

Health and Hygiene: A Descriptive Study on Four Selected Secondary School in Jhalokati Sadar

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Abstract

This paper focused on menstrual familiarity and facilities available in school, and challenges to menstrual hygiene management in school environment among adolescent school girls. Using a quantitative approach, data were gathered from 120 adolescent girls from four schools—including both girls-only and co-educational institutions—in the Jhalakathi district, through in-person interviews following a structured survey. Systematic random sampling was employed to ensure fair representation from the selected schools. The study results show mothers play a key role in providing menstrual health information which is a reflection of the family's importance in health education. For institutions, the results show that though a few schools have basic amenities like toilets and clean water facilities, the rest still lack adequate sanitation, menstrual product disposal systems, and privacy, which are leading to discomfort and school absenteeism among girls. Both primary and secondary data were used in this research. Primary data were collected through interviews and observation, while secondary sources included books, journal articles, and internet-based literature. The research evidence shows socioeconomic challenges such as poverty, cultural taboos, and limited awareness hindering proper hygiene practices. These issues not only affect academic performance but also impact girls' mental and emotional well-being. The findings highlighted the urgent need for improved school infrastructure, culturally sensitive health education, and stronger community engagement. Ethical protocols, including informed consent and confidentiality, were strictly followed to protect participants' dignity and privacy. Despite gradual progress, many schoolgirls in Jhalakathi still struggle with basic hygiene practices due to insufficient support, lack of proper infrastructure, and the ongoing negligence to menstruation hygiene practices. The lack of clear policies on menstrual hygiene in schools shows the need for stronger government support to protect girls'

health, dignity, and education.

Keywords

Menstrual Hygiene, Adolescent Girls, Secondary School, Absentee

1. Introduction

Adolescence is a crucial stage of human development that marks the transition from childhood to adulthood, generally ranging from 10 to 19 years, as defined by the World Health Organization [1]-[4]. The adolescent stage is characterized by rapid physical, emotional, and social changes, including the onset of puberty and, for girls, the beginning of menstruation. Menstruation is a cyclical biological process that typically lasts around one week and involves the shedding of the uterine lining approximately every 28 days [5]-[16]. The age at menarche varies depending on geographical location, race, ethnicity, and other biological and environmental factors [17]-[30]. Health and hygiene are fundamental components of a healthy and productive life. Good health enables individuals to participate actively in daily activities and education, while proper hygiene plays a vital role in preventing diseases and promoting overall well-being. Menstrual hygiene refers to the use of sanitary pads or other clean and soft absorbent materials, proper cleaning of the genital area, safe disposal of used menstrual materials, and meeting other health-related needs during menstruation [31]-[45]. Menstrual hygiene is an essential aspect of personal hygiene for adolescent girls. During adolescence, maintaining personal hygiene becomes even more important because of rapid physiological and hormonal changes. Poor menstrual hygiene can increase the risk of urinary tract infections (UTIs), reproductive tract infections (RTIs), skin problems, and other health complications. Proper menstrual hygiene management not only protects physical health but also improves confidence, reduces stress, and supports uninterrupted participation in school and social activities. Therefore, health and hygiene are both personal necessities and social responsibilities that contribute to overall community development [46]-[54]. Menstruation is also influenced by cultural and religious beliefs. In Bangladesh, many Muslim girls experience restrictions on religious practices during menstruation [55]-[60].

Despite recognizing the importance of menstrual hygiene, adolescent girls continue to face numerous challenges in maintaining safe menstrual hygiene practices. Cultural taboos and social stigma often prevent open discussions and limit access to appropriate support. Financial constraints may force families to rely on homemade cloths or other unhygienic materials instead of sanitary pads. Inadequate school facilities and limited knowledge further contribute to discomfort, school absenteeism, and reduced academic performance. These challenges extend beyond individual health and have broader implications for education, gender

equality, and the overall well-being of adolescent girls. The study titled “Health and Hygiene: A Comparative Study on Four Selected Secondary Schools in Jhalokathi Sadar” seeks to explore and understand these issues in depth. It aims to examine three key aspects of menstrual hygiene management among adolescent girls: the sources from which they acquire knowledge about health and hygiene, the facilities available in schools to support safe practices, and the challenges and experiences they face in maintaining hygiene. By analyzing these factors, the study intends to identify existing gaps in awareness, infrastructure, and behavioral practices related to adolescent girls’ health and hygiene.

The findings of this study are expected to provide valuable insights for improving adolescent health and education. They can guide policymakers, educators, and community leaders to develop effective awareness programs, upgrade school sanitation facilities, and create a supportive environment where adolescent girls can manage their menstrual health without stigma or obstacles. Ultimately, promoting proper health and hygiene practices among adolescent girls is not only a step toward improving individual well-being but also an important contribution to achieving gender equality, reducing school dropout rates, and fostering overall social development in Bangladesh.

1.1. Objectives of the Study

The general objective of the study is to explore hygiene practice scenario among adolescent girls in four selected secondary schools in Jhalokathi Sadar.

The specific objectives of the study are:

- 1) To identify the primary sources of learning about menstrual health and hygiene among adolescent schoolgirls in the study area.
- 2) To address the menstrual hygiene-related facilities in the selected institutions.
- 3) To evaluate the challenges and experiences faced by adolescent girls in maintaining proper menstrual hygiene in the institutions.

1.2. Rationale of the Study

Menstrual hygiene is a sensitive and often neglected issue, even in urban school settings. Many adolescent girls begin menstruation without proper knowledge or guidance. Despite being in town-based schools, there are still significant gaps in awareness, support, and menstrual hygiene management facilities. Distinct cultural taboos surround the topic, and lack of open discussion often leads girls to depend on informal or inappropriate sources of information.

Rationally, this topic is chosen because menstrual health remains an under-discussed and insufficiently supported issue in many school environments. Even in urban areas like Jhalokathi Sadar. Through this study, the researchers aim to explore where schoolgirls are learning about menstruation, what kind of hygiene facilities are available in their schools, and what challenges they face during their periods in school hours. This research may help to identify the existing gaps, and can contribute to building a more supportive and inclusive school environment

for adolescent girls.

1.3. Significance of the Study

This study is important because it focuses on the menstrual hygiene problems faced by adolescent schoolgirls and such a topic is often ignored or kept silent. By understanding where girls learn about menstruation, what facilities schools provide, and what difficulties they face in keeping clean during their periods, this research may help teachers, parents, and policymakers to take feasible steps to support secondary school girls. The findings may help improve school ambience and create a friendly environment where girls feel comfortable and confident to manage their menstrual health. Ultimately, this study aims to break the silence around menstruation and help girls stay healthy and continue their education without interruption.

1.4. Theoretical Framework

Health Belief Model (HBM)

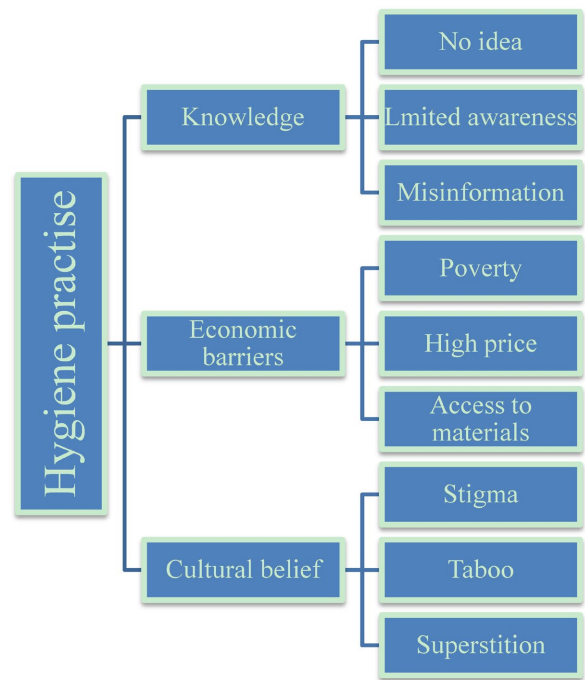
The Health Belief Model (HBM) explains that health behaviors are influenced by individuals' perceptions of susceptibility, severity, benefits, and barriers to taking action [61]. Although girls may know the benefits of proper menstrual hygiene, barriers such as embarrassment, lack of privacy, and limited access to sanitary products often prevent healthy behaviors [62].

Social-Ecological Model (SEM)

At the individual level, knowledge, attitudes, and personal hygiene practices affect menstrual health management, while limited awareness can lead to poor hygiene practices [63]. At the organizational and policy levels, schools that provide sanitary products, clean toilets, and menstrual health education create a supportive environment for girls [64].

1.5. Conceptual Framework

The conceptual framework (**Figure 1**) highlights the dependent and independent factors affecting hygiene practice among adolescent girls during menstruation. Here, the dependent variable, hygiene practice, depends on three independent variables namely knowledge, economic barriers and cultural belief. These variables are taken from secondary literatures. Hygiene practice means managing menstruation with clean materials, proper washing, and maintaining cleanliness and privacy. Knowledge means awareness about menstruation is crucial. Girls without prior knowledge often feel fear and confusion. Limited or incorrect information can lead to poor hygiene practices. Economic Barriers mean many girls face financial difficulties that prevent them from buying sanitary products. High prices, poor availability, and poverty force some to use unsafe alternatives like old cloths, increasing infection risk. Cultural beliefs focus on Social stigma and taboos around menstruation cause shame and silence. Misconceptions and restrictions are like avoiding certain activities or places that negligibly affect girls' hygiene and mental well-being.



Source: Compiled by the researchers.

Figure 1. Conceptual framework.

2. Methodology

This section narrates the study’s methodology, including the specific research method, sample selection procedure, and tools for data collection. In this study, the quantitative method was used. This method involves collecting numerical data to understand patterns and trends. It was chosen because it helps to gather clear and measurable information from the participants.

2.1. Research Design

The objectives of the study suggest that the study should be conducted using a descriptive research design. For conducting this study, a descriptive research design has been used. This design was suitable because it aims to describe the current status of menstrual hygiene awareness and practices without manipulating any variables. It helps in collecting data from the participants at a single point in time, offering a detailed view of the present condition and highlighting key patterns and challenges.

2.2. Study Area

Jhalokati Sadar Upazila spans a total area of 159.45 sq km. It is geographically positioned between the latitudes of 21°35'N and 22°47'N, and between the longitudes of 90°06'E and 90°17'E. The study was conducted in four purposively selected secondary schools located in Jhalokathi Sadar Upazila, Barisal Division, Bangladesh. These institutions were chosen based on their accessibility and relevance to the study objectives. The selected schools provide a representative setting to assess menstrual hygiene knowledge and practices among the target population.

It is to be noted that in the study Upazila only one Girls school is established and rest three are Co-educational schools (**Table 1**).

Table 1. Study population area.

Serial No.	School Name	Type	Location
1	Jhalokati Haracandra Girls High School	Girls	Jhalokati
2	Sugandha Pouro Adersha Secondary Girls School	Co-education	Jhalokati
3	Udvodon Maddhomik Biddiyalay	Co-education	Jhalokati
4	Adorso Pathsala Biddiyalay	Co-education	Jhalokati

Source: Organized by the researchers.

2.3. Sampling Technique

To ensure fair representation of the study population, this research employed a systematic random sampling technique. The target population consisted of approximately 600 adolescent schoolgirls enrolled in four selected secondary schools in Jhalokathi Sadar Upazila. A total of 120 respondents were selected as the sample (**Table 2**).

Table 2. Equal sample distribution from each school.

School Name	School Population	Sample Size
Jhalokati Haracandra Girls High School	180	30
Sugandha Pouro Adersha Secondary Girls School	110	30
Udvodon Maddhomik Biddiyalay	190	30
Adorso Pathsala Biddiyalay	120	30
Total	600	120

Source: Organized by the researchers.

2.4. Sampling Interval

To apply systematic sampling, a sampling interval (K) was calculated using the following formula:

$$K = N / n = 600/120 = 5$$

So, every 5th student was selected from the sampling frame after choosing a random starting point between 1 and 5.

2.5. Unit of Analysis

The unit of analysis for this study is individual adolescent schoolgirl who enrolled in the selected secondary schools of Jhalokathi Sadar.

2.6. Data Collection Techniques and Sources

The researcher collects both primary and secondary data. Primary data were collected through available online sources. A semi-structured questionnaire was pre-

pared to collect data from the respondents. The interview took place in the local language of Bangla. After coding was completed, data entry and analysis were carried out by administering SPSS software and Microsoft Excel (**Table 3**).

Table 3. Source of data.

Primary Source	Secondary Source
The primary data comes from questionnaire interview.	The secondary data gathered from published documents like—journal articles, books and online open sources.

Source: Organized by the researchers.

2.7. Ethical Consideration of the Study

Ethical considerations are an essential part of this research. The researcher made sincere efforts to ensure that no harm whether physical, emotional, or psychological occurs to the respondents during the study. The dignity, rights, and confidentiality of each participant will be strictly preserved. Prior informed consent has taken from all respondents before collecting any data. The privacy and anonymity of the respondents will be maintained throughout the entire research process. The study will not interfere with any cultural or personal beliefs of the participants. No environmental, ecological, or animal-related aspects are involved in this research. To conduct interview from the students' verbal consent was taken from the school administrator.

2.8. Limitation of the Study

Every human being is different in terms of perception, understanding, and expression, and adolescent schoolgirls are no exception. Due to individual variations among respondents, it was not possible to capture the complete range of experiences and opinions related to menstrual hygiene management. Few respondents were hesitant or felt shy to respond openly due to the sensitivity of the topic, which may have affected the depth of information collected. Moreover, due to time and resource constraints, the study was limited to only four selected schools in Jhalokathi Sadar and may not reflect the full picture of the entire district or country. Despite these limitations, the researcher made sincere efforts to ensure the validity and reliability of the data as much as possible within the available scope.

3. Results

Table 4 shows that a total of 120 female students participated in the study. Among them, 50% were from girls' schools and 50% from co-educational schools. Regarding age, 41.7% were 13 - 14 years old, 36.7% were 15 - 16, and 21.7% were 17 - 18 years. Class-wise, 8.3% were in class 7, 33.3% in class 8, 22.5% in class 9, and 35.8% in class 10. Most of the respondents were Muslim (82.5%), while 17.5% were Hindu. Fathers' education levels were: 8.3% primary, 32.5% SSC, 32.5% HSC, and 26.7% others. Mothers' education included 7.5% illiterate, 28.3% primary, 23.3% SSC, 26.7% HSC, and 14.2% others.

Table 4. Demographic profile of the respondents.

Variable	Category	N	%	Variable	Category	N	%
School Type	Girls School	30	25.0%	Religion	Islam	99	82.5%
	Co-education	90	75.0%		Hindu	21	17.5%
Gender	Female	120	100.0%	Father's Education	Primary	10	8.3%
Age Group	13 - 14	50	41.7%		SSC	39	32.5%
	15 - 16	44	36.7%		HSC	39	32.5%
	17 - 18	26	21.7%		Others	32	26.7%
Class	7	10	8.3%	Mother's Education	Illiterate	9	7.5%
	8	40	33.3%		Primary	34	28.3%
	9	27	22.5%		SSC	28	23.3%
	10	43	35.8%		HSC	32	26.7%
					Others	17	14.2%

Source: Field survey 2025.

Table 5. Correlation between school type and attendance during menstruation.

Correlation			
		School Type	Attend school during period
School Type	Pearson Correlation	1	0.138
	Sig. (2-tailed)		0.132
	N	120	120
Attend school during period	Pearson Correlation	0.138	1
	Sig. (2-tailed)	0.132	

Source: Field survey 2025.

Table 5 shows that above result addressed the link between school type and attendance during menstruation. As seen in the table, the correlation is 0.138 and the significance is 0.132, demonstrating that there is a positive but not statistically significant relationship between school type and attending school during menstruation.

Table 6. Relationship between school type and availability of menstrual space in school.

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	20.182 ^a	2	0.000
Likelihood Ratio	21.701	2	0.000
Linear-by-Linear Association	10.984	1	0.001
N of Valid Cases	120		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 1.00.

Source: Field survey 2025.

According to **Table 6** the p-value is 0.000 and the Chi-Square value is 20.182, as shown in the table above. This means there is a strong and significant relationship between school type and whether there is enough space in the school to manage menstruation. In simple words, students from different types of schools (girls' schools vs. co-educational) have different experiences when it comes to having private or proper space to deal with their periods. It is evident that respondents of girl's school feel more comfortable in comparison to combined school during menstruation period.

Table 7. Regression analysis between attending school during menstruation and physical menstrual problems.

Model Summary ^b							
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson		
1	0.057 ^a	0.003	−0.005	1.180	1.857		
a. Predictors: (Constant), Attend school during period							
b. Dependent Variable: Types of complications during menstruation Physiological symptoms							
ANOVA ^a							
	Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	0.527	1	0.527	0.379	0.539 ^b	
	Residual	164.264	118	1.392			
	Total	164.792	119				
a. Dependent Variable: Types of complications during menstruation Physiological symptoms							
b. Predictors: (Constant), Attend school during period							
Coefficients ^a							
	Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
		B	Std. Error	Beta			
1	(Constant)	2.230	.324			6.884	0.000
	Attend school during period	−0.138	0.224	−0.057		−0.615	0.539
a. Dependent Variable: Types of complications during menstruation Physiological symptoms							

Source: Field survey 2025.

As shown in **Table 7** as per the regression result, the researcher finds that there is no significant effect of attending school during menstruation on the types of physiological complications experienced. Here, the value of R Square is 0.003, which indicates that only 0.3% of the total variation in physiological complications is explained by attending school during menstruation. According to the ANOVA table, the regression model does not significantly predict the dependent variable because the significance value is 0.539, which is higher than 0.05. Lastly, the coefficients table shows the B value for attending school during menstruation is −0.138, and the p-value is 0.539, which means that attending school during

menstruation has no significant impact on the types of physiological complications. It is to be noted that if the sanitary items are available then irrespective to all types of schools girls feel confident.

Table 8. One-sample test of menstrual disorders experienced.

One-Sample Statistics						
		N	Mean	Std. Deviation	Std. Error Mean	
Menstrual disorders experienced		120	1.47	0.501	0.046	
One-Sample Test						
		Test Value = 0				
		t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference
						LowerUpper
Menstrual disorders experienced		32.070	119	0.000	1.467	1.381.56

Source: Field survey 2025.

Based on the findings in **Table 8**, the above One-Sample Test table shows that the t-value is 32.070 and the Sig. (2-tailed) p-value is 0.000, both of which are highly significant. Therefore, it can be concluded that menstrual disorders experienced by the respondents are significantly different from zero, indicating that menstrual disorders are commonly experienced among the participants. In this case prior knowledge helps a student to adjust with the situation.

Table 9. ANOVA results on availability of space to manage menstruation in school.

ANOVA					
Are there enough space to deal with menstruation in the school?					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.008	1	3.008	11.999	0.001
Within Groups	29.583	118	0.251		
Total	32.592	119			

Source: Field survey 2025.

From **Table 9**, it can be seen that since the p-value (0.001) is less than the typical significance level of 0.05, we reject the null hypothesis. This indicates that there is a statistically significant difference between groups regarding the availability of enough space to deal with menstruation in school.

4. Discussion

4.1. Health and Hygiene (Learning Sources)

Among the respondents, 100% were female students, indicating that the research

captures the lived experiences of menstruating adolescent girls. In terms of age, the majority (41.7%) was between 13 - 14 years, followed by 36.7% aged 15 - 16 years, and 21.7% were 17 - 18 years old. This distribution shows that most participants were in the early to middle teenage years, which are the formative years for menstrual experience. These are also the years when menstrual education, support, and proper school infrastructure become most essential.

The study revealed significant gaps in menstrual knowledge and awareness. Most respondents (55.8%) first learned about menstruation at the time of their first period, indicating poor preparedness for menarche. Only 13.3% had prior knowledge, while 27.5% became aware afterward. This reflects limited menstrual education in families and schools, likely due to cultural taboos. Although 48.8% viewed menstruation as a normal biological process, 19.2% had no clear idea about it. Many girls reported feeling frightened and anxious during menarche, with some initially believing they were ill or injured, highlighting the need for early menstrual education.

Social beliefs surrounding menstruation increased the psychological burden on many girls. Several respondents reported restrictions on praying, cooking, touching food, or attending social gatherings during menstruation, reinforcing the idea that menstruation is unclean. These practices often made them feel ashamed and isolated. Family support, especially from mothers, played an important role in safe menstrual hygiene practices. Most participants identified their mothers as their main source of information and emotional support. Girls who could discuss menstruation openly with their mothers felt more confident and prepared, whereas those without such support experienced fear, confusion, and misinformation about menstrual management.

The above discussion is supported by the following study results—Adolescent girls obtain information about health and menstrual hygiene from various sources, including mothers, sisters, relatives, peers, teachers, and health workers. However, the quality and accessibility of information significantly influence their knowledge and hygiene practices. Insufficient knowledge about menstruation often causes girls to experience feelings of guilt, embarrassment, fear, and anxiety during menstruation (Bathija *et al.*, 2013). The results are reflected in HBM and SEM framework.

4.2. To Address the Facilities Available in School

Regarding school facilities, 64.2 percent of the respondents reported that there was no suitable space at school to manage menstruation. This includes a lack of private toilets, running water, disposal bins, or even a safe space to rest during painful periods. Without these basic facilities, many girls feel insecure and uncomfortable staying in school during their periods. As a result, a large number of students choose to stay home during menstruation, which ultimately affects their academic performance and long-term educational goals.

Clean and accessible school facilities were a major concern. Only 15.8% of respondents said school toilets were always clean, while 57.5% reported insufficient

toilet facilities. In addition, only 26.7% received menstrual products from schools. Many girls experienced physical and emotional symptoms such as abdominal pain, fatigue, and irritability during menstruation, and nearly 45% reported concentration problems. Overall, the findings show that menstruation can affect academic performance, but better support, coping mechanisms, and improved school facilities could help reduce these challenges.

Sanitary pad availability in schools was limited, as only 26.7% of students received pads, while 47.5% reported no support and 25.8% were unaware of any such services, indicating poor communication and inconsistent distribution. The lack of menstrual supplies and private changing spaces increased anxiety and absenteeism. Most students did not take pain medication at school, likely due to limited access or normalization of pain. Many also felt uncomfortable discussing menstrual issues with teachers due to fear of judgment, and some reported teasing or negative reactions from classmates and teachers, reflecting an unsupportive school environment.

Menstruation-related difficulties significantly affected school attendance. About 37.5% of respondents reported menstrual pain, while 41.7% mentioned fear of stains, odor, or leakage as barriers to regular attendance. Many girls also felt uncomfortable and less confident during menstruation, leading to reduced participation and absenteeism. Although a slight relationship was found between school type and attendance, it was not strong. Overall, factors such as pain, family support, facilities, and social taboos had a greater influence on attendance than school type alone.

A slightly higher number of respondents reported lacking support from their schools regarding health and hygiene issues. This suggests that many schools still do not provide adequate facilities, privacy, or guidance for menstrual health management, which may contribute to discomfort and absenteeism among students. However, nearly half of the participants felt supported, indicating that some institutions are making efforts to create a more inclusive environment. Overall, the findings highlight the need for stronger menstrual health education and support systems in schools.

Similarly the following research results are compatible to above discussion—the availability of adequate school facilities is essential for effective menstrual hygiene management. Private and functional toilets, access to clean water, soap for hand washing, and safe disposal systems for used menstrual materials are necessary to maintain proper hygiene. However, many schools in Bangladesh continue to lack these essential facilities. Poor sanitation and unhygienic school environments can discourage girls from attending school, particularly during menstruation (UNESCO, 2014). Most of the results are reflected in HBM and SEM framework.

4.3. To Evaluate Their Challenges/Experiences in Maintaining Hygiene Practice

Menstrual hygiene practices were also evaluated in the study. Among the respond-

ents, 41.7% dried their used absorbent materials inside the room with sunlight, while 39.2% dried them outside in the sun. However, 13.3% reported drying them in places without sunlight, which can lead to bacterial growth and infections. These responses highlight the varying levels of awareness and access to proper drying facilities. Girls without safe or private drying spaces may hide their absorbents or use unhygienic methods out of fear or shame.

Physical symptoms during menstruation were common among respondents, including excessive bleeding (44.7%), headaches (24.4%), greasy skin (20.3%), and increased appetite (8.1%). Many also experienced fatigue and dizziness, which affected concentration, participation, and attendance. In addition, 40.8% lacked access to sanitary products, with many relying on old cloths and 27.5% using nothing at all. These unsafe practices increase the risk of infection and discomfort, highlighting how poverty and limited access to menstrual products negatively affect girls' health, well-being, and education.

A considerable number of students used cloths during menstruation, and 63.3% dried them in hidden or indoor places due to social stigma and lack of privacy. This reduces proper sanitization and increases infection risk. Many girls feared embarrassment, reflecting strong cultural taboos around menstruation. To avoid detection, some hid sanitary materials, avoided school toilets, or restricted their movements, which negatively affected their confidence, concentration, and learning experience. The study also found psychological impacts, as many students felt embarrassed or hesitant to discuss menstruation, reinforcing stigma and limiting their ability to seek support or participate fully in school activities.

Half of the students said cultural or family beliefs affect how they manage their menstrual hygiene, while the other half said it does not. This balance shows that the impact of such beliefs is different for each student. For some, cultural or family support helps them take care of their hygiene properly. But for others, traditions, taboos, or lack of discussion at home make it more difficult to manage their hygiene during menstruation.

Most students reported feeling uncomfortable discussing menstruation or hygiene issues with their families, indicating shyness, fear, and limited openness at home. However, some participants felt comfortable, showing that supportive communication exists in certain households. Overall, the findings suggest that discussion about menstrual health remains a challenge for many students. The study highlights multiple challenges faced by adolescent girls, including lack of knowledge, inadequate sanitary support, poor school facilities, and social stigma. These factors negatively affect their physical and emotional well-being, school attendance, academic performance, and self-confidence.

To address these issues, comprehensive menstrual education should begin before menarche. Schools need to ensure access to sanitary pads, private changing rooms, and clean toilets. Teachers and staff should be trained to create a supportive environment where students feel safe discussing menstrual health. Parents also play an important role in breaking the silence at home and providing accurate,

empathetic guidance during puberty.

Providing girls with proper knowledge, resources, and emotional support during menstruation can improve their health, dignity, and academic participation. Ensuring a menstruation-friendly school environment is essential for protecting the rights, confidence, and educational opportunities of adolescent girls.

Above discussion is aligned with the following study results—Various social and cultural restrictions related to menstruation continue to exist, particularly in rural areas and urban slums. Common practices include sleeping separately during menstruation and avoiding religious places or activities (Arumugam *et al.*, 2014). It is notable that most results are reflected in HBM and SEM framework.

5. Conclusions

The present study, titled Health and Hygiene: A Comparative Study on Four Selected Secondary Schools in Jhalokati Sadar, attempted to explore the overall menstrual hygiene management among adolescent schoolgirls by focusing on their knowledge, practices, school facilities, family support, and the socio-cultural challenges they face. From the findings, it has become clear that menstrual health and hygiene remain a neglected yet critically important area within adolescent health, especially in rural schools of Bangladesh. A considerable number of respondents (13.3%) had some prior knowledge of menstruation before menarche, but this information mostly came from mothers or female relatives rather than schools, indicating a gap in institutional education and awareness programs. Although basic understanding of menstrual hygiene existed, many misconceptions persisted, leading to improper practices such as using unclean cloths or delaying the changing of sanitary materials, which increases the risk of infection and discomfort.

Social taboos continue to portray menstruation as impure, restricting girls from daily, religious, and social activities. These practices contribute to isolation and reinforce stigma, creating a cycle of silence and shame. The lack of open discussion at both home and school further intensifies the problem and limits proper awareness and support. The study found that most schools lacked adequate, girl-friendly facilities such as proper washrooms, running water, disposal bins, and private spaces for managing menstruation. The absence of sanitary napkins, emergency support, and counseling services further worsened the situation. Poor school infrastructure was identified as a major barrier to maintaining menstrual hygiene, negatively affecting both attendance and classroom concentration. Institutional gaps and strong socio-cultural norms both significantly affected girls' experiences. Many respondents felt ashamed or embarrassed due to taboos and silence around menstruation, leading to isolation and restrictions in daily life, including school attendance. Although mothers provided important support, their guidance was sometimes limited by misinformation and lack of accurate knowledge. Despite these issues, some schools showed positive efforts through awareness sessions and counseling, but these were inconsistent and depended on school man-

agement and NGOs. The study recommends comprehensive school-based menstrual health education, improved WASH (Water, Sanitation, and Hygiene) facilities, and stronger family involvement. Menstrual hygiene should be recognized as a basic right, not a privilege, ensuring dignity, health, and equal educational opportunities for adolescent girls.

Finally, menstrual hygiene management should no longer be seen as a private matter. It is a public health issue, an educational concern, and a matter of human rights. Unless schools, families, and society come together with proactive, coordinated efforts, girls in rural areas will continue to suffer in silence, and their education and self-confidence will remain compromised. This study calls for immediate, integrated actions to promote menstrual health, with the goal of building a more inclusive, supportive, and health-conscious learning environment for all girls in Jhalokati Sadar and beyond.

6. Recommendations

- 1) Menstrual hygiene education should be incorporated into school curriculum to increase awareness and reduce stigma among adolescent girls.
- 2) Separate, clean, and private toilets with running water should be ensured in all schools, especially for girls, to manage menstruation safely and with dignity.
- 3) Schools should maintain an emergency supply of sanitary products (like pads or cloths) so that no girl has to miss classes during her period.
- 4) Mothers and female guardians should be engaged in menstrual awareness campaigns, as they play a key role in shaping girls' practices and attitudes.
- 5) Local government and NGOs should be involved in improving menstrual hygiene facilities and creating awareness at the community level.
- 6) A female counselor or focal person should be appointed in every school so that girls can talk privately about menstrual issues and concerns.
- 7) Affordability and accessibility of sanitary products must be improved through subsidies, free distribution in schools, or community-based initiatives.
- 8) Cultural and religious taboos related to menstruation should be challenged through open conversations, role models, and media campaigns.

AI Assisted Tool Disclosure Statement

This is to be declared that to prepare this manuscript, AI assistant was nominally used. For example, "Gemini Flash" was used at the very last moment to recover the sources of the references. Previously, a few literature reviews were handled for polishing sentences during the manuscript preparation. It is strongly declared that all revisions were reviewed and verified by the authors, who take full responsibility for the final content of this manuscript.

Author Contributions

Dr. Syed Ashik-E-Elahi: Concept development, methodology formulation, data administration by using SPSS, formal data analysis, original draft writing, data

curation, supervision. Israt Parvin Meti: Literature review field investigation, data entry, writing draft.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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