygiene attitude. Susanti et al. (2020) also found 24 out of 39 respondents (61.5%) had a favorable attitude. However, this contrasts with Husni & Efendi (2016) study of 84 respondents where 45 (53.6%) had an unfavorable attitude. Amanda & Ariyanti (2020) found 42 out of 77 respondents (54.5%) had an unfavorable menstrual hygiene attitude. Attitude refers to a perspective, opinion, or feeling towards a particular object, person, or event that is followed by a response indicating like or dislike (Swarjana, 2022). A menstrual hygiene attitude is an individual's evaluation of menstrual hygiene, determining whether they support or do not support certain practices.

A favorable menstrual hygiene attitude among respondents can be influenced by personal experiences, important influences from others, cultural influences, and mass media. In daily life, respondents are accustomed to living independently in a crowded environment with many individuals of different characteristics. This independence requires respondents to form attitudes that support health. An independent attitude can lead individuals in a more positive direction and can also teach someone to do good and control every behavior they engage in (Niswara & Setiawati, 2016).

Additionally, important influences from others affect the formation of respondents' attitudes. The influence of peers who have views related to clean and healthy living is one positive factor that changes someone to have a good evaluation of cleanliness. In peer relationships, one individual to another feels a similarity in terms of age, needs, and goals, which leads individuals to have the same attitudes and views, which is to support and reinforce each other (Islamiah, 2020). According to Sadiyah & Hidayati (2020) motivation provided by peers makes students become more optimistic and driven and enthusiastic to do something. While over half had a favorable attitude, the questionnaire revealed some persisting unfavorable attitudes, such as believing menstrual pads can be changed anytime if not leaking, tight underwear is acceptable, agreeing with wiping genitals back-to-front, and thinking washing genitals with antiseptics is good. So while attitudes were somewhat positive overall, there is still room for improvement in addressing lingering unfavorable attitudes towards proper menstrual hygiene practices.

Menstrual Hygiene Behavior

Behavior is an individual's response displayed to external stimuli, which can manifest as internal responses like knowledge and attitudes, as well as external responses in the form of actions (Novianti et al., 2016). Menstrual hygiene behavior refers to the typical practices someone engages in to maintain cleanliness during menstruation. Based on the research results in Table 3. it was found that in adolescent girls at the Persatuan Islam Tarogong Islamic Boarding School, 70 (51.5%) exhibited good menstrual hygiene behavior and 66 (48.5%) exhibited poor behavior. This aligns with Husni & Efendi (2016) study of 84 respondents, where 44 (52.4%) had good menstrual hygiene behavior and the remaining 40 (47.6%) had poor behavior. Maulina (2017) study also found 35 out of 55 respondents (63.6%) had good menstrual hygiene behavior. However, this contrasts with N. A. Putri & Setianingsih (2017) study of 102 respondents, where the majority, 72 (70.6%), had poor menstrual hygiene behavior. Additionally, Amanda & Ariyanti (2020) found 42 out of 77 respondents (54.5%) had poor menstrual hygiene behavior.

Respondents' behaviors can be influenced by predisposing factors, enabling factors, and reinforcing factors. Predisposing factors like knowledge and attitudes are key determinants shaping one's behavior. Good knowledge and attitudes among respondents corresponded with good hygiene behaviors. An individual will engage in a behavior if they view it as good and supportive, but if an individual views the behavior as negative and unsupportive or even detrimental, they will refrain from that behavior (Amanda & Ariyanti, 2020). While over half exhibited good behaviors, the questionnaire revealed some persisting poor practices, such as wiping genitals from back-to-front, not cleaning with dry tissue/towel, wearing non-absorbent underwear, and not changing underwear twice daily.

The Relationship Between Knowledge and Menstrual Hygiene Behavior

Based on Table 4. out of 136 adolescent girls at the Persatuan Islam Tarogong Islamic Boarding School, 50 (36.7%) had good knowledge but poor behavior, and 16 (11.8%) had both poor knowledge and behavior. The chi-square analysis showed a $p\text{-value}=0.995$ ($P>0.05$). Therefore, it was concluded that there is no relationship between knowledge and menstrual hygiene behavior among these adolescent girls. This aligns with Laswini (2022) study showing no relationship between knowledge and menstrual hygiene behavior ($p\text{-value}=1.000$, $P>0.05$) in adolescent girls at MTS Pondok Pesantren Al-Inayah in Bogor City. Dewi (2022) study in adolescent girls at SMP Negeri 1 Kintamani also found no relationship with a $p\text{-value}=0.944$ ($P>0.05$).

However, this contrasts with Fauziah et al. (2021) study at MTS Pondok Pesantren "X" which showed a significant relationship between knowledge and behavior with $p\text{-value}=0.0006$ ($P<0.05$). N. A. Putri & Setianingsih (2017) study at SMP Patriot also found a relationship with $p\text{-value}=0.046$ ($P<0.05$). In theory, behavior is influenced by knowledge. Without sound knowledge, individuals struggle with determining actions and making decisions about issues. According to Adventus et al. (2019) behaviors not based on knowledge tend to be less sustainable compared to knowledgeable behaviors. However, the researchers assume menstrual hygiene behavior is not only influenced by knowledge, but other variables play a role. Based on Lawrence Green's (1980) theory, individual behaviors are affected by factors like attitudes, beliefs, values, demographics, availability of health facilities, and support from health workers, family and friends. Good knowledge does not necessarily translate to good behavior So while knowledge is important, it alone does not determine menstrual hygiene practices-other enabling factors like attitudes, resources and social support must also be accounted for. Improving knowledge is necessary but not sufficient for promoting better behaviors.

The Relationship Between Attitude and Menstrual Hygiene Behavior

Based on Table 5. out of 136 adolescent girls at the Persatuan Islam Tarogong Islamic Boarding School, 22 (16.1%) had a favorable attitude but poor behavior, and 44 (32.4%) had an unfavorable attitude and poor behavior. The chi-square analysis showed a $p\text{-value}=0.000$ ($P<0.05$). Therefore, it can be concluded that there is a relationship between attitude and menstrual hygiene behavior among these adolescent girls. This aligns with N. A. Putri & Setianingsih (2017) study showing a relationship between menstrual hygiene attitudes and behaviors ($p\text{-value}=0.000$, $P<0.05$) in adolescent girls at SMP Patriot. Laswini (2022) study also found a significant relationship between attitude and behavior at MTS Pondok Pesantren Al-Inayah in Bogor City with $p\text{-value}=0.001$ ($P<0.05$). However, this contrasts with Maulina (2017) study showing no relationship between menstrual hygiene attitudes and behaviors ($p\text{-value}=0.208$, $P>0.05$) in adolescent girls at SMP Negeri 1 Lhokseumawe. Fitriwati & Arofah (2021) study at Pondok Pesantren Yayasan Nurul Islam in Bungo Regency also found no relationship with $p\text{-value}=0.124$ ($P>0.05$).

Attitudes describe an individual's feelings of liking or disliking towards an object. Attitudes may not directly create behaviors, but serve as an underlying factor shaping behaviors. Attitudes cannot be directly observed, but are first interpreted through covert behaviors (Adventus et al., 2019). The researchers assume that an individual's behavior can be influenced by their attitude. The more favorable an adolescent's attitude is towards menstrual hygiene, the better their menstrual hygiene behavior will be.

CONCLUSION

Based on the research results, it can be concluded that there is no relationship between knowledge and menstrual hygiene behavior in adolescent girls at the Persatuan Islam Tarogong Islamic Boarding School, but there is a relationship between attitude and menstrual hygiene behavior in adolescent girls at the Persatuan Islam Tarogong Islamic Boarding School.

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