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Knowledge, Attitudes, and Practices of Menstrual Hygiene Among Adolescent Girls at SMP Negeri 35 Bandung

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Abstract

Menstrual Hygiene Management (MHM) is still a significant public health and education issue for adolescent girls, especially in low and middle income countries where misinformation and cultural stigmas surrounding menstruation still influence their knowledge, attitudes, and practices. With regards to Indonesia, there is very little research done on the matter and it is very location specific. The purpose of this study to describe the level of knowledge, attitudes, and practices related to menstrual hygiene management (MHM) among female students at SMP Negeri 35 Bandung. A quantitative descriptive cross-sectional survey was conducted involving 148 female students selected through purposive sampling. Data were collected using a questionnaire distributed via Google Forms and analyzed descriptively using frequencies and percentages. The results showed that the majority of respondents demonstrated a high level of knowledge (86.5%), a neutral attitude toward menstruation (69.6%), and good menstrual hygiene practices (91.9%). However, misconceptions regarding food taboos and restrictions on certain activities during menstruation were still found. Since the analysis was limited to descriptive statistics, this study describes the distribution of knowledge, attitudes, and practices without testing the relationships among these variables. These findings highlight the importance of strengthening evidence-based reproductive health education in schools to foster more positive attitudes and address misconceptions about menstruation among adolescent girls.

Keywords
Adolescent girl, Attitude, Menstrual Hygiene, Knowledge, Practice

Introduction

Menstruation is a natural and recurring physiological process that occurs in women and adolescent girls as part of the reproductive cycle. Despite this natural nature, many myths, taboos, and sociocultural stigmas still surround it in low- and middle-income countries. These conditions contribute to widespread misunderstandings and inadequate menstrual hygiene practices among adolescent girls (Belayneh & Mekuriaw, 2019; Ngilangwa et al., 2025). Menstrual Hygiene Management (MHM) refers to women and adolescent girls' use of clean menstrual hygiene products to absorb or collect menstrual blood, the ability to change these products as often as needed during menstruation, and access to facilities for the safe disposal of used menstrual hygiene products (Ngilangwa et al., 2025). Poor MHM practices have been linked to reproductive tract infections, school absenteeism, and negative emotional responses

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such as fear and anxiety during menstruation (Mukherjee & Mondal, 2024; Shah et al., 2023). Because these consequences are preventable, understanding the knowledge, attitudes, and practices (KAP) that shape MHM behavior among adolescent girls has become a global research priority.

Evidence from several countries shows that knowledge, attitudes, and practices (KAP) regarding menstrual hygiene among adolescent girls have not reached the expected level. In Tanzania, it has been reported that public knowledge, attitudes, and practices are still unsatisfactory. Only about 44.5% of people have adequate knowledge about menstruation and only 37.3% practice proper menstrual hygiene management (MHM) (Ngilangwa et al., 2025). In Ethiopia, 68.3% of girls had poor knowledge about menstruation and 60.3% exhibited poor hygiene practices (Belayneh & Mekuriaw, 2019). Similar findings have been reported in India, Nigeria, and Pakistan, where limited education before menarche, reliance on mothers as the primary source of information, the influence of religious and cultural restrictions, and inadequate hygiene practices are frequently reported (Rajavardhan et al., 2021; Fehintola et al., 2017; Shah et al., 2023; Nagoor et al., 2021; Seenivasan et al., 2016). These results emphasize that a lack of knowledge, attitudes, and practices (KAP) regarding menstrual hygiene is a cross-cultural issue. However, the degree of correlation between knowledge and practice varies depending on the context. This indicates that local contexts play a significant role and that findings from one country or region cannot simply be generalized to other regions.

Besides outlining the existing gaps in KAP among girls, there is a need to understand the importance of those gaps. Poor knowledge, negative attitude and suboptimal practices regarding menstruation have been correlated to the occurrence of health, educational and psychological consequences in adolescent girls. Menstrual hygiene management has been shown to cause reproductive tract infections and urogenital irritation due to continuous exposure to unsanitary menstrual materials (Mukherjee & Mondal, 2024). Insufficient KAP has also been identified as a contributing factor to school absenteeism, since girls are known to miss school due to pain, fear of leaking, and inadequacy of facilities at schools, a nationwide school survey conducted in Indonesia showed that menstruating adolescents often miss school because of menstrual problems and insufficient school facilities (Davis et al., 2018). Besides physical health, myths and restrictions related to menstruation could also lead to the development of negative feelings such as shame, anxiety and low self-confidence (Shah et al., 2023). Such outcomes show that KAP is not only a set of indicators but also a determinant of health, education and psychological well-being of girls.

This situation raises questions about Indonesia's role in these global dynamics. Although Indonesia is a lower-middle-income country with unique sociocultural characteristics, research on menstrual hygiene management among Indonesian adolescent girls remains very limited. The most relevant evidence to date comes from Tangerang Regency, where only 52.3% of junior high school students effectively implemented MHM, with most having moderate knowledge and neutral attitudes (Wihdaturrahmah & Chuemchit, 2023). On the other hand, there is research conducted on primary school adolescents in Surabaya, which shows that 66.7% possessed good knowledge, 60.3% had good attitude, and 79.5% practiced good menstrual hygiene (Andani, 2020). In addition, adolescent girls and women in the remote highlands of Papua had moderate knowledge and attitude, and hygienic practices after the use of sanitary pads were deemed unhygienic. Besides, schools were not doing much to help female students during their menstruation period (Assa et al., 2024). Finally, a systematic review on MHM interventions in schools in Indonesia shows that poor MHM is common in Indonesia due to lack of knowledge, cultural taboos, school-based education, and lack of water, sanitation and hygiene services, albeit heterogeneity among reviewed interventions (Pratama et al., 2026).

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These studies have proven that KAP related to menstrual hygiene differs from region to region in Indonesia, from Java islands to eastern Indonesia, thus proving that results obtained in one region, such as Tangerang, can not be extrapolated to other regions, such as Bandung, due to different regional context.

By considering various global and national data, this study aims to describe the levels of knowledge, attitudes, and practices related to menstrual hygiene management among female students at SMP Negeri 35 Bandung. The results are expected to provide a strong foundation for developing more targeted reproductive health education programs.

Methods

The procedure of this study, from identifying the target population to the final descriptive analysis, is outlined in Figure 1 and described in detail below.

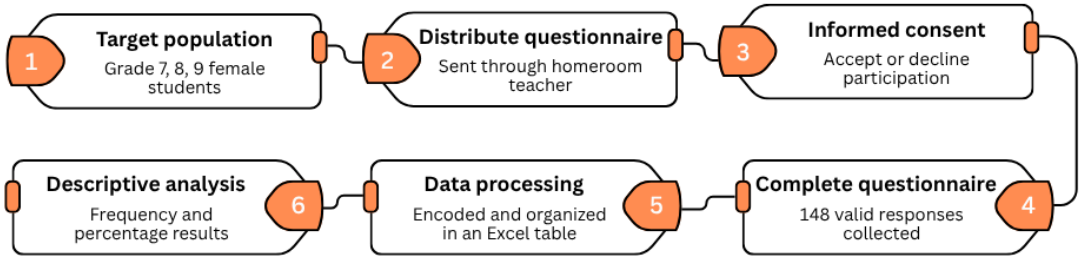


Figure 1. Flow of participant recruitment and data collection procedure

This study used a descriptive quantitative approach with a cross-sectional design (Ngilangwa et al., 2025). This study was conducted at SMP Negeri 35 Bandung on April 24 to 28, 2026, involving 7th, 8th, and 9th grade female students as the research population. A non-probability sampling method involved distributing a link to the Google Form questionnaire to all female students in the three grade levels through their homeroom teachers. The inclusion criteria used were (1) being enrolled as a 7th, 8th, or 9th grade student at SMP Negeri 35 Bandung, and (2) voluntarily agreeing to participate by accepting the consent statement included at the beginning of the questionnaire. Students who did not provide consent or submitted incomplete questionnaires were excluded from the analysis. This study was carried out with permission from the school principal of SMP Negeri 35 Bandung. Before answering the questionnaire, students read a consent statement and chose whether to continue. Those who did not agree could leave the form without any consequences and no names or personal details were collected, and participation was fully voluntary throughout the study. Based on this procedure, 148 students met the inclusion criteria and completed the questionnaire, thus forming the final sample.

Data collection was conducted using a self-administered Google Forms-based questionnaire completed independently by respondents. The questionnaire begins with a brief explanation of the purpose of the study, followed by a consent statement. Students who agree proceed to the survey questions, while those who do not agree exit the form without answering the remaining questions. To ensure participant anonymity, no personal identifying information, such as names, was requested in the questionnaire (Rajavardhan et al., 2021). The research instrument consisted of 20 items adapted and modified from Nautiyal et al. (2021), including 6 knowledge items, 8 attitude items, and 6 practice items related to menstrual hygiene management. Each knowledge item was scored dichotomously (1 = correct, 0 = incorrect), with scores converted to percentages and categorized according to Bloom's taxonomic criteria: high

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(≥ 80%), moderate (60–79%), and low (< 60%). Attitude items were measured using a five-point Likert scale and categorized based on the median ± standard deviation: positive (≥ 32), neutral (27-31), and negative (≤ 26). Practice items were also assessed dichotomously (1 = correct, 0 = incorrect) and categorized as good (≥ 5 or ≥ 80%) and poor (< 5 or < 80%). The categorization criteria were adapted from Wihdaturrahmah and Chuemchit (2023).

Before being distributed to respondents, the questionnaire was translated into Indonesian and validated through expert assessment with two academic advisors to ensure content validity and clarity of each indicator. This validation was qualitative, based on expert opinion, rather than quantitative scoring using a tool such as Aiken's V. The two advisors reviewed each of the items and gave their opinion about their suitability for the research in question, without scoring them numerically. Based on this feedback, some items were adjusted to better reflect the cultural context and daily experiences of adolescent girls in Indonesia. The reliability of the attitude scale was assessed using Cronbach's alpha, yielding a coefficient of 0.194, which is acknowledged as a limitation of this study. The knowledge aspect of the questionnaire assessed respondents' understanding of menstruation as a physiological process, the origin of menstrual blood, and the menstrual cycle. The attitude aspect examined respondents' views on activities considered permissible and prohibited during menstruation. Meanwhile, the practice aspect focused on hygiene behaviors practiced by respondents during menstruation (Nautiyal et al., 2021).

After the data was collected, it was processed using Microsoft Excel and analyzed descriptively using frequency and percentage calculations. This analysis aimed to provide an overview of the respondents' knowledge, attitudes, and practices (Bhatt & Kadam, 2019).

Results and Discussion

Characteristics of Respondents

This study involved 148 female students from SMP Negeri 35 Bandung. The age distribution shows that the 15 years old age group constituted the largest proportion (40.5%), followed by 14 years old (29.1%) and 13 years old (23%). Respondents aged 16 and 12 years old accounted for 6.7% and 0.7%, respectively. Based on grade level, most respondents were from grade 9 (50%), followed by grade 7 (27%) and grade 8 (23%). All study participants were Muslim (100%).

In terms of sources of information about menstruation, most respondents reported gaining knowledge from their parents (69.6%). Others obtained information from teachers (14.9%), the internet (11.5%), peers (2.7%), and sisters (1.4%). In terms of parental education, most mothers (52.0%) and fathers (58.8%) completed high school. The sociodemographic characteristics of the respondents are summarized in Table 1.

Table 1. Sociodemographic Characteristics of Respondents (n=148)

Variable	Frequency (n)	Percentage (%)
Age		
12 years old	1	0.7
13 years old	34	23
14 years old	43	29.1
15 years old	60	40.5
16 years old	10	6.7
Education		
Grade 7	40	27
Grade 8	34	23

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Grade 9	74	50
Religion		
Muslim	148	100
Sources of information about menstruation that have been obtained		
Parents	103	69.6
Sister	2	1.4
Teacher	22	14.9
Friends	4	2.7
Internet	17	11.5
Mother's highest level of education		
Elementary School	14	9.5
Middle School	23	15.5
High School	77	52
Diploma, Bachelor's, or Master's degree	16	10.8
Don't know	18	12.2
Father's highest level of education		
Elementary School	11	7.4
Middle School	8	5.4
High School	87	58.8
Diploma, Bachelor's, or Master's degree	20	13.5
Don't know	22	14.9

Knowledge of Menstrual Hygiene Management

Respondents' knowledge was assessed through six questions covering the origin of menstrual blood, the definition of menstruation, the menstrual cycle, the possibility of becoming pregnant during menstruation, the risk of infection due to poor hygiene, and the existence of a fertile period. Knowledge levels were categorized using Bloom's cut-off points, which were adapted from Wihdaturrahmah and Chuemchit (2023), namely high, moderate, and low. The distribution of knowledge levels is presented in Table 2.

Table 2. Distribution of Knowledge Levels Regarding Menstrual Hygiene Management

Knowledge Categories	Frequency (n)	Percentage (%)
High (≥ 80%)	128	86.5
Moderate (60-79%)	18	12.2
Low (< 60%)	2	1.4

Based on Table 2, most respondents fall into the high knowledge category, namely 128 students (86.5%), while 18 students (12.2%) fall into the medium category and 2 students (1.4%) fall into the low category. Details of each knowledge item are presented in Table 3.

Table 3. Knowledge of Adolescent Girls Regarding Menstrual Hygiene Management

Variable	Frequency (n)	Percentage (%)
Where does menstrual blood come from?		
Uterus	129	87.2
Urinary bladder	5	3.4
Don't know	14	9.5
What is the menstruation process?		

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Natural process in a woman's body	146	98.6
Curse of God	-	-
Disease	1	0.7
As a result of certain sins	1	0.7
What is the normal time interval between menstrual cycles?		
28-35 days	147	99.3
40-45 days	1	0.7
Can a woman get pregnant while she is menstruating?		
Yes	37	25
No	111	75
Can failing to maintain good hygiene during menstruation lead to an infection?		
Yes	148	100
No	-	-
Is there a specific time during the menstrual cycle when a woman is most fertile?		
Yes	143	96.6
No	5	3.4

Although the overall level of knowledge is quite high, there are still some knowledge gaps. The most striking gaps relate to the possibility of pregnancy during menstruation, where only 75% of respondents answered correctly as well as the origin of menstrual blood, where 12.8% of respondents did not know that menstrual blood comes from the uterus. These misconceptions align with the findings of Nautiyal et al. (2021), who reported similar gaps among schoolgirls in Dehradun, as well as Patel and Vernekar (2019), who found that only 54.9% of students in Goa correctly identified the uterus as the source of menstrual blood.

The high level of good knowledge in this study (86.5%) contrasts sharply with findings in other limited resource countries. Other studies show that the number of female students with adequate knowledge remains low. Belayneh and Mekuriaw (2019) found that 68.3% of female students in Ethiopia had poor knowledge about menstruation. Meanwhile, research by Ngilangwa et al. (2025) revealed that only 44.5% of female students in rural Tanzania had good knowledge about menstruation. Yadav et al. (2017) reported that most school-going adolescents in Nepal had only adequate knowledge about menstrual hygiene. Similarly, Bhusal et al. (2020) found that knowledge levels among adolescent girls in Nepal remained suboptimal, highlighting the need for targeted education. Meanwhile, Rathoria et al. (2024) in India found that only 63.1% of female students had adequate knowledge about menstrual hygiene. In Gujarat, Yogesh et al. (2023) reported similar findings, with knowledge and practices remaining inadequate among adolescent schoolgirls. In Nigeria, Jimin et al. (2023) found that 92.8% of orphaned and vulnerable adolescents in Lagos State knew about menstruation before experiencing it. Meanwhile, research by Ene et al. (2024) in Abuja showed that approximately 53.45% of female students had good knowledge about menstrual hygiene.

All in all, it seems that the high amount of knowledge shown by respondents in this particular research is positive but cannot be considered a comprehensive one. The widespread myth about pregnancy during the period of menstruation as well as, to a smaller extent, the

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concept about the source of menstrual blood shows that certain biological misconceptions can still exist despite the fact that a respondent has scored high on overall knowledge. It looks like the topic of menstrual health education in school needs to focus on the explanation of certain biological misconceptions rather than just increase awareness.

Attitude of Menstrual Hygiene Management

Respondents' attitudes toward menstruation were measured using eight statements on a Likert scale (1-5), which describe their level of belief regarding activities considered permissible or not permissible during menstruation. Determination of attitude categories was based on the median cut-off adapted from Wihdaturrahmah and Chuemchit (2023), namely positive attitudes (score ≥ 32), neutral (score 27-31), and negative (score ≤ 26). An overview of the distribution of respondents' attitude categories can be seen in Table 4.

Table 4. Distribution of Attitude Levels Regarding Menstrual Hygiene Management

Attitude Categories	Frequency (n)	Percentage (%)
Positive	24	16.2
Neutral	103	69.6
Negative	21	14.2

Based on Table 4, most of the respondents (69.6%), showed a neutral attitude towards menstruation, while 16.2% had a positive attitude, and 14.2% had a negative attitude. Details of the distribution of attitudes for each statement can be seen in Figure 2.

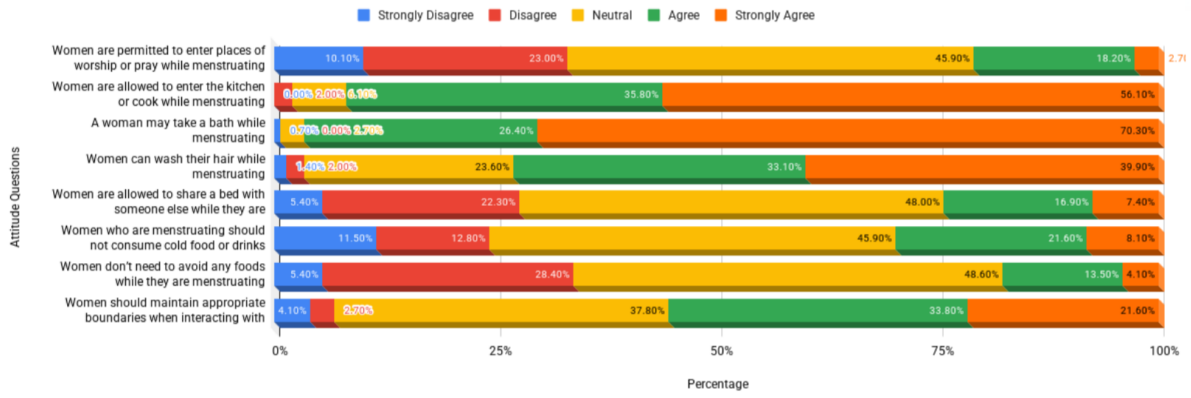


Figure 2. Attitude of Adolescent Girls Regarding Menstrual Hygiene Management

Based on Figure 2, the statement that received the highest level of agreement was that women are allowed to enter the kitchen or cook during menstruation, with 91.9% of respondents agreeing or strongly agreeing. Furthermore, most respondents also agreed that bathing (96.7%) and washing hair (73%) during menstruation are permissible.

The varied responses observed in this study reflect a combination of religious practices, cultural beliefs, and health-related misconceptions that should be interpreted separately. The low agreement regarding entering places of worship or performing prayers during menstruation (20.9%) should not be interpreted as a negative attitude. In Islam, menstruating women are exempted from performing salah and are restricted from entering the mosque during their

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menstrual period, as this is considered a state of ritual impurity (Ene et al., 2024). Therefore, the reluctance expressed by respondents on this item reflects adherence to religious obligations rather than a negative or uninformed attitude toward menstruation. Similarly, responses related to maintaining boundaries when interacting with the opposite sex, where 55.4% agreed or strongly agreed, and sharing a bed during menstruation, where 27.7% disagreed and 48% were neutral, may reflect deeply rooted cultural norms that are widely practiced in Muslim-majority communities in Indonesia rather than misconceptions (Wihdaturrahmah & Chuemchit, 2023).

In contrast, dietary restrictions such as avoiding cold foods and drinks during menstruation represent health-related misconceptions that lack scientific basis. From a medical perspective, there are no dietary restrictions that apply specifically during menstruation, and beliefs about avoiding cold foods or drinks have not been supported by evidence (Canbulut et al., 2025). In this study, 29.7% of respondents agreed or strongly agreed that women should avoid cold foods and drinks during menstruation, while only 17.6% agreed that women should not restrict their food intake. These findings suggest that health-related misconceptions about diet during menstruation still persist among adolescent girls in Indonesia, which is consistent with previous research showing that such beliefs are common and may negatively affect students' nutritional behavior during menstruation (Wihdaturrahmah & Chuemchit, 2023).

The high percentage of neutral attitudes (69.6%) in this study are consistent with those of Wihdaturrahmah and Chuemchit (2023), who reported that 70.4% of adolescent girls in Indonesia expressed similar attitudes. These results suggest that although stigma and negative views about menstruation are beginning to diminish, strengthening positive attitudes through adequate education is still necessary. The predominantly neutral attitudes observed in this study may be explained by several factors. Although students demonstrated good biological knowledge of menstruation, this does not automatically translate into positive attitudes, as attitudes are also shaped by family influence, cultural taboos, and religious norms (Wihdaturrahmah & Chuemchit, 2023). Since most respondents (69.6%) obtained information about menstruation from their parents, their attitudes likely reflect values held at home rather than evidence-based health education (Ngilangwa et al., 2025). Furthermore, the limited open discussion of reproductive health in Indonesian households and schools may leave adolescent girls uncertain about which restrictions are religiously obligatory, culturally based, or simply misconceptions, leading them to adopt a neutral rather than a clearly positive stance.

On the other hand, research in India reveals that various menstrual-related activities are still widely practiced. Parle and Khatoon (2019) reported that 88.9% of adolescent girls were not permitted to visit sacred places during menstruation, while Nelapati (2022) found that 65% of adolescent girls were required by their families to comply with various prohibitions during menstruation. In Nigeria, restrictions during menstruation are also common; 62.15% of school-going adolescents in Abuja reported experiencing similar restrictions (Ene et al., 2024), and 73.2% of adolescent girls in internally displaced persons (IDP) camps experienced restrictions on praying, doing household chores, or attending school (Ene et al., 2023). Therefore, strengthening health education related to cultural norms, myths, and misconceptions surrounding menstruation is crucial to encourage more positive attitudinal changes, while remaining sensitive to and respectful of students' religious practices and values.

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Overall, these comparisons indicate that attitudes toward menstruation in this study, as well as in other studies carried out in Muslim countries or cultures with conservative values, cannot be judged on the basis of one global value of being positive or negative. An attitude that might seem restrictive from outside, such as not entering any place of worship or not being comfortable being in close proximity to others, could be a case of following the religion or cultural values, and not misinformation.

Practice of Menstrual Hygiene Management

Menstrual hygiene practices were measured through six questions covering the type of absorbent material used, storage method, frequency of replacement, disposal method, bathing habits, and genital hygiene. These practices were categorized based on specific MHM indicators from Wihdaturrahmah and Chuemchit (2023), with categories of good (score ≥5 or ≥80% of ideal practice) and poor (score <5 or <80% of ideal practice). The distribution of menstrual hygiene practices is shown in Table 5.

Table 5. Distribution of Practice Levels Regarding Menstrual Hygiene Management

Practice Categories	Frequency (n)	Percentage (%)
Good	136	91.9
Poor	12	8.1

Based on Table 5, most female students demonstrated good menstrual hygiene practices (91.9%). Meanwhile, 12 students (8.1%) fell into the poor category. Details of the practice questions are presented in Table 6.

Table 6. Practice of Adolescent Girls Regarding Menstrual Hygiene Management

Variable	Frequency (n)	Percentage (%)
Materials used during menstruation to absorb blood		
Sanitary napkin	148	100
Cloth	-	-
How do you store sanitary pads or menstrual cloths?		
Stored clean and neatly wrapped	129	87.2
Stored in a special place	18	12.2
Stored along with other items at home	1	0.6
How often do you change your pad or cloth during your period?		
Every 3-4 hours	94	63.5
After 6 hours	50	33.8
After 12 hours	4	2.7
How should you dispose of used sanitary pads or menstrual cloths?		
Wrap the sanitary pads in plastic to keep them neat before throwing them in the trash	148	100
Throw them directly into an open trash can	-	-

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Do you take a shower while you are on your period?		
Yes	142	95.9
No	1	0.7
Sometimes	5	3.4
Do you clean your genital area after urinating?		
Yes	145	98
No	-	-
Sometimes	3	2

Based on table 6, all respondents 100% used disposable sanitary napkins as a material to absorb menstrual blood and disposed of used sanitary napkins by wrapping them in plastic before throwing them in the trash. This universal use of disposable pads is consistent with the findings of Nautiyal et al. (2021) in Dehradun and Chauhan et al. (2019) in South India, both of which were schools in urban areas. In Indonesia, Nastit et al. (2023) also reported improvements in MHM practices among junior high school girls in Kalimantan following educational intervention. Factors such as economic access and product availability have been shown to significantly influence the choice of absorbent material used (Ngilangwa et al., 2025). For example, a study by Shah et al. (2023) in rural Pakistan found that only 30.7% of respondents used disposable sanitary napkins, while 47.7% still used reusable cloth ones.

An important aspect to consider is the frequency of changing sanitary napkins. Only 63.5% of female students change their sanitary napkins every 3-4 hours, while the remaining 36.5% change them less frequently. Several studies in various regions have shown that the frequency of sanitary napkin changes is still suboptimal. In Tanzania, 73.9% of female students only change their sanitary napkins once a day (Ngilangwa et al., 2025). Meanwhile, findings in India indicate that pad changing practices are still suboptimal. Bhatt and Kadam (2020) reported that nearly half of female students (49.2%) only changed their pads twice a day, while Nautiyal et al. (2021) found that 51.5% of female students in Dehradun changed their pads every 3-4 hours. Infrequent sanitary napkin changes can increase the risk of reproductive tract infections due to increased bacterial growth (Mukherjee & Mondal, 2024). Although 91.9% of respondents in this study were categorized as having good menstrual hygiene practices, this category may mask specific behaviors that are still not up to standard. For example, only 63.5% changed their sanitary pads every 3-4 hours as recommended, while the remainder changed them less frequently. A recent study also showed that women who changed their sanitary pads more than eight hours apart had a higher risk of reproductive tract infections than those who changed them more frequently (Haroon et al., 2024). Therefore, although these practices are considered good overall, health promotion at SMP Negeri 35 Bandung still needs to emphasize the importance of sanitary pad changing frequency as an aspect that needs improvement.

In terms of personal hygiene, most respondents practiced good behavior. This was evident in the 95.9% of female students who continued to shower during menstruation and the 98% who cleaned their genital area after urinating. In South India, Chauhan et al. (2019) reported that 100% of female students bathed daily during menstruation. Meanwhile, in

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Dehradun, only 65.5% of students bathe during menstruation, according to a report by Nautiyal et al. (2021).

Regarding storage 87.2% of students stored sanitary napkins in a clean and neatly wrapped manner, 12.2% stored in a special place, and 0.7% with other items. Storing menstrual hygiene products in a clean and closed place is an important component of optimal MHM practices (Bhatt & Kadam, 2020).

The good menstrual hygiene practices demonstrated by the students in this study should also be viewed with regard to the behavioral gap noted in terms of frequency of changing pads. Such a case is a good example of a situation common to the field of MHM: a general outcome that categorizes all the actions into either good or bad does not necessarily reflect the actual behavioral patterns, which have a great impact on people's health.

The collective findings regarding knowledge, attitudes, and practices in this research show a common trend found in the research into MHM among adolescents, where knowledge does not necessarily result in positive attitudes, nor do positive attitudes and high practice scores mean that all specific behaviors adhere to the highest standards of hygiene. The above highlights the need for reproductive health education that not only teaches the girls the biology involved but also considers their cultural context.

Conclusion

This study found that female students at SMP Negeri 35 Bandung generally had a high level of knowledge and good menstrual hygiene practices, while their attitudes toward menstruation remained predominantly neutral. Misconceptions persisted, particularly regarding dietary restrictions and hesitancy toward certain activities during menstruation. These findings highlight the need for schools to strengthen evidence-based reproductive health education to address the remaining misconceptions and foster more positive attitudes toward menstruation.

There are several limitations that should be acknowledged when interpreting these findings. First, the use of purposive sampling within a single school may limit the representativeness of the sample and restrict the generalizability of the findings to adolescent girls in other schools or regions with different sociocultural backgrounds. Second, data were collected through a self-administered questionnaire, which relies entirely on respondents' self-reported information regarding their knowledge, attitudes, and practices. This approach is susceptible to social desirability bias, particularly for a sensitive topic such as menstrual hygiene, which may have led some respondents to report more favorable practices than those actually performed. Third, because this study employed a descriptive cross-sectional design, it only provides an overview of the distribution of knowledge, attitudes, and practices without examining the statistical relationships among these three variables. Fourth, the reliability of the attitude scale was low (Cronbach's $\alpha = 0.194$), likely because the items reflected a combination of religious, cultural, and health-related beliefs rather than a single underlying construct. Future studies are encouraged to develop or adapt instruments with stronger internal consistency before data collection.

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