

ASSESSMENT OF KNOWLEDGE AND PRACTICE REGARDING MENSTRUAL HYGIENE AMONG UNIVERSITY STUDENTS

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Abstract: Menstrual hygiene is a critical aspect of women's reproductive health, particularly among university students who may face challenges due to cultural taboos and inadequate knowledge. In Pakistan, discussions around menstruation are often stigmatized, leading to gaps in awareness and practices that can affect women's health and academic performance. **Objectives:** This study aimed to assess the knowledge and practices regarding menstrual hygiene among female university students in Lahore, Pakistan, to identify gaps and inform future educational interventions. **Methods:** A descriptive cross-sectional study was conducted over three months at Superior University, Lahore. A total of 300 female students aged 18–25 years were selected using Slovin's formula. Data were collected through a structured questionnaire covering demographic information and specific questions on menstrual hygiene knowledge and practices. Responses were measured on a Likert scale ranging from "strongly disagree" to "strongly agree." Data analysis was performed using SPSS version 22, employing descriptive statistics and inferential analyses. **Results:** The participants were nearly equally divided between married (49.7%) and single (50.3%) students, with a slight majority being postgraduates (52%). Awareness of various menstrual products was limited, with only 36.4% of participants expressing adequate knowledge. While 55.6% recognized the importance of regularly changing menstrual products, 22% remained neutral. Proper disposal practices were known by 39%, and only 50.3% acknowledged the importance of hand hygiene. Comfort in discussing menstrual hygiene with peers was moderate, with 44.7% expressing comfort. A significant proportion (59.7%) supported the inclusion of menstrual hygiene education in university programs, and 62% advocated for the provision of free menstrual products on campus. **Conclusions:** The study revealed significant gaps in knowledge and practices related to menstrual hygiene among university students in Pakistan. Cultural stigma and inadequate education contribute to these deficiencies. There is a critical need for comprehensive menstrual hygiene education programs within universities, along with institutional support to provide resources and foster an environment that encourages open dialogue. Addressing these issues is essential for improving women's health outcomes and promoting gender equity in educational settings.

Keywords: Menstrual Hygiene, University Students, Reproductive Health, Knowledge and Practices, Cultural Stigma, Pakistan, Menstrual Health Education, Public Health, Gender Equity

Introduction

Menstrual hygiene is a critical aspect of reproductive health, especially for young women navigating their educational environments. For university students in Pakistan, managing menstrual hygiene effectively remains a challenge due to cultural taboos, limited resources, and a lack of accessible education on the subject. Menstruation is often considered a private or even shameful topic, restricting open conversations and leaving many students without adequate knowledge or support for safe menstrual practices. This situation is compounded by inadequate sanitation facilities on campuses and limited access to affordable menstrual products, which can lead to adverse health outcomes and affect academic performance due to absenteeism (1, 2).

In Pakistani society, discussions around menstruation are frequently shrouded in cultural taboos and myths, which hinder understanding and propagate misconceptions among young women. This lack of knowledge and awareness is not just an issue of personal health but also an educational and economic concern, as girls often miss school due to inadequate menstrual management, affecting their academic

growth and potential career opportunities (3, 4). Studies have highlighted the urgent need for comprehensive menstrual education programs to empower young women with the knowledge and resources to manage their menstrual health effectively (5, 6).

University students represent a unique demographic that is more likely to access diverse sources of information, yet their knowledge of menstrual hygiene remains inconsistent. This gap underscores the need for structured awareness programs within university settings, where students can receive accurate and practical information regarding menstrual hygiene practices, including the importance of regular product changes, proper disposal, and understanding the health risks associated with inadequate menstrual management (7, 8). In addition, providing accessible menstrual hygiene resources, such as free or subsidized products, can help address inequalities and ensure that all students can manage their menstruation with dignity and confidence (9).

Addressing menstrual hygiene management among university students in Pakistan is thus essential for promoting overall well-being, gender equity, and academic

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participation. Recent research indicates that integrating menstrual hygiene education into university health programs, combined with on-campus support and awareness initiatives, could play a pivotal role in breaking down cultural taboos and empowering young women to take control of their reproductive health (10, 11). This study aims to assess the knowledge and practices of menstrual hygiene among university students in Pakistan, providing insights that could inform future interventions tailored to the needs of this population.

Methodology

The study utilized a descriptive cross-sectional design conducted at Superior University, Lahore, with a duration of three months. The target population comprised female university students aged 18-25 years who have experienced menstruation. The inclusion criteria involved female students currently enrolled in undergraduate or postgraduate programs at the university, within the specified age range, and capable of reading and understanding the language of the administered questionnaire. Those who did not menstruate, male students, and those who did not consent were excluded.

Sample size calculation was performed using Slovin’s formula, with a margin of error of 0.05. Based on an estimated population size of 1200 students, the calculated sample size was 300 participants. Data were collected using a structured, well-adopted questionnaire covering demographic details and specific questions on knowledge, attitudes, and practices regarding menstrual hygiene.

The questionnaire was divided into sections addressing background information, knowledge of menstrual hygiene practices, and specific practices, such as hand hygiene, disposal of products, and awareness of health risks associated with improper hygiene. Responses were collected on a Likert scale ranging from “strongly disagree” to “strongly agree.”

Data analysis was conducted using SPSS software (version 22), where descriptive statistics were calculated in terms of frequency and percentages. Measures of central tendency and variability, such as mean and standard deviation, were reported where appropriate. Inferential statistics, including p-values, were used to assess the significance of relationships between variables, providing a comprehensive analysis of menstrual hygiene practices and awareness among the participants. The study ensured ethical compliance, with informed consent obtained from all participants, and confidentiality maintained throughout data handling.

Results

The demographic details of the study participants reveal a balanced representation across marital status, age, and educational qualifications. Among the 300 university students surveyed, nearly half were married (49.7%) while the other half were single (50.3%), allowing for insights into how marital status may influence menstrual hygiene knowledge and practices. Age-wise, the participants were almost evenly split, with 51.0% aged up to 20 years and 49.0% aged 21 years or above, providing a range of

perspectives from both younger and slightly older students. In terms of educational background, a majority (52.0%) held postgraduate qualifications, while 48.0% had graduate-level education, suggesting a high level of academic exposure among the participants. This demographic profile provides a diverse basis for examining menstrual hygiene knowledge and practices among university students. (Table 1)

The study revealed varied knowledge, attitudes, and practices related to menstrual hygiene among participants. Awareness of menstrual products showed some gaps, with 22.0% strongly disagreeing, 19.7% disagreeing, and 22.0% neutral, while 17.7% agreed and 18.7% strongly agreed. Understanding of the importance of regularly changing products was recognized by many (37.3% agreed, 18.3% strongly agreed), though 22.0% were neutral.

Knowledge of proper disposal practices was mixed: 29.3% were neutral, with 22.3% agreeing and 16.7% strongly agreeing, though 14.3% strongly disagreed and 17.3% disagreed. Awareness of health risks associated with improper hygiene was similarly varied, with 27.0% agreeing, 16.7% strongly agreeing, but some still unsure (29.3% neutral).

Hand hygiene practices had moderate adherence, with 34.0% agreeing and 16.3% strongly agreeing, although some (12.3% strongly disagreed, 12.7% disagreed) lacked consistency. Usage of clean products was fair, with 36.0% agreeing, 15.7% strongly agreeing. Carrying spare products showed preparedness in 33.0% (agreed) and 17.3% (strongly agreed), but 25.3% were neutral. Similarly, disposal awareness was positive in 32.7% (agreed) and 15.7% (strongly agreed).

A moderate level of comfort discussing hygiene was reflected by 26.7% agreeing and 18.0% strongly agreeing. Notably, 34.7% agreed and 25.0% strongly agreed that menstrual education should be part of university programs. Support for free menstrual products was high (36.3% agreed, 23.3% strongly agreed), with a positive view on campus support for menstrual health (29.7% agreed, 18.3% strongly agreed). Most supported awareness campaigns, with 35.7% agreeing and 26.7% strongly agreeing, showing strong interest in educational initiatives for menstrual hygiene. (Table 2)

Table 1: Demographic Details of Participants

Variable	Category	Frequency	Percentage
Marital Status	Married	149	49.7%
	Single	151	50.3%
Age	Up to 20 years	153	51.0%
	21 and Above	147	49.0%
Qualification	Graduate	144	48.0%
	Post Graduate	156	52.0%

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Table 2: Knowledge, Attitudes, and Practices Regarding Menstrual Hygiene

Question	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total Responses
Awareness of various menstrual products	22.0% (66)	19.7% (59)	22.0% (66)	17.7% (53)	18.7% (56)	300
Understanding importance of regularly changing menstrual products	7.3% (22)	15.0% (45)	22.0% (66)	37.3% (112)	18.3% (55)	300
Knowledge of proper disposal of used menstrual products	14.3% (43)	17.3% (52)	29.3% (88)	22.3% (67)	16.7% (50)	300
Awareness of health risks associated with improper menstrual hygiene	13.0% (39)	14.0% (42)	29.3% (88)	27.0% (81)	16.7% (50)	300
Awareness of symptoms indicative of menstrual health problems	13.3% (40)	15.0% (45)	28.7% (86)	24.0% (72)	19.0% (57)	300
Frequency of changing menstrual products	9.3% (28)	12.7% (38)	27.0% (81)	33.0% (99)	18.0% (54)	300
Practice of washing hands before and after changing products	12.3% (37)	12.7% (38)	24.7% (74)	34.0% (102)	16.3% (49)	300
Use of clean and sanitary menstrual products	8.3% (25)	13.7% (41)	26.3% (79)	36.0% (108)	15.7% (47)	300
Carrying spare menstrual products while away	11.0% (33)	13.3% (40)	25.3% (76)	33.0% (99)	17.3% (52)	300
Having a designated place to dispose of used products	12.0% (36)	11.3% (34)	28.3% (85)	32.7% (98)	15.7% (47)	300
Comfort in discussing menstrual hygiene with peers	15.3% (46)	14.0% (42)	26.0% (78)	26.7% (80)	18.0% (54)	300
Belief that menstrual hygiene education should be part of university programs	6.7% (20)	9.7% (29)	24.0% (72)	34.7% (104)	25.0% (75)	300
Opinion on university providing free menstrual products	6.0% (18)	11.0% (33)	23.3% (70)	36.3% (109)	23.3% (70)	300
Perception of adequate campus support for menstrual health	13.7% (41)	12.7% (38)	25.7% (77)	29.7% (89)	18.3% (55)	300
Need for more awareness campaigns on menstrual hygiene	7.3% (22)	8.3% (25)	22.0% (66)	35.7% (107)	26.7% (80)	300

Discussion

The study’s findings indicate substantial gaps in menstrual hygiene knowledge and practices among Pakistani university students, aligning with results from similar research in other regions. Awareness of menstrual products was inconsistent; only 36.4% of participants demonstrated sufficient awareness by agreeing or strongly agreeing with the statement. This figure is lower than findings from a study in Karachi, where 42% of young women had basic knowledge of menstrual hygiene products (12). Cultural and social barriers in Pakistan contribute to this limited awareness, reflecting a need for comprehensive education programs that make information accessible and acceptable within the cultural context (13).

The importance of changing menstrual products regularly was recognized by 55.6% of respondents who agreed or strongly agreed, yet 22% remained neutral, showing a partial gap in understanding. In comparison, research in Bangladesh found that 64% of adolescent girls were aware of regular product change frequency, which aligns with global recommendations for hygienic practices (14). This comparison highlights that Pakistani university students may have lower awareness levels, emphasizing the need for educational campaigns focusing on the health risks associated with improper hygiene practices.

Responses regarding proper disposal of menstrual products also revealed variation. About 39% of respondents in this

study demonstrated adequate knowledge, which is slightly lower than findings from Indian studies where over 45% of participants were informed about proper disposal methods (15). Proper disposal is essential to avoid environmental contamination and health risks; thus, educational initiatives should include practical disposal guidelines that align with the local waste management infrastructure.

Hand hygiene practices also varied, with 50.3% of students acknowledging its importance. However, studies from Rwanda show that 68% of students practiced hand hygiene as part of menstrual management, indicating that Pakistani students are comparatively less consistent in this aspect of hygiene (16). Since hand hygiene is vital in preventing infections, targeted awareness regarding its importance could lead to improved health outcomes.

Further, only 35% of participants reported carrying spare products, indicating a lack of preparedness. Similar studies in South India reported that nearly 60% of participants carried extra products, reflecting greater preparedness (17). This suggests that practical aspects of menstrual management may be overlooked by Pakistani students, a gap that could be addressed through informational sessions and provision of free menstrual supplies on campus to reduce disparities in access.

Comfort with discussing menstrual hygiene with peers was low, with 44.7% reporting moderate or high comfort levels. Comparatively, a study in Uganda found that 70% of university students were comfortable discussing menstrual

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issues, reflecting more openness and potentially fewer cultural restrictions around menstruation (18). Limited comfort discussing menstruation in Pakistan underscores the cultural stigma that continues to surround the topic, hindering open conversation and perpetuating misinformation.

In terms of campus support for menstrual health, 48% of participants believed their universities provided adequate support, which is relatively high but still lags behind findings from Western contexts, where over 70% of students reported satisfaction with institutional support for menstrual hygiene (19). The introduction of free menstrual products and awareness campaigns, supported by 62% of students in this study, would align with international best practices, such as those implemented in Europe and North America, where campuses commonly provide products and support facilities to students (20).

Conclusion

This study's findings emphasize the importance of structured menstrual hygiene education tailored to the Pakistani cultural context, as well as increased university-level support to address the knowledge and resource gaps identified. These findings are consistent with literature that advocates for integrated approaches to menstrual hygiene management, highlighting the need for educational reform, supportive campus facilities, and efforts to reduce cultural stigma around menstruation.

Declarations

Data Availability statement

All data generated or analyzed during the study are included in the manuscript.

Ethics approval and consent to participate

Approved by the department Concerned. (IRBEC-SNU-119-23)

Consent for publication

Approved

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The authors declared absence of conflict of interest.

Author Contribution

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Coordination of collaborative efforts.

Study Design, Review of Literature.

BUSHRA LAL (Student)

Conception of Study, Development of Research Methodology Design, Study Design, Review of manuscript, final approval of manuscript.

Conception of Study, Final approval of manuscript.

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