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Original Article

# Breaking Silence on Menstrual Hygiene Management

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https://doi.org/10.52206/jsmc.2025.15.3.975

## Abstract

**Background:** Awareness regarding menstrual hygiene is a significant public health and societal issue among young girls in developing countries. In South Asian countries, including Pakistan, adolescent girls are often unprepared mentally, emotionally, and physically for the onset of menstruation, largely due to a lack of awareness and prevailing social taboos.

**Objective:** To assess the awareness and practices regarding menstrual hygiene among adolescent girls in public sector schools of District Peshawar.

**Methodology:** This descriptive cross-sectional study was conducted in June 2022 among girls from classes 7, 8, and 9 who had attained menarche, studying in selected public sector schools in Peshawar. A total sample of 500 participants was recruited using a convenience sampling technique. Data were collected using a previously validated, self-administered questionnaire. Descriptive statistics were analyzed using SPSS version 21.

**Results:** Out of 500 participants, 247 (49.4%) were aware of menstrual hygiene management (MHM). Mothers were reported as the sole source of menstrual information by 230 (46%) participants. The use of traditional cloth as an absorbent during menstruation was common among 45% of respondents, and 59.2% avoided bathing during menstruation. Additionally, 236 (47.25%) participants reported avoiding routine activities during their menstrual cycles. The study also revealed that many school-going girls faced various social and cultural restrictions during menstruation.

**Conclusion:** The findings highlight a critical gap in access to accurate and reliable information regarding menstrual hygiene management among school-going girls. Misbeliefs and misconceptions continue to prevail due to cultural taboos and inadequate education. There is an urgent need to develop school-based awareness programs and policy-level interventions that promote safe and informed sanitary practices among adolescents.

**Keywords:** Adolescent girls, Awareness, Menstrual hygiene.

**ISSN (P):** 1819-4583
**ISSN (E):** 3007-9470

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**Citation:**
Gul A, Aliya B, Aziz A, Khan RS, Saeed H, Ahmad U. Breaking Silence on Menstrual Hygiene Management. *J Saidu Med Coll.* 2025;15(3):308–315.

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**Funding:**
The authors received no external funding for this study.

**Conflicts of Interests:**
The authors have declared that no competing interests exist.

**Data Sharing Statement:**
The data that support the findings of this study are available on request from the corresponding author. The data is not publicly available due to privacy or ethical restrictions.

**Received:** June 06, 2024
**1st Revision:** March 17, 2025
**2nd Revision:** May 22, 2025
**3rd Revision:** May 31, 2025
**Accepted:** June 01, 2025

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## Introduction

The World Health Organization (WHO) defines adolescents as individuals between the ages of 10 and 19 years [1]. In Pakistan, approximately 22% of the female population falls within this age group, suggesting that a substantial number of girls have entered their reproductive years [2]. However, 79% of these girls lack the resources and knowledge to manage their menstrual cycles hygienically [2]. Menstruation remains a culturally sensitive topic, often discussed with discomfort and shame, particularly in conservative societies like Pakistan [3].

Mothers play a central role in shaping their daughters' attitudes toward reproductive health, yet the quality of information they provide is often limited and inadequate. This is due in part to cultural stigma, lack of formal education on menstrual physiology, and their own discomfort in discussing such topics [2,3]. In the Pakistani educational system, reproductive health—including menstruation—is rarely addressed in a direct and meaningful way. While it may be superficially mentioned in subjects like Biology or Islamiyat, the content is not standardized, nor is it delivered with the seriousness it deserves [4].

Menstrual hygiene is essential for the overall physical and mental well-being of women. Poor menstrual hygiene practices can lead to reproductive tract infections, urinary tract infections, and psychological stress [5,6]. Menstrual hygiene management (MHM) involves the use of clean sanitary materials to absorb menstrual blood, access to soap and water for washing the body and reusable materials, and access to facilities for proper disposal of used materials [5,6].

Despite the significance of MHM, sociocultural factors have kept this topic marginalized [7]. In Pakistan, menstruation is often viewed as a taboo, which silences girls and women and prevents them from openly discussing their needs and challenges [8]. According to national surveys, around 50% of women in Pakistan have limited knowledge about menstruation, and 91% feel uncomfortable discussing menstrual issues with male family members [9]. This perpetuates myths and misconceptions, especially among adolescent girls who primarily rely on their mothers and elder sisters for information—sources that are themselves inadequately informed due to cultural constraints [4,7].

Girls are often discouraged from asking questions about menstruation and may even be reprimanded, reinforcing the belief that the topic is shameful and should be kept secret. As a result, many resort to using homemade absorbent materials, which are often stored in unhygienic conditions and disposed of improperly [10]. In addition to a lack of awareness, the high cost of commercial sanitary pads serves as a barrier to adopting safe practices.

Religious beliefs and cultural misconceptions further contribute to misinformation. Many girls believe, for example, that bathing during menstruation can cause cramps or increase menstrual flow [11]. These false beliefs highlight the need for targeted education and debunking of harmful myths.

Globally, menstrual and reproductive health is now recognized not only as a health concern but as a human rights issue. According to WHO, the ability to manage menstruation safely and with dignity should be treated as a fundamental right [12,13]. As women continue to play increasingly active roles in all sectors of society, there is a pressing need to ensure that young girls are equipped with the knowledge and resources necessary to manage their menstruation effectively. This study, therefore, seeks to evaluate the awareness and practices related to menstrual hygiene among adolescent girls in the public school system of Peshawar.

## Methodology

### Study Design

This was a school-based cross-sectional study aimed at assessing menstrual hygiene knowledge and practices among adolescent schoolgirls. The study was conducted over a period of three months, from 2nd June to 30th August 2022.

### Ethics
Ethical clearance for the study was obtained from the Institutional Review Board of Rehman Medical Institute (RMI/RMI-REC/Article Approval/98). Prior to data collection, verbal consent was sought from the principals and administrative authorities of the selected schools. Additionally, the purpose and voluntary nature of participation were explained to all participants, and verbal informed consent was obtained from each student. Confidentiality and anonymity of the data were strictly maintained throughout the study.

### Setting
The study was conducted in four public sector girls' schools within the Peshawar district. The selected schools were: Government High School Hayatabad Phase 1, Government High School Hayatabad Phase 3, Government Girls Higher Secondary School University Town, and Government Girls High School Nasir Bagh Road. These schools were selected to ensure geographic diversity within the district and ease of access.

### Participants
The study included female students enrolled in grades 7th, 8th, and 9th, who had attained menarche and were willing to participate. Participants were selected using a non-probability convenience sampling technique. Menarche, defined as the first occurrence of menstruation, typically occurs between the ages of 10 and 16, with a mean age of approximately 12.4 years.

### Variables
The key variables assessed included knowledge and practices related to menstrual hygiene, availability and usage of sanitary products, disposal methods, access to sanitary facilities, and perceptions or misconceptions regarding menstruation.

### Data Sources/Measurement
Data were collected using a structured and validated questionnaire, which had been previously developed and used in similar settings. The tool was adapted to the local cultural context through expert input and pretesting in a pilot study involving 30 students. Based on the pilot feedback, necessary modifications were made to enhance clarity and contextual relevance. The final questionnaire consisted of both closed- and open-ended questions covering demographic details, knowledge, attitudes, and hygiene practices during menstruation.

### Bias
To minimize selection bias, schools from different localities of Peshawar were chosen. Although convenience sampling may introduce bias, efforts were made to include a wide range of socioeconomic backgrounds by selecting schools from both urban and semi-urban areas. Information bias was reduced by ensuring anonymity and creating a comfortable environment for participants to respond honestly.

### Study Size
The sample size was initially calculated as 385 using the Raosoft sample size calculator, assuming a population of adolescent girls aged 12–16 years in the Peshawar district, a 5% margin of error, and a 95% confidence level. To enhance the representativeness and reliability of the study findings, the final sample size was increased to 500.

### Quantitative Variables
Quantitative variables included age at menarche, number of sanitary pads used per menstrual cycle, frequency of changing sanitary materials, access to hygiene facilities, and knowledge scores related to menstruation.

### Statistical Methods
Data were entered and analyzed using SPSS version 26. Descriptive statistics were used to summarize the data. Frequencies and percentages were calculated for categorical variables, and results were presented in tabular and graphical formats as appropriate.

## Results

### Participants
A total of 500 adolescent girls from four public sector schools in Peshawar participated in the study. Among them, 173 (34.67%) were students of grade 7, 164 (32.67%) belonged to grade 8, and 163

(32.46%) were in grade 9. All participants had attained menarche and consented to participate in the study.

**Descriptive Data**

The mean age at menarche among the study participants was 11–12 ± 2.30 years. Regarding family structure, 263 (52.6%) of the girls belonged to nuclear families, while the remaining were from joint family systems. Educational background of the mothers revealed that a significant proportion, 268 (53.6%), were illiterate. These demographic insights reflect the social context in which menstrual hygiene practices and awareness are formed.

**Outcome Data**

Knowledge about menstrual hygiene was reported by 247 (49.5%) of the participants, while the remaining 253 (51.1%) had no understanding or awareness of menstrual hygiene management (MHM). The most common source of information regarding menstruation and hygiene was the participants' mothers, followed by elder sisters. However, only a small proportion—15% of the participants—reported receiving any formal information or awareness through school-based programs, highlighting a critical gap in the institutional role of schools in educating girls on menstrual health.

Regarding menstrual hygiene materials, 43% of the participants reported using commercially available sanitary pads. Conversely, 45% used old cloth or other inappropriate absorbent materials during menstruation, which can pose health risks if not properly cleaned and maintained.

**Main Results**

Several barriers to effective menstrual hygiene management were identified. Cultural taboos and religious beliefs were reported as significant hindrances to the use of sanitary pads. Notably, 118 (23.6%) girls expressed shyness in requesting sanitary products, while 41 (8.2%) reported the unavailability of sanitary pads. Religious concerns were cited by 76 (15%) participants as a reason for avoiding sanitary products, while others mentioned discomfort (12.8%) and difficulty with disposal (6.4%) as additional barriers.

The impact of menstruation on daily activities was considerable. Approximately 236 (47.25%) of participants reported missing regular engagements such as school attendance, sports activities, and social events during their menstrual periods, suggesting that inadequate menstrual hygiene management significantly disrupts the academic and social lives of adolescent girls.

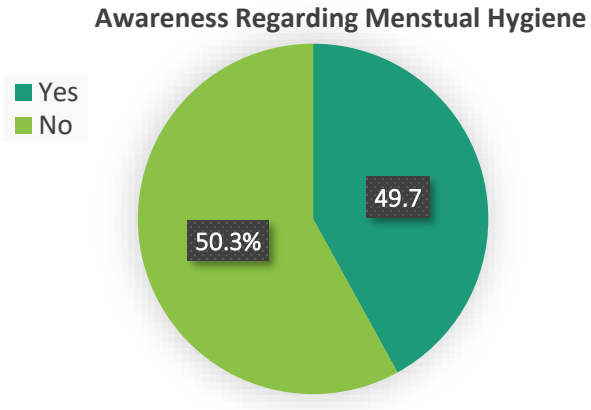



**Figure 1: Awareness Regarding Menstrual Hygiene**

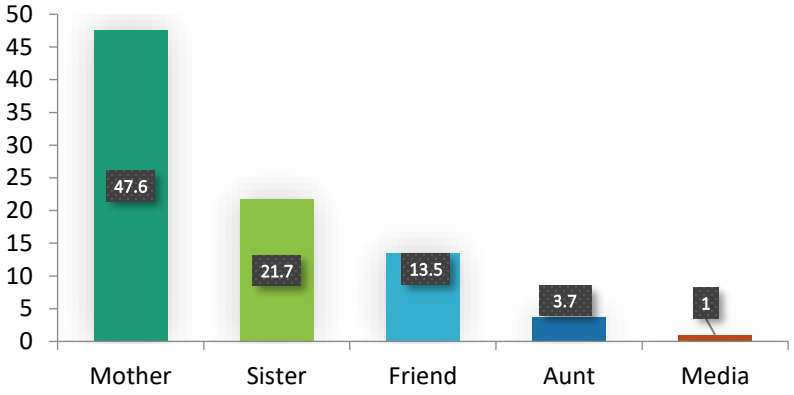



**Figure 2: Source of Knowledge regarding Menstrual Hygiene**

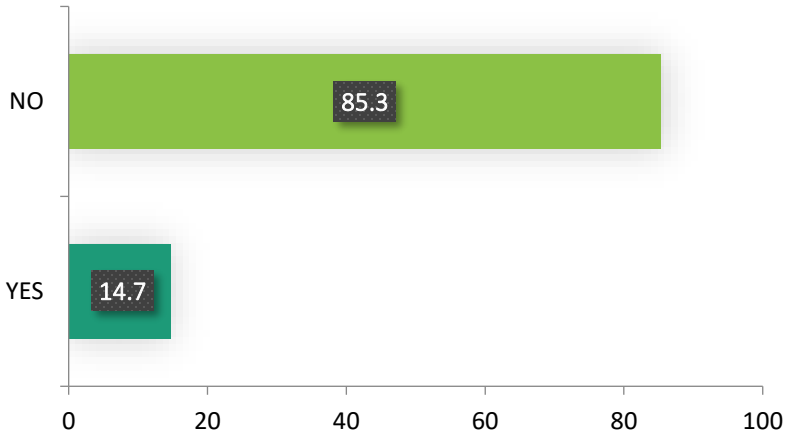



**Figure 3: Awareness Sessions held at school**

## Discussion

This study aimed to assess the knowledge and practices related to menstrual hygiene management (MHM) among adolescent schoolgirls. Out of 500 participants, the distribution across grades was relatively even, with 173 (34.67%) in class 7, 165 (33%) in class 8, and 162 (32.46%) in class 9. Among the total participants, 247 (49.50%) were found to have knowledge regarding menstrual hygiene, while 252 (51.1%) lacked awareness—highlighting a critical gap in adolescent health education.

A key finding of the present study was that mothers were the most common source of information about menstrual hygiene, reported by 230 (46%) of participants. This was followed by elder sisters (21%), friends (13%), other sources (9.2%), and media (1%). These findings align closely with those of a study conducted in Nepal, where mothers were also identified as the major source of knowledge (61%), followed by sisters (12%) and friends (9.8%) [17]. While mothers and sisters play a pivotal role in the transmission of knowledge, they may not always provide accurate or comprehensive information. Therefore, it is imperative to implement structured awareness initiatives in the community to ensure that

adolescent girls receive reliable, age-appropriate education about menstruation. In another study, 74.3% of respondents also cited mothers as their primary source of menstrual information [18].

In terms of menstrual hygiene practices, the present study revealed that only 43% of girls used disposable sanitary pads, while 45% relied on cloth—a practice that can increase the risk of infections if proper hygiene is not maintained. These results are somewhat comparable to findings from an Indian study, where 61% of participants reported using absorbent pads, with affordability and accessibility as key barriers for others [18].

Further analysis of our data showed that the reasons for not using sanitary pads were multifactorial: unaffordability (7.2%), discomfort while using pads (12.8%), difficulty in disposal (6.4%), religious beliefs (14.8%), and feelings of embarrassment when purchasing pads (23.6%). A similar study conducted in the Tanahun district of Nepal revealed that 45% of the girls could not afford sanitary pads, while another 45% reported disposal-related challenges as major barriers to their usage [17]. These results underscore the socio-cultural and economic limitations that impact menstrual hygiene practices.

The study also identified several social restrictions faced by girls during menstruation. For example, 28 (5.6%) girls reported being restricted from touching food, 63 (12.62%) from doing household chores, and 55 (11.02%) from playing or participating in physical activities. A significant number—268 (53.7%)—experienced various other restrictions rooted in cultural beliefs. Furthermore, 236 (47.25%) girls reported missing activities such as school, sports, or social gatherings during menstruation. These findings are consistent with a study conducted in Pakistan, which found that girls still face substantial physical and social constraints during their menstrual periods due to cultural taboos and misinformation [20]. Similarly, a study in Lahore reported that only 64.8% of girls used sanitary pads, and 72.25% had to miss school during their menstrual cycle [19].

The overarching goal of this study was to explore how socio-demographic variables influence knowledge and practices surrounding menstruation among school-going adolescents. The findings reflect that insufficient awareness may contribute to poor menstrual hygiene and perpetuate cultural misconceptions, ultimately affecting girls' health, education, and social well-being.

## Limitations

Only four public sector schools in the Peshawar district were included, and convenience sampling was used, which limits the generalizability of the findings. A more comprehensive study that includes rural and peri-urban areas is recommended to better understand regional disparities and to develop targeted interventions.

## Conclusion

The study highlights a substantial gap in reliable and accurate information on menstrual hygiene management among adolescent girls in public sector schools. This lack of awareness contributes to the persistence of unhealthy practices and misconceptions. Therefore, it is crucial to introduce menstrual hygiene education as part of the school curriculum and implement targeted awareness programs within the community. Such interventions would empower adolescent girls to adopt safe and hygienic menstrual practices, thereby promoting their physical and emotional well-being.

## Authors' Contributions

All authors meet the ICMJE criteria for authorship. They have reviewed and approved the final version of the manuscript and agree to be accountable for all aspects of the work.

Author 1: Substantial contribution to conception and design, drafting the manuscript, final approval, agreed to be accountable for all the work.
Author 2: Substantial contribution to conception and design, data acquisition, drafting the manuscript, final approval, agreed to be accountable for all the work.

Author 3: Analysis and interpretation of data, drafting the manuscript, final approval, agreed to be accountable for all the work.
Author 4: Analysis and interpretation of data, critical revision, final approval, agreed to be accountable for all the work.
Author 5: Substantial contribution to conception and design, drafting the manuscript, final approval, agreed to be accountable for all the work.
Author 6: Substantial contribution to conception and design, data acquisition, drafting the manuscript, final approval, agreed to be accountable for all the work.

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