

EMPOWERING ADOLESCENTS: EXPLORING MENSTRUAL HYGIENE AWARENESS AND PRACTICES AMONG SCHOOLGIRLS IN PESHAWAR- A CROSS-SECTIONAL STUDY

Uzma Mahmood, Hifsa, Beenish Qazi, Izaz Akhtar, Sadiq Ur Rehman, Muhammad Asim, Parsa Mustafa, Hafiza Sabahat Iqbal, Kashan Zafar, Muhammad Junaid

Final year MBBS, Khyber Medical College, Peshawar - Pakistan

ABSTRACT

Objectives: To assess the awareness and practices relating to menstrual hygiene among school-going adolescent girls of Peshawar, Pakistan

Materials and methods: A cross-sectional institution-based research was employed in Hayatabad, Peshawar, from February 2022 to July 2022. The selection of the four schools was done through a multi-stage sampling technique. Data was collected from 200 adolescent girls through self-administered questionnaires and statistical analysis was done using SPSS. Descriptive data was expressed in the form of mean \pm SD, frequencies, and percentages. A chi-square test was applied to find the association between sociodemographic factors and menstrual hygiene practices. A p-value of <0.05 was considered significant.

Results: Out of 200 girls who took part in the study, 120 (60%) exhibited inadequate awareness of menstrual hygiene, while 86 (43%) demonstrated poor hygiene practices during menstruation. 115 (57.5%) knew that hormones were the cause of menstruation. The most frequently used menstrual product was a disposable sanitary pad followed by cloth. The menstrual hygiene practices were significantly associated with the education status of the mother ($p= 0.022$) and the occupation of the father ($p= 0.047$).

Conclusion: The results of our study revealed a concerning trend: approximately two-thirds of the respondents exhibited inadequate awareness, while one-third demonstrated suboptimal hygiene practices related to menstruation. This demonstrates the need to make efforts to educate adolescent girls about more hygienic and safer methods of managing menstruation and such products are made more affordable and accessible to them.

Keywords: Awareness, practices, menstrual hygiene, adolescent girls, menstruation

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INTRODUCTION

The menstrual cycle is a natural physiological process occurring in the females which requires proper awareness and management. Menstrual hygiene management (MHM) has been defined by UNICEF as "Women and adolescent girls are using a clean menstrual management material to absorb or collect menstrual blood, that can be changed in privacy as often as necessary for the duration of a menstrual period, using the soap and water for washing the body as required and having access to facilities to dispose of used menstrual management mate-

rials".¹ To cope with menstruation, different strategies are adopted by young girls and women throughout the world depending upon their socioeconomic status, available resources, education and knowledge, personal preferences, beliefs, and traditions.

Menstruation marks the beginning of a woman's reproductive years where teenage girls are usually unprepared or uneducated about it, and the primary reason for this is that there is a prevalent social norm against addressing matters connected to women's reproductive health, including menstruation.² A community-based investigation in West Bengal, India showed that 67.5% of the participants had information regarding MHM before the onset of their menses while a study in southern Ethiopia has shown that the percentage of such respondents was 72.3%.^{3,4} The U-report poll conducted by the UNICEF on MHM among young girls and women in Pakistan in 2017 showed that 49% did not know about menstruation preceding the menarche and 44% of the adolescents lacked access to fundamental menstrual hygiene facili-

Correspondence

Uzma Mahmood

Final year MBBS Student, Khyber Medical College, Peshawar - Pakistan

Cell: +92-334-9496902

Email: uzmamahmood88@yahoo.com

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ties at home, work, or school.² Studies in Pakistan have shown that the commonest source of information for girls regarding menstruation was the mother, preceding their menarche.^{5,6} Several studies have explored the effects of the educational and financial status of parents on the hygiene practices of young girls.^{5,7} A study in Pakistan has shown a significant association between mothers' education level and menstrual hygiene practices of young girls (p -value=0.001).⁵

The usage of absorbent varied depending on the settings, with commercial pads frequently used in urban areas while cloths were used in rural areas, according to a meta-analysis of MHM conducted on adolescents.⁸ Cloth was used less commonly in school-going girls ($pp=37\%$) as compared to the general community ($pp=68\%$). According to one study, 39.9% of the high school girls in Western Ethiopia had good practice on menstrual hygiene with two-thirds using commercially available sanitary pads as absorbent material with half of them changing their pads thrice or more per day.⁷ In a study conducted in Pakistan, the majority reported changing the absorbent pad/cloth twice a day. The percentage of those who didn't prefer to take a bath during the menstrual period was 58.2%, but the majority practiced cleanliness of their genitalia with 57.6% using only water for this purpose.⁶ A study in Peshawar has shown that sanitary pads were used by 77% of the respondents while 20% used cloth as an absorbent.⁹

Unhealthy menstrual practices have many medical implications like different urinary and reproductive tract infections such as bacterial vaginosis and Candida infections.¹⁰ The importance of menstrual hygiene management increases even further for school-going girls because of a lack of adequate guidance and facilities at school.¹¹ Hence, this study aimed to contribute to the emerging literature by surveying school-going adolescent girls of Peshawar, Pakistan to determine their level of awareness and practices about menstrual hygiene, as well as to investigate the relationship between various sociodemographic characteristics and menstrual hygiene practices.

MATERIALS AND METHODS

This cross-sectional study was conducted on the adolescents who were currently enrolled in the schools of Hayatabad, which is a suburb on the western outskirts of Peshawar, the capital of Khyber Pakhtunkhwa province of Pakistan from February 2022 to July 2022. The selection of these four schools was accomplished by the use of a multi-stage sampling procedure. 50 students from each school were recruited through systematic random sampling.

The study participants of this research were adolescent girls 14- to 18 years old who were enrolled in either public or private institutions of the above-mentioned

study area. However, those adolescent girls who had not yet undergone menarche, who were absent on the day of data collection, and who declined to take part in the study were excluded. The required sample size was calculated using open epi version 3.01. The prevalence was taken to be 15.6% and taking the confidence limit was $\pm 5\%$.¹² The required sample size came out to be about 200. After obtaining informed consent, 50 eligible students were recruited from each institute using systematic random sampling from the class registers of 9th to 12th grades.

Data was collected through a pre-tested self-administered questionnaire with close-ended questions. The questionnaire was translated from English into Urdu by a linguistics expert to be easily understood by the students. The accuracy of the translation and their meanings was made certain by translating it back into English. The questionnaire comprised four domains i.e., socio-demographic profile, questions related to the respondents' menstrual history, and questions related to the awareness and practices about MHM. The questionnaires were adapted with a few modifications from relevant literature.^{3,4,6,7} The socio-demographic profile was evaluated using personal information (age, class, parents' education, and occupation). Education status was classified as being literate (able to read and write) and illiterate (unable to read and write). Occupation status was classified as blue-collar workers (engaged in manual labor) and white-collar workers (working in an office setting). The respondent's menstrual history was determined by questions about age at menarche, duration of menstrual bleeding, and regularity of cycles.

The menstrual hygiene awareness and practices score was calculated from 6 awareness-related and 8 practice-specific questions. 1 point was given to correct responses and 0 points for other responses. In light of this, the cutoffs for awareness and practices were chosen based on the mean score of 3.13 ± 1.42 and 3.7 ± 1.2 respectively. A score of 4-6 points was good awareness while 0-3 points was poor awareness. Those who scored between 4 and 8 points were considered to have good hygiene practices, whereas those who scored between 0 and 3 points were considered to have poor hygiene practices.

The process of data collection was completed in two months i.e., April 2022 to May 2022. The questionnaires were distributed among the students on the assigned date. 15-20 minutes were given for filling out the questionnaires after which the questionnaires were collected by the researchers on the same day. Any incompletely filled questionnaires were returned for completion. Every student was given a unique ID number.

The data was analyzed with SPSS software version 22.0 and results were expressed in the form of mean, frequency, and percentage. A chi-square test was applied

to find an association between sociodemographic aspects and menstrual hygiene practices. A p-value of <0.05 was considered significant. After the completion of data entry, they were checked for any missing values. Luckily, no missing values were reported.

Several steps were taken to comply with the ethical considerations of research. The study protocol was reviewed and approval for data collection was granted by the institutional research and ethics board (IREB) of Khyber Medical College, Peshawar. Informed verbal consent was taken before data collection and confidentiality of the respondents was maintained throughout the study.

RESULTS

All 200 of the respondents laid in the range of 14-18 years of age out of which the majority (71, 35.5%) were aged 16 years. The mean age of the respondents was 16.53 ± 1.03 years. The menarche was reported at 12.82 ± 1.103 years. The majority of the fathers i.e., 187 (93.5%) were literate while among the mothers of the respondents, only 100 (50%) were literate. Regarding the occupation of fathers, 136 (68%) were white-collar workers, 40 (20%) were blue-collar workers and 24 (12%) were jobless. The majority i.e., 179 (89.5%) of the mothers were housewives, 16 (8%) were white-collar workers and 5 (2.5%) were blue-collar workers.

One-hundred and one (50.5%) respondents were aware of menstrual hygiene before the occurrence of their first periods, in which mothers, elder sisters, friends, relatives, and media were the sources of information in 45 (44.5%), 23 (22.8%), 22 (21.8%), 8 (7.9%) and 3 (3.0%) girls respectively as compared to 99 (49.5%) who were unaware about it. Regarding the cause of menstruation, 115 (57.5%) knew it was due to hormonal changes in the body, 71 (35.5%) did not know the cause, 13 (6.5%) believed it was a curse of God while 1 respondent (0.5%) thought it was a disease. About the organ of origin of menstrual blood, 88 (44%) did not know the answer to it, 54 (27%) thought it was from the vagina, 47 (23.5%) knew it was from the uterus, 10 (5%) thought it was from the bladder while one respondent (0.5%) gave some other option (Table 1).

Disposable sanitary pads were the most used absorbent during menstruation (141, 70.5%) out of whom 35 respondents also used cloth on some occasions. 51 (25.5%) used only cloth/towel, 6 (3%) used some form of reusable sanitary pads, 1 respondent (0.5%) used tissue paper alone and 1 (0.5%) used only underwear. Of those who used cloth or reusable sanitary pads (92, 46%), the majority washed them with soap and water and dried them in sunlight (table 2). The most common reason for preferring disposable sanitary pads was "its ease of use" and the most common reason for preferring cloth/towel was its "ease of availability". 129 (64.5%) of the respondents

didn't take a bath during menstruation. When asked about cleaning their genital area during menstruation, 116 respondents (58%) washed with water only, 46 (23%) with tissue paper, 26 (13%) with water and soap/ antiseptic solution, 9 (4.5%) did not clean while 3 (1.5%) used some other method. 74 (37%) respondents changed the absorbent thrice or more than thrice a day, 75 (37.5%) changed twice a day and 51 (25.5%) changed only once a day. Disposal of used sanitary pads was mostly in the dustbins (table 2).

A significant association was found between menstrual hygiene practices and mothers' education (p-value = 0.022) and the occupation of the father (p-value = 0.047) (table 3). There was no substantial association with the age of the respondents (p-value = 0.320), class of the respondents (p-value = 0.568), and attending public or private institutes (p-value = 0.571).

DISCUSSION

Our results showed that 50.5% of the respondents were aware of menstruation before their menarche which aligns with another study in Peshawar where 45.7% of the subjects exhibited pre-menarche awareness.⁹ This suggests that a considerable portion of girls may have lacked access to information or resources that could have helped them understand their menstrual health in a better way.

In our study, most girls were informed by their mothers, consistent with other studies.^{4,5,8} This is because mothers are the nearest family members with whom girls can easily share their problems. Parallel to our results, other studies conducted in western Ethiopia, Quetta, and Peshawar, showed that the majority of the respondents knew that hormones were the cause of menstrual bleeding.^{6,7,9}

Our finding about the type of menstrual hygiene material used aligns with several other studies in which commercially made sanitary pads were the most used absorbent while other alternatives were old cloths, towels, cotton wool, or tissue.^{4,6,7,9,14} Nevertheless, in some studies, cloth has been reported to be more commonly used than commercially made sanitary pads.^{3,15-17} According to our study, the majority of the respondents didn't take a bath during menstruation which might be ascribed to different cultural beliefs. Overall, 57% of the girls had good menstrual hygiene practices which is contrary to other studies in which only 40% of the respondents had good menstrual hygiene practices.^{4,7}

We found in our study that menstrual hygiene practices were significantly associated with the education of the mother and the occupation of the father. This is because literate mothers can better educate their daughters about how to manage their menstruation safely and comfortably. Our findings are similar to other studies which displayed a significant positive association between good knowledge and practices of menstruation and the educa-

Table 1: Awareness of school-going adolescent girls regarding menstrual hygiene

Awareness of school-going adolescent girls regarding menstrual hygiene	Correct response (1 point)	Number, % (N=200)
Awareness about menstruation before menarche	Yes	101, 50.5%
Education level of the person who informed	Literate	75, 37.5%
Cause of menstruation	Hormones	115, 57.5%
Organ of origin of menstrual blood	Uterus	47, 23.5%
Noticing physical changes in the body	Yes	104, 52%
Awareness about good diet	Yes	183, 91.5%
Awareness summary	Good awareness= 80 (40%) Poor awareness= 120 (60%)	

Table 2: Practices of school-going adolescent girls regarding menstrual hygiene

Practices of school-going adolescent girls regarding menstrual hygiene	Correct response (1 point)	Number, % (N=200)
Type of menstrual hygiene material used	Disposable sanitary pads	141, 70.5%
Frequency of changing the absorbent material	Thrice or more than thrice a day	74, 37%
Washing and reusing the absorbent cloth	With soap and water	77, 38.5%
Method of drying the absorbent cloth	In the sunlight	64, 32%
Taking a bath during menstruation	Yes	71, 35.5%
Cleaning genital area during menstruation	Yes, with soap and water	26, 13%
Storing unused/ reusable menstrual hygiene materials	Cupboard	140, 70%
Disposing of the used menstrual hygiene material	Dustbins	155, 77.5%
Practices summary	Good practices=114 (57%) Poor practices= 86 (43%)	

Table 3: Association between sociodemographic factors and menstrual hygiene practices

Characteristics		Menstrual hygiene practices		P value
		Good practices	Poor practices	
Education of mother	Literate	65 (65.0%)	35 (35.0%)	0.022
	Illiterate	49 (49.0%)	51 (51.0%)	
Occupation of father	White collar worker	84 (61.8%)	52 (38.2%)	0.047
	Blue-collar worker/ jobless	30 (46.9%)	34 (53.1%)	

tion of the mother.^{5,7} Similarly, the occupation of the father affects the financial position of the family which has an impact on the affordability of safer hygiene products.

CONCLUSION

In light of our findings, a considerable percentage of school-going girls lagged regarding the awareness and practices of menstrual hygiene which makes it evident that implementing comprehensive menstrual hygiene education programs in schools is crucial to equip adolescent girls with knowledge and promote the adoption of hygienic and safer methods for managing menstruation. Menstrual hygiene products should be made accessible and affordable to make menstruation a comfortable experience for young girls. Mothers can play a pivotal role by providing correct and age-appropriate information about menstruation and addressing any questions or concerns the girls may have. Replication of a larger sample size and different ethnic groups along with qualitative studies should be conducted to explore the barriers towards inadequate menstrual hygiene management and efforts should be made to overcome those barriers.

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AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under

Mahmood U: Drafting the manuscript, analysis and interpretation of data

Hifsa: Analysis and interpretation of data

Qazi B: Analysis and interpretation of data

Akhtar I: Critical revision of the draft

Rehman SU: Acquisition of data

Asim M: Acquisition of data

Mustafa P: Acquisition of data

Iqbal HS: Drafting the manuscript

Zafar K: Critical revision of the draft

Junaid M: Critical revision of the draft

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.



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