

KNOWLEDGE, ATTITUDE, AND PRACTICE REGARDING MENSTRUAL HYGIENE AMONG WOMEN IN NATORE, BANGLADESH

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ABSTRACT

Menstrual hygiene management (MHM) is a fundamental component of women's reproductive health and well-being. In Bangladesh, menstruation remains associated with cultural taboos, misinformation, and inadequate access to menstrual hygiene resources, particularly among young women. This study aimed to assess the knowledge, attitude, and practice (KAP) regarding menstrual hygiene among female students of Nawab Siraj-Ud-Dowla College, Natore, Bangladesh. A cross-sectional descriptive study was conducted from March to November 2025 among 100 female students aged 16–25 years. Participants were selected through simple random sampling. Data were collected using a structured questionnaire covering socio-demographic characteristics, menstrual knowledge, hygiene practices, attitudes, and menstrual-related experiences. Data were analyzed using descriptive statistics with SPSS.

Most participants had heard about menstruation before menarche (61%), and mothers were the primary source of information (71%). Although 67% reported knowledge of menstrual hygiene practices and 74% considered menstruation a normal physiological process, misconceptions persisted, with 87% initially associating menstruation with a curse of God.

Sanitary pads were used by 55% of respondents, while 25% used clean cloth. Good hygiene practices were common: 91% reported changing absorbents every 4–6 hours, 95% washed their hands after changing absorbents, and 92% disposed of used absorbents in dustbins. Menstrual symptoms affected daily life, with 63% reporting disruption of routine activities and 30% missing college during menstruation. Female students demonstrated moderate knowledge and generally positive menstrual hygiene practices; however, significant misconceptions and educational gaps remain. Strengthening menstrual health education, improving access to sanitary products, and providing supportive sanitation facilities are essential for promoting safe and stigma-free menstrual hygiene management among college-going women in Bangladesh.

KEYWORDS: Knowledge, Attitude, Practice, Menstrual Hygiene, Natore.

INTRODUCTION

Menstrual hygiene management (MHM) is an essential aspect of women's reproductive health, dignity, and social participation. Menstruation, often known as a period, is regular vaginal bleeding brought on by the monthly release of blood and tissue from the uterine lining (Abu Talha et.al. 2026). Proper menstrual hygiene practices help prevent reproductive tract infections, improve physical comfort, and support educational continuity and psychosocial well-being (Sommer et al., 2016). Despite increasing global attention to menstrual health, many girls and women continue to experience inadequate knowledge, restricted access to menstrual products, poor sanitation facilities, and social stigma surrounding menstruation (UNICEF, 2019). Proper menstrual hygiene involves thoroughly washing the external genitalia, utilizing sanitary napkins, tampons, menstrual cups, and similar products (Balqis et. al. 2016), while also replacing the napkin every 3 to 4h to prevent odor (Jahan et. al. 2026).

In developing countries such as Bangladesh, menstrual health is often influenced by cultural beliefs, religious taboos, and limited reproductive health education. Many adolescent girls reach menarche without prior knowledge of menstruation, resulting in fear, anxiety, and unhygienic practices (Dasgupta & Sarkar, 2008). The use of unclean absorbent materials, infrequent changing of pads or cloths, and inadequate washing practices increase the risk of urinary and reproductive tract infections and may negatively affect quality of life (WHO, 2017). Furthermore, menstrual discomfort and inadequate sanitation facilities contribute to

school and college absenteeism, reducing educational opportunities for young women (UNESCO, 2014).

Bangladesh has made progress in improving menstrual health awareness; however, disparities remain between urban and rural populations, particularly among students from lower socioeconomic backgrounds (Alam et al., 2017). Educational institutions play a critical role in promoting menstrual health by providing accurate information, supportive environments, and access to sanitation facilities and menstrual products (Khatun et. al. 2025). Nevertheless, evidence on menstrual hygiene knowledge, attitudes, and practices among college-going women in districts such as Natore remains limited.

Natore is an important educational district in northern Bangladesh, and Nawab Siraj-Ud-Dowla College serves a large population of female students from both rural and urban communities. Understanding the menstrual hygiene knowledge, attitudes, and practices of these students is necessary for developing effective educational interventions and improving menstrual health support services. Therefore, the present study aimed to assess the knowledge, attitude, and practice regarding menstrual hygiene among female students of Nawab Siraj-Ud-Dowla College, Natore, Bangladesh.

METHODOLOGY

Study design and setting

A cross-sectional descriptive study was conducted among female students of Nawab Siraj-Ud-Dowla College, Natore, Bangladesh, from March to November 2025.

Study population

The study population consisted of female students aged 16–25 years enrolled in various academic programs at the college during the study period.

Sample size and sampling technique

A total of 100 female students participated in the study. Participants were selected using a simple random sampling technique to ensure that each eligible student had an equal chance of inclusion.

Data collection instrument

Data were collected using a structured, pre-tested questionnaire consisting of both closed-ended and open-ended questions. The questionnaire was divided into four sections:

1. Socio-demographic characteristics,
2. Knowledge regarding menstruation and menstrual hygiene,
3. Attitudes toward menstruation and menstrual hygiene management,
4. Menstrual hygiene practices and personal experiences during menstruation.

Data collection procedure

Participants were informed about the purpose of the study, and informed verbal consent was obtained before questionnaire administration. Confidentiality and anonymity were ensured throughout the data collection process.

Variables

The study assessed socio-demographic variables (age, religion, family income, residence, and maternal education) and KAP-related variables, including prior knowledge before menarche, source of menstrual information, understanding of menstruation, type of absorbent used, frequency of changing absorbents, genital and hand hygiene practices, disposal methods, attitudes toward menstruation, menstrual symptoms, and the effect of menstruation on daily activities and college attendance.

Data analysis

Data were entered and analyzed using Statistical Package for the Social Sciences (SPSS). Descriptive statistics, including frequencies, percentages, and tables, were used to summarize the findings.

RESULTS

Socio-demographic information about menstrual hygiene

This study is based on a survey conducted to assess the knowledge, attitude, and practice (KAP) regarding menstrual hygiene among women in Nawab Siraj-Ud-Dowla College, Natore. The researcher is responsible for collecting the required data, analyzing the findings, and presenting the results of the study. Below is a meaningful presentation of the results related to knowledge on menstrual hygiene based on the responses of 100 participants (100% participation).

This section describes how many women have correct knowledge about menstrual hygiene. It includes their understanding of important practices such as changing sanitary pads regularly,

maintaining proper genital hygiene, and having basic knowledge of the biological process of menstruation.

Age of the respondents

A total of 100 respondents participated in the study, ensuring a 100% response rate. The age distribution shows that the largest group belonged to 16–18 years (60%), followed by 19–21 years (25%), 22–24 years (10%), and above 24 years (5%). This indicates that the majority of the respondents were younger women aged 16–18 years (Fig. 1).

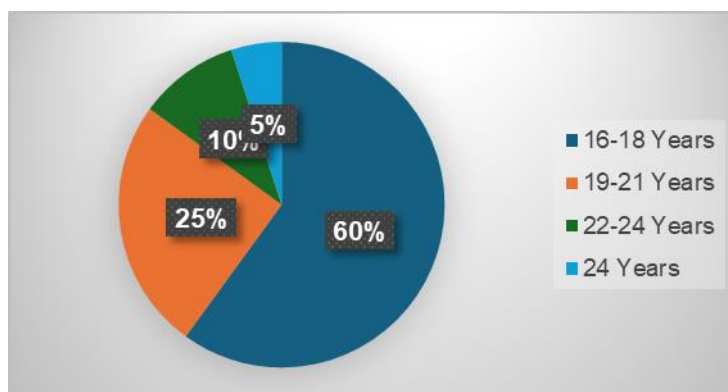


Fig. 1: Age of the respondents.

Religion

Among the 100 respondents, the majority were Muslim (72%), followed by Hindu (23%), Christian (3%), and Others (2%). This distribution shows that most participants belonged to the Muslim community, with smaller proportions from other religious groups (Fig. 2).

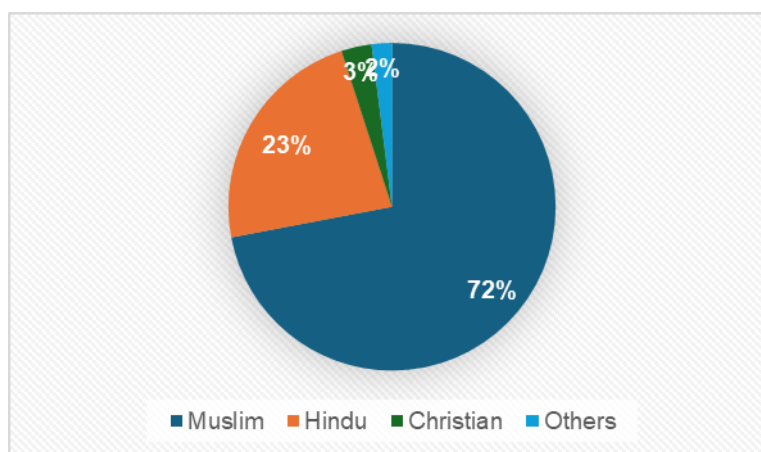


Fig. 2: Religion of the respondents.

Educational and qualification (Mothers)

Among the mothers of the 100 respondents, 52% were illiterate, 24% had primary education, 15% had secondary education, and 9% had higher education. This distribution shows that more than half of the respondents' mothers had no formal education, while only a small proportion had higher-level education (Fig. 3)

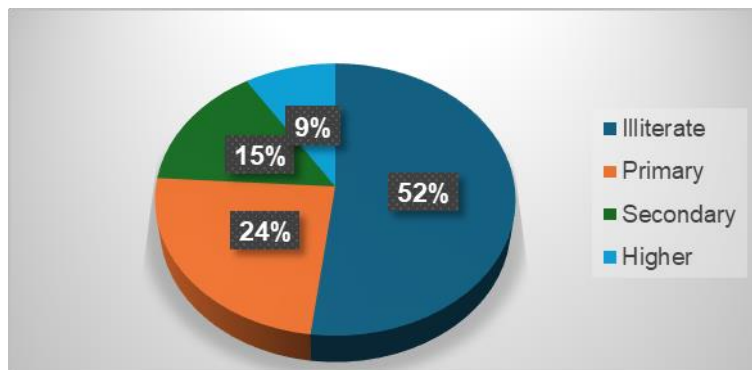


Fig. 3: Educational qualification of respondents' mothers.

Monthly income of respondents' families

Fig- 4 shows the monthly family income distribution of the respondents. Half of the participants (50%) belonged to families earning less than 15,000 BDT per month. Additionally, 30.56% had a family income between 16,000–25,000 BDT, while 15% came from families earning 26,000–35,000 BDT. A smaller proportion, 4.44%, reported a monthly income of above 35,000 BDT. This distribution helps illustrate how economic conditions may influence students' access to menstrual hygiene materials and related practices (Fig. 4).

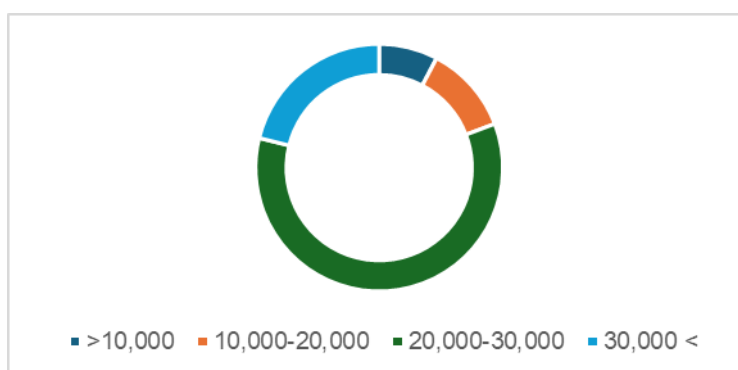


Fig. 4: Family's monthly income.

Living area of respondents

Figure 5 shows the living area of the respondents. The majority lived in rural areas (79%), while the remaining 21% were from urban areas. This indicates that most participants were from rural backgrounds (Fig. 5).

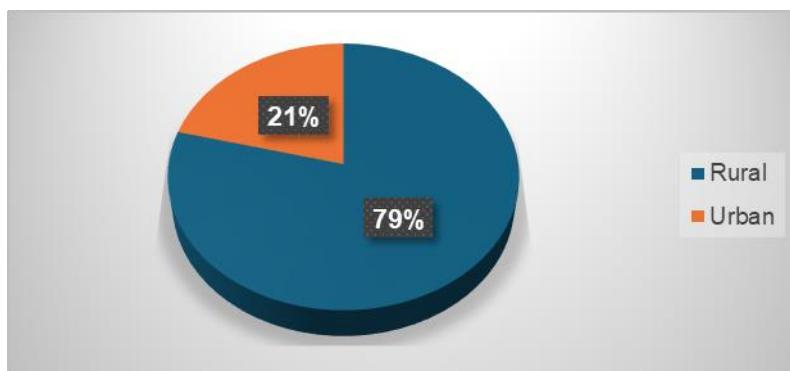


Fig. 5: Living area of respondents.

Type of family

Based on the information you provided, here's a breakdown of the TYPE of Family for the 120 respondents in the study. This indicates that a significant majority (87%) of the respondents belong to joint families, while smaller proportions (13 %) belong to nuclear families (Fig. 6).

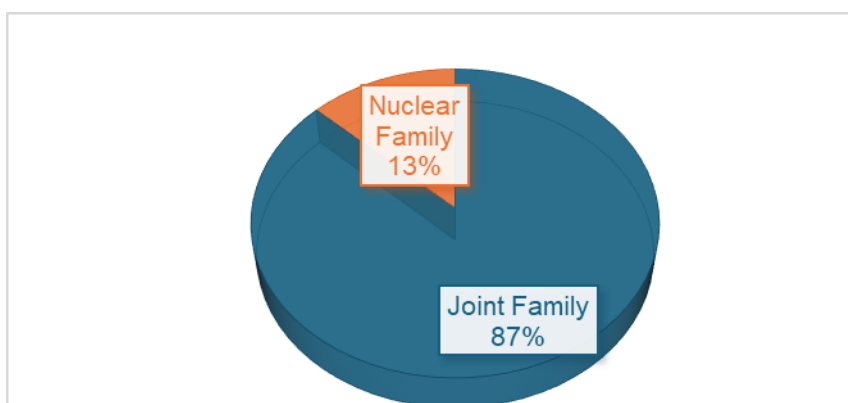


Fig. 6: Type of family.

Table 1: Knowledge about menstruation before First Period (n = 100).

Question	Response options	No. of respondents	Percentages (%)
Did you know about menstrual before your first period	Yes	61	61
	No	39	39
	Total	100	100

Among the respondents, 61% of women were aware of menstruation before their first period, while 39% had no prior knowledge. Awareness before menarche helps women prepare mentally and physically and adopt proper hygiene practices, whereas lack of knowledge may lead to anxiety, misconceptions, and poor menstrual hygiene practices.

Table 2: Source of first knowledge about menstruation (n = 100).

Question	Response options	No. of respondents	Percentage (%)
From whom did you first learn about menstruation	Mother	71	71
	Friends	5	5
	School/College	21	21
	Media/Health worker	3	3
	Total	100	100%

The majority (71%) first learned from mothers, highlighting the key role of family in menstrual education. Fewer respondents reported learning from school/college, friends, or media/health workers, showing that formal education and public health communication play a smaller, yet important role.

Table 3: Perception about the cause of menstruation (n = 100).

Question	Response options	No. of respondents	Percentage (%)
What is the cause of menstruation	A natural biological process	10	10
	Curse of God	87	87
	Don't know	3	3
		100	100%

Menstruation is a normal physiological process caused by the shedding of the uterine lining. Most women (87%) believed it to be a curse of God, while only 10% correctly identified it as a biological process. Misconceptions may negatively influence menstrual hygiene practices and awareness.

Table 4: Knowledge about menstrual hygiene practices (n = 100).

Question	Response options	No. of respondents	Percentage (%)
Do you know about menstrual hygiene practices	Yes	67	67
	No	33	33
		100	100%

Among the respondents, 67% of women were aware of menstrual hygiene practices, while 33% had no knowledge. Awareness is essential for preventing infections and maintaining

reproductive health, whereas lack of knowledge may lead to improper practices and health risks.

Table 5: Materials suitable for menstrual hygiene management (n = 100).

Question	Response options	No. of respondents	Percentage (%)
Which materials are suitable for menstrual hygiene management	Sanitary pad	52	52
	Clean cloth	25	25
	Tissue paper	15	15
	Other	8	8
	Total	100	100%

Most respondents (52%) considered sanitary pads suitable for menstrual hygiene, while others used clean cloth (25%), tissue paper (15%), or other materials (8%). Proper menstrual materials help prevent infections and maintain hygiene, whereas unsuitable materials increase risk of health problems.

Table 6: Frequency of changing sanitary pad or cloth (n = 100).

Question	Response options	No. of respondents	Percentage (%)
How often should a sanitary pad or cloth be changed	Every 4-6 hours	91	91
	Twice daily	7	7
	Once a day	2	2
	Others	0	0
	Total	100	100%

Most respondents (91%) changed their sanitary pad or cloth every 4–6 hours, following recommended hygiene practices. Frequent changing helps prevent infections, odor, and discomfort, while infrequent changing increases the risk of urinary or reproductive tract infections.

Table 7: Type of absorbent used during menstruation (n = 100).

Question	Response options	No. of respondents	Percentage (%)
What type of absorbent do you usually use during menstruation	Sanitary	55	55
	Clean cloth	25	25
	Tissue paper	17	17
	Others	3	3
	Total	100	100%

The majority (55%) used sanitary pads, while others relied on clean cloth (25%), tissue paper (17%), or other materials (3%). Using appropriate absorbents is important for hygiene, comfort, and infection prevention.

Table 8: Method of cleaning reusable cloth (n = 100).

Question	Response options	No. of respondents	Percentage (%)
How do you clean the reusable cloth(if used)	With soap and water	71	71
	Only water	29	29
	Don't clean	0	0
	Total	100	100%

Among women using reusable cloths, 71% cleaned them with soap and water, while 29% used only water. Proper cleaning prevents infections and maintains hygiene, whereas inadequate cleaning increases health risks.

Table 9: Frequency of washing genital area during menstruation (n = 100).

Question	Response options	No. of respondents	Percentage (%)
How often do you wash your genital during menstruation	Every time after changing pad	60	60
	Twice a day	23	23
	Once a day	14	14
	Rarely	3	3
	Total	100	100%

Most respondents (60%) washed their genital area every time after changing the pad, which helps prevent infections and maintain cleanliness. Infrequent washing increases the risk of urinary and reproductive tract infections.

Table 10: Hand washing after changing pad or cloth (n = 100).

Question	Response options	No. of respondents	Percentages (%)
Do you wash your hands after changing pad or cloth	Yes	95	95
	No	5	5
	Total	100	100

All respondents (100%) washed their hands after changing pads or cloths. Hand washing is essential to prevent the spread of infections and ensure overall menstrual hygiene and reproductive health.

Table 11: Frequency of changing undergarments during menstruation (n = 100).

Question	Response options	No. of respondents	Percentage (%)
How often do you change your undergarments during menstruation	Once a day	87	87
	Twice a day	13	13
	Weekly	0	0
	Occasionally	0	0
	Total	100	100%

Most respondents (87%) changed undergarments once a day, while 13% changed twice a day. Regular changing is important to maintain hygiene, prevent odor, and reduce infection risk.

Table 12: Disposal of used absorbents (n = 100).

Question	Response options	No. of respondents	Percentage (%)
How do you dispose of used absorbents	In a dustbin	92	92
	Burn	8	8
	Bury	0	0
	Throw in open area	0	0
	Total	100	100%

Most respondents (92%) disposed of absorbents in a dustbin, while a few burned (8%) or buried (0%) them. Proper disposal ensures environmental hygiene and reduces the risk of infection and pollution.

Table 13: Perception of menstruation as a normal physiological process (n = 100).

Question	Response options	No. of respondents	Percentage (%)
Do you consider menstruation a normal physiological	Yes	74	74
	No	26	26
	Not sure	0	0
		100	100%

A majority (74%) considered menstruation a normal physiological process, while 26% did not. Recognizing menstruation as natural is essential to reduce stigma, promote proper hygiene, and foster positive attitudes toward menstrual health.

Table 14: Experience of premenstrual symptoms (n = 100).

Question	Response options	No. of respondents	Percentage (%)
Do you experience any premenstrual symptoms	Backache	41	41
	Mood swings	45	45
	Lower abdominal	9	9

	pain		
	None	4	4
	Total	100	100%

Among the respondents, 46% experienced mood swings, 41% reported backache, and 9% had lower abdominal pain, while 4% reported no symptoms. Awareness of premenstrual symptoms is important for managing discomfort and maintaining daily activities, and proper guidance can help women cope effectively.

Table 15: Effect of menstruation on daily activities (n = 100)

Question	Response options	No. of respondents	Percentages (%)
Does menstruation disturb your daily activities	Yes	63	63
	No	37	37
	Total	100	100

Among respondents, 63% reported that menstruation disturbs daily activities, while 37% reported no disturbance. Menstrual discomfort can affect academic performance, social interactions, and routine tasks, highlighting the importance of proper hygiene management and symptom relief strategies.

Table 16: College attendance during menstruation (n = 100)

Question	Response options	No. of respondents	Percentages (%)
Do you attend college regularly during menstruation	Yes	70	70
	No	30	30
	Total	100	100

A majority of respondents (70%) reported attending college regularly during menstruation, while 30% did not. Menstrual-related discomfort, cultural restrictions, or lack of facilities may influence attendance, emphasizing the need for awareness, proper hygiene management, and supportive educational environments.

DISCUSSION

This study evaluated menstrual hygiene knowledge, attitudes, and practices among female college students in Natore, Bangladesh, and identified important strengths as well as persistent gaps in menstrual health awareness and behavior.

A notable finding was that 61% of respondents were aware of menstruation before menarche. Although this proportion is higher than that reported in several earlier South Asian studies, a

substantial proportion of students still reached menarche without prior knowledge, exposing them to fear, anxiety, and misconceptions (Dasgupta & Sarkar, 2008). Mothers were the primary source of menstrual information (71%), confirming findings from previous studies in Bangladesh and neighboring countries that family members remain the most influential source of menstrual education (Ali & Rizvi, 2010; El Gilany et al., 2005). However, reliance on informal family-based education may perpetuate cultural myths and incomplete information when mothers themselves possess limited reproductive health knowledge.

Although 67% of respondents reported knowledge of menstrual hygiene practices and 74% considered menstruation a normal physiological process, misconceptions remained remarkably high (Madziyire et al., 2018). A large proportion of participants associated menstruation with supernatural or religious causes, indicating that cultural beliefs continue to influence menstrual perceptions. Similar misconceptions have been documented among adolescent girls in India and Nepal, where menstruation is frequently associated with impurity, restrictions, and social exclusion (Adhikari et al., 2007; Dasgupta & Sarkar, 2008). These findings highlight the need for comprehensive reproductive health education that explains menstruation as a normal biological process.

Regarding hygiene practices, the majority of students demonstrated encouraging behaviors. More than half used sanitary pads, and 91% reported changing absorbent materials every 4–6 hours, which aligns with recommended menstrual hygiene practices (Paudel et al., 2024). Additionally, 95% washed their hands after changing absorbents, and 92% disposed of used absorbents in dustbins, indicating a generally favorable level of personal hygiene (Shah et al., 2023). Comparable improvements in sanitary pad use have been reported in educational settings where menstrual health awareness has increased (Hennegan et al., 2019). Nevertheless, one-quarter of participants continued to use reusable cloths, and nearly one-third cleaned reusable cloths using only water, practices that may increase the risk of reproductive tract infections if drying and storage conditions are inadequate (WHO, 2017).

The study also revealed that menstruation significantly affected students' daily lives. Mood swings, backache, and lower abdominal pain were the most common premenstrual symptoms, and 63% of respondents reported that menstruation disturbed their routine activities (Siddique et al., 2023). Furthermore, 30% missed college during menstruation, suggesting that menstrual discomfort, inadequate facilities, and social barriers continue to influence educational participation. These findings are consistent with reports from UNESCO (2014)

and UNICEF (2019), which emphasize that inadequate menstrual hygiene management contributes to absenteeism and reduced educational attainment among adolescent girls and young women.

The predominance of respondents from rural and lower-income households may partly explain the persistence of misconceptions and the continued use of cloth absorbents (Yasmin *et al.*, 2025). Previous studies have demonstrated that socioeconomic status, rural residence, and limited access to menstrual products are important determinants of menstrual hygiene behavior (Alam *et al.*, 2017; El Gilany *et al.*, 2005). Therefore, menstrual health interventions should prioritize affordable sanitary products, improved water and sanitation infrastructure, and culturally sensitive educational programs.

Overall, the findings indicate that while many students practice basic menstrual hygiene measures, substantial gaps remain in biological understanding, myth reduction, and institutional support. College-based menstrual health education, peer-support initiatives, and improved sanitation facilities could significantly strengthen menstrual hygiene management and reduce stigma among young women in Bangladesh.

CONCLUSION

This study demonstrates that female students of Nawab Siraj-Ud-Dowla College possess moderate knowledge and generally positive practices regarding menstrual hygiene management. Most participants had heard about menstruation before menarche, used sanitary pads, changed absorbents at appropriate intervals, practiced hand hygiene, and disposed of menstrual waste safely. However, important misconceptions regarding the nature and cause of menstruation persist, and menstrual symptoms continue to interfere with daily activities and college attendance. These findings underscore the need for comprehensive menstrual health education, increased availability of affordable sanitary products, improved sanitation and disposal facilities, and greater openness in discussing menstruation within families, schools, and communities. Strengthening menstrual hygiene management programs in educational institutions may contribute to improved reproductive health, educational participation, and psychosocial well-being among young women in Bangladesh.

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