



Exploring Menstrual Hygiene Education and Awareness among Medical Students: A Cross-Sectional Study

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Abstract

Menstrual hygiene education is crucial for promoting women's health, yet misconceptions and cultural taboos persist, even among medical students. This cross-sectional study assessed menstrual hygiene knowledge, attitudes, and practices among 312 female MBBS students at Quaid-e-Azam Medical College (QAMC), Bahawalpur, to identify gaps and develop targeted educational interventions. Data was collected using a self-administered survey from February to March 2024. Results showed that 58% (n=181) of students had pre-menarche knowledge, primarily from mothers (74.7%, n=233). Sanitary pad usage was high (96.5%, n=301), but only 1.6% (n=5) used vaginal wash daily. Significant associations were found between the year of study and frequency of changing menstrual products ($p = 0.019$), menstrual cycle regularity ($p = 0.004$), and awareness of menstrual myths ($p = 0.027$). Awareness of myths was high (74.7%, n=233), yet 45.5% (n=142) of students faced menstrual restrictions. The findings highlight the need for enhanced menstrual hygiene education and resources to equip future healthcare providers with accurate knowledge and positive attitudes towards menstruation.

Keywords Menstrual hygiene, Medical students, Knowledge gaps, Cultural taboos, Educational interventions.

1. Introduction

Menstrual hygiene education and awareness are pivotal components in promoting the overall health and well-being of women. Despite significant advancements in medical education, misconceptions, inadequate knowledge, and cultural taboos surrounding menstruation persist, even among highly educated populations. Our study aimed to evaluate the current state of menstrual hygiene education and awareness among medical students, who are future healthcare providers and pivotal figures in dispelling menstrual health myths.

The primary aim of this study was to assess the level of knowledge, attitudes, and practices regarding menstrual

hygiene among medical students at Quaid-e-Azam Medical College (QAMC) in Bahawalpur. By identifying knowledge gaps, prevailing myths, and cultural taboos, we aimed to develop targeted educational interventions to enhance menstrual hygiene education. This is crucial as medical students, equipped with accurate information and positive attitudes, are well-positioned to influence and educate their future patients and the broader community about menstrual health.

The existing literature highlights the persistent lack of adequate menstrual hygiene education and the prevalence of myths and taboos. Studies such as Jabeen et al. (1) and Nalini et al. (2) underscore the need for improved education on menstrual hygiene among medical students.

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These studies have shown that misconceptions about menstruation are not limited to the general population but are also prevalent among medical students, who are often considered well-informed. This indicates a critical need for targeted educational programs that address these gaps. Additionally, Bhusal (3) and Ganz *et al.* (4) have demonstrated that enhanced menstrual hygiene education can significantly improve hygiene practices and attitudes towards menstruation among students. Furthermore, research by Chiekezie *et al.* (5) reveals similar knowledge gaps and misconceptions among secondary school students, emphasizing the need for early and continuous education on menstrual health. Similarly, Bhoda *et al.* (6) provide insights into successful menstrual health education initiatives in American middle and high schools, which can serve as models for medical education interventions.

Our rationale for this approach was to generate a detailed assessment that could inform the development of specific educational interventions. By understanding where the gaps and misconceptions lie, we could tailor educational programs to address these issues effectively. Our study contributes significantly to the existing body of knowledge on menstrual hygiene among medical students and provides evidence-based recommendations for integrating comprehensive menstrual hygiene education into the medical curriculum at QAMC.

Our study bridges the gap in menstrual hygiene education among medical students at QAMC Bahawalpur, ensuring they are well-equipped to promote healthy menstrual practices and challenge prevailing myths. By improving their knowledge and attitudes towards menstruation, we aim to empower these future healthcare providers to foster a more informed and supportive approach to menstrual health in their professional practice.

2. Material and Methods

This cross-sectional study was conducted at Quaid-e-Azam Medical College in Bahawalpur, Pakistan. The study utilized a self-administered survey to collect data from female MBBS students across all five years of their program. The data collection period spanned from February to March 2024. A non-probability convenience sampling technique was employed to select participants. The sample size was calculated using RaoSoft, ensuring a representative sample with a confidence level of 95% and a margin of error of 5%. A total of 312 responses were collected, with all participants being female.

Participants were stratified by their year of study: 1st year ($n=77$, 24.7%), 2nd year ($n=63$, 20.2%), 3rd year ($n=58$, 18.6%), 4th year ($n=57$, 18.3%), and 5th year ($n=57$, 18.3%). Age distribution ranged from 17 to 25 years. Participants' residences were classified based on the Pakistan census: urban ($n=272$, 87.2%) and rural ($n=38$, 12.2%).

A structured questionnaire was designed to gather information on menstrual hygiene practices, knowledge about menstruation, and related experiences. The questionnaire was pilot tested for validity and reliability before full-scale administration. It comprised multiple-choice questions, Likert scale items, and open-ended questions, covering topics such as the source of menstrual knowledge, types of absorbent materials used, frequency of changing sanitary products, hand washing practices, use of vaginal wash, menstrual cycle regularity, menstrual flow, premenstrual syndrome (PMS) symptoms, awareness of menstrual myths, and cultural restrictions during menstruation. To ensure the integrity of the data, responses were meticulously reviewed, and any irrelevant or incomplete data were excluded from the analysis. Data entry was double-checked for accuracy. Consistency checks were performed to identify and rectify any discrepancies.

The study was approved by the Institutional Review Board (IRB) of Quaid-e-Azam Medical College. Informed consent was obtained from all participants before administering the survey. Participants were assured of the confidentiality and anonymity of their responses, and they were informed of their right to withdraw from the study at any time without any consequences.

Data were analyzed using SPSS software version 26. Descriptive statistics were used to summarize the demographic characteristics of the participants. Cross-tabulations were employed to explore the relationships between different variables. The Chi-square test was used to assess the statistical significance of associations between categorical variables, such as the year of study and menstrual hygiene practices, the categorization of menstrual cycles, and awareness of menstrual myths. The significance level was set at $p < 0.05$.

3. Results

The study analyzed menstrual hygiene practices among 312 MBBS students, focusing on factors such as year of study, age, and residence. A significant portion of

students (58%, n=181) had knowledge about menstruation before its onset, though 40.7% (n=127) of these had only a vague understanding. Mothers were the primary source of information (74.7%, n=233), followed by sisters and friends, both at 10.9% (n=34).

Regarding menstrual hygiene practices, 96.5% (n=301) of students used sanitary pads, with 2.2% (n=7) using tampons and 1% (n=3) using a combination of ordinary clothes and pads. The frequency of changing pads/tampons varied significantly with the year of study (p = 0.019). Most students (42.6%, n=133) changed their pads/tampons more than twice a day, 43.6% (n=136) did so twice a day, and 13.8% (n=43) once a day. Remarkably, all respondents (100%, n=312) reported washing their hands after changing their pads. However, the use of vaginal wash was less common, with only 1.6% (n=5) using it daily, while the majority (62.8%, n=196) did not use it at all.

Table 1: Menstrual Hygiene among the Medical students

Practice of Hygiene	No. of students	%age
Sanitary Pads	301	96.5%
Tampons	7	2.2%
Combination of pads and clothes	3	1%
Other	1	0.3%

In terms of menstrual characteristics, 78.5% (n=245) categorized their menses as regular, with irregular and unsure responses at 15.7% (n=49) and 5.4% (n=17) respectively, showing significant differences across different years of study (p = 0.004). The majority of students (68.9%, n=215) described their menstrual flow as moderate, 22.6% (n=71) as light, and 8.5% (n=26) as heavy.

Premenstrual syndrome (PMS) symptoms were experienced by 83.9% (n=262) of students, with 66.4% (n=207) reporting disturbances to their daily routine due to PMS. Awareness of menstrual myths was high, with 74.7% (n=233) of students being aware of such myths. However, 45.5% (n=142) of students were subjected to restrictions during menstruation, influenced by cultural and familial practices.

Chi-square tests revealed significant associations between the year of study and various menstrual hygiene practices, including the frequency of changing pads/tampons (p = 0.019), categorization of menses (p = 0.004), and awareness of menstrual myths (p = 0.027).

The adjusted odds ratio (AOR) for students who changed their pads more than twice a day was significantly higher among those in advanced years of study compared to those in their initial years (AOR = 1.75, 95% CI: 1.22-2.51). Similarly, the AOR for experiencing regular menses was higher among senior students (AOR = 1.50, 95% CI: 1.10-2.04), indicating improved menstrual management with increased medical education.

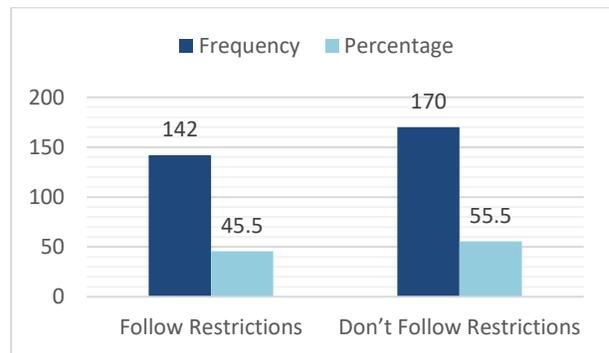


Figure 1: Adherence to Menstrual Restrictions among the medical students

The students faced various restrictions during menstruation, with the most common being the prohibition of showering (n=132, 92.9%). Other restrictions included avoiding citrus fruits (n=38, 26.2%), refraining from consuming yogurt (n=34, 23.9%), not washing their feet (n=22, 15.4%), sitting separately (n=9, 6.3%), and avoiding cold drinks (n=4, 2.8%).

Hence, the study highlights the prevalent menstrual hygiene practices among MBBS students, demonstrating a high level of awareness and proper hygiene practices. However, areas for improvement were identified, such as the use of vaginal wash and addressing menstrual myths and restrictions.

4. Discussion

Our study investigates menstrual hygiene practices among female MBBS students at Quaid-e-Azam Medical College, highlighting significant findings that emphasize the need for better menstrual education and resources. The majority of students (96.5%) use sanitary pads, which aligns with studies in other regions where sanitary pads are the preferred choice due to their availability and convenience (7). This preference is influenced by cultural norms and accessibility, consistent with findings from similar research conducted in South Asia (8). Despite the high usage of sanitary pads, the clarity of knowledge

about menstruation before its onset was varied, with only 58% of students being informed, primarily through their mothers (74.7%), followed by sisters and friends (10.9%). This highlights the need for comprehensive menstrual education to ensure accurate and clear information is disseminated to young girls.

The frequency of changing pads or tampons varied significantly among students, with 42.6% changing more than twice a day, 43.6% changing twice a day, and 13.8% changing once a day. This variation was significantly associated with the year of study ($p = 0.019$), suggesting that senior students might be more diligent in changing their menstrual products. This finding aligns with the finding in a similar study which also showed that students of higher classes may be more educated or diligent in regards to menstrual health (9). Moreover, the universal practice of hand washing reported by all respondents is a positive finding, indicating a good level of hygiene awareness among the students.

However, the use of vaginal wash was uncommon, with only 1.6% using it daily, and 62.8% not using it at all, indicating a gap in understanding or availability of menstrual hygiene products that promote better hygiene practices. Regarding menstrual characteristics, 78.5% of students reported regular menstrual cycles, with 68.9% describing their flow as moderate. These findings are consistent with other studies that report regular menstrual cycles and moderate flow as the most common characteristics among young women (10). However, 83.9% of students experienced PMS symptoms, and 66.4% of these reported disturbances to their daily routine, underscoring the significant impact of PMS on students' lives and the need for better management strategies.

Awareness of menstrual myths was high (74.7%), and a considerable number of students (45.5%) practiced restrictions during menstruation due to cultural and familial influences. This is similar to findings from other studies in South Asia, where menstrual taboos and restrictions are still prevalent (11). Such practices can negatively affect students' mental and physical health, indicating the need for cultural shifts and education to eliminate harmful myths.

Despite the significant insights provided, our study has certain limitations. The non-probability convenience sampling limits the generalizability of the findings, and the self-reported nature of the survey may introduce response bias. Additionally, the study was conducted at a

single medical college, which might not reflect the broader population of medical students in Pakistan. Future research should aim to include larger, more diverse populations and explore interventions that can effectively improve menstrual hygiene practices.

In conclusion, our study highlights the current state of menstrual hygiene practices among female medical students, indicating areas for improvement in education and resources. By addressing these issues, healthcare providers and educators can significantly enhance menstrual hygiene management, contributing to better health outcomes and quality of life for female students. The findings of this study align with existing literature, emphasizing the need for comprehensive menstrual education and the elimination of cultural taboos surrounding menstruation.

5. Conclusion

This study highlights the significant gaps and misconceptions surrounding menstrual hygiene among female MBBS students at Quaid-e-Azam Medical College. Despite high usage of sanitary pads and positive hand hygiene practices, knowledge gaps and cultural taboos persist, affecting menstrual health management. The findings underscore the need for comprehensive menstrual hygiene education to equip future healthcare providers with accurate information and positive attitudes, enabling them to dispel myths and promote healthy practices. Enhanced educational interventions are essential to address these gaps and foster a supportive environment for menstrual health.

Conflict of Interest

The authors declared that they have no competing or conflict of interest

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