

Original Research Article

DOI: <https://dx.doi.org/10.18203/2394-6040.ijcmph20260300>

Assessment of menstrual health product knowledge and education among medical professionals: a cross-sectional study

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Received: 02 September 2025

Revised: 02 January 2026

Accepted: 09 January 2026

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ABSTRACT

Background: Menstrual health education is an essential component of reproductive health training for medical professionals; however, it remains inadequately addressed in medical curricula. This study aimed to assess the knowledge and awareness of menstrual health products and sources of education among medical professionals in India.

Methods: A cross-sectional study was conducted using an online, questionnaire-based survey among medical students and postgraduate trainees across India from March 2024 to August 2024. The questionnaire assessed demographic details, knowledge and awareness of menstrual health products, sources of education, and perceived barriers to menstrual health education. Data were analysed using SPSS version 22. Descriptive statistics were used to summarize the findings.

Results: A total of 136 participants completed the survey, of whom 93 (68.4%) were females and 43 (31.6%) were males. Formal menstrual hygiene education was reported by 97(71.3%) participants, most commonly received during school education (55.1%). Overall knowledge was self-rated as high (score 7-10) by 98(72%) participants. Awareness was highest for sanitary pads (95.6%), followed by menstrual cups (69.9%) and tampons (62.5%), while awareness of reusable cloth pads (55.1%) and period panties (44.1%) was lower. Only 66 (48.5%) participants reported full awareness of proper usage and disposal methods. The major barriers identified were lack of a formal curriculum (51.5%) and social taboos related to menstruation (47.8%).

Conclusions: Despite high perceived knowledge among medical professionals, significant gaps and barriers in menstrual health education persist. Strengthening formal curricular training and addressing stigma are essential to improve menstrual health competence among future healthcare providers.

Keywords: Health education, Medical professionals, Menstruation, Menstrual health, Menstrual hygiene products

INTRODUCTION

Menstrual health is a crucial aspect of women's overall health and well-being, yet it remains a topic often shrouded in stigma and misinformation.¹ As future healthcare providers, medical students play a pivotal role in disseminating accurate information and providing comprehensive care related to menstrual health. However, the extent of their knowledge about menstrual health

products and the adequacy of their education on this topic remain largely unexplored.²

Menstrual health products have evolved significantly over the years, encompassing a wide range of options from traditional pads and tampons to more recent innovations like menstrual cups and period underwear.³ Each product category comes with its own set of benefits, potential risks, and usage considerations. A thorough understanding of these products is essential for medical

professionals to provide informed guidance to their patients.⁴

Despite the importance of this knowledge, studies have shown that many healthcare providers, including physicians, lack comprehensive understanding of menstrual health products.⁵ This knowledge gap can be traced back to inadequacies in medical education curricula, which often overlook or minimally address topics related to menstrual health.⁶

The implications of this knowledge deficit are far-reaching. Inadequate understanding of menstrual health products among healthcare providers can lead to suboptimal patient care, perpetuation of myths and misconceptions, and missed opportunities for early detection of menstrual disorders.⁷ Moreover, it can contribute to the persistence of period poverty and menstrual stigma, which continue to affect millions of individuals worldwide.⁸

This study was done to evaluate the level of knowledge about various menstrual health products among medical students across different years of study and to assess the sources of information and education on menstrual health products available to medical students. By identifying knowledge gaps and educational shortcomings, we seek to inform curriculum development and improve the preparedness of future healthcare providers in addressing menstrual health concerns.⁹ By addressing these objectives, this study aimed to contribute to the growing body of literature on menstrual health education in medical settings and provide actionable insights for improving the training of future healthcare professionals.¹⁰

METHODS

This cross-sectional study employed a quantitative research design to assess menstrual health product knowledge and education among medical students in India. The study was conducted from March 2024 to August 2024.

The target population for this study consisted of medical students and professionals enrolled in various medical colleges across different parts of India. A convenience sampling method was utilized to recruit participants. The inclusion criteria encompassed all medical students, regardless of their year of study, who were willing to participate and provide informed consent. Students from other healthcare disciplines and those unwilling to participate were excluded from the study.

A structured questionnaire was developed based on a comprehensive literature review and expert consultation. The questionnaire was designed to capture demographic information, assess knowledge of menstrual health products, evaluate sources of education, and explore attitudes towards menstrual health discussions. The

survey instrument underwent pilot testing with a small group of medical students to ensure clarity, relevance, and ease of completion. Necessary modifications were made based on the feedback received during the pilot phase.

The finalized questionnaire was converted into an online format using Google Forms. This digital approach was chosen to facilitate wider distribution and ease of data collection, particularly given the geographical spread of the target population. The online survey link was disseminated through various channels, including official email lists of medical colleges, student associations, and professional networks. Additionally, social media platforms were utilized to increase the reach of the survey.

Participants were provided with a detailed information sheet at the beginning of the survey, explaining the study's purpose, voluntary nature of participation, and assurance of anonymity. Informed consent was obtained electronically before participants could proceed with the questionnaire. The survey remained open for responses for the entire six-month study period, with periodic reminders sent to encourage participation.

Upon completion of the data collection phase, responses from the Google Form were exported into excel sheet and analysed using SPSS version 22. Data cleaning was performed to identify and handle any missing or inconsistent entries. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were calculated to summarize the demographic characteristics of the participants and their responses to knowledge-based questions.

RESULTS

The study involved 136 participants, with the majority i.e. 97 (71.3%), were aged between 21-30 years. Female participants represented 68.4% (93) of the sample, while males accounted for 31.6% (43). The study population comprised both undergraduate 82 (60.3%) and postgraduates comprising 54 (39.7%) students in medical education (Table 1).

Table 1: Socio-demographic distribution of study participants.

Variable	Frequency	Percentage
Age in years	<20	22
	21-25	53
	26-30	44
	>30	17
Gender	Male	31.6
	Female	68.4
Year of study	Undergraduate	60.3
	Postgraduate	39.7

Regarding menstrual health education, 97 (71.3%) participants reported receiving formal education on menstrual hygiene. The primary source of this education was school 75 (55.1%), followed by undergraduate studies 21 (15.4%). When asked to rate their overall knowledge on a scale from 1 to 10, the majority 98 (72%) placed themselves in the 7-10 range, indicating a high level of perceived knowledge. However, 33 (24.3%) rated their knowledge in the mid-range (4-6), suggesting room for improvement (Table 2).

Table 2: Knowledge and education on menstrual health products (n=136).

Question	Frequency	Percentage
Received formal education on menstrual hygiene		
Yes	97	71.3
No	39	28.7
Source of education		
School	75	55.1
Undergraduation	21	15.4
Post-graduation	01	0.7
Overall knowledge on a scale from 1 to 10		
1-3	05	3.7
4-6	33	24.3
7-10	98	72
Familiar with the menstrual hygiene products		
Sanitary pads	130	95.6
Reusable cloth pads	75	55.1
Menstrual cups	95	69.9
Tampons	85	62.5
Period panties	60	44.1

Awareness of various menstrual hygiene products varied among participants. Sanitary pads were the most familiar product 130 (95.6%), followed by menstrual cups 95 (69.9%) and tampons 85 (62.5%). Reusable cloth pads and period panties were less known, with 75 (55.1%) and 60 (44.1%) familiarity respectively. Regarding proper usage and disposal methods, 66 (48.5%) claimed full awareness, while 57 (41.9%) reported partial awareness, and 13 (9.6%) admitted to having no awareness (Table 3).

Table 3: Awareness about menstrual hygiene products.

Question	Frequency	Percentage
Awareness regarding proper usage and disposal methods		
No	13	9.6
Partially aware	57	41.9
Yes	66	48.5
How often do you discuss menstrual health topic with your peers or colleagues		
Nil	8	5.9
1-3 days	31	22.8
4-6 days	54	39.7
7 to 10 days	43	31.6

The frequency at which people discuss about menstrual health and hygiene related issues in day-to-day life among peers and or colleagues varied, with the majority 97 (71.3%) discussing the topic for 4-10 days, while 31 (22.8%) discussed it for 1-3 days, and 8 (5.9%) reported no discussions at all (Table 3).

Several barriers to menstrual health education were identified. The most significant barrier was the lack of a formal curriculum among 70 (51.5%), followed by social taboos and stigma 65 (47.8%). Other notable barriers included lack of open communication 50 (36.8%), inadequate training for healthcare providers 40 (29.4%), and gender-based discomfort in discussions 30 (22.1%) (Table 4).

Table 4: Barriers to menstrual health education.

Barrier	Frequency	Percentage
Lack of formal curriculum	70	51.5
Social taboos and stigma	65	47.8
Lack of open communication	50	36.8
Inadequate training for healthcare providers	40	29.4
Gender-based discomfort in discussion	30	22.1

These results highlight the current state of menstrual health knowledge and education among medical students, revealing both progress and areas for improvement in addressing this important aspect of health education.

DISCUSSION

This cross-sectional study assessed menstrual health product knowledge and education among medical students, revealing both encouraging trends and areas for improvement in menstrual health awareness and education.

Our study population predominantly consisted of young adults aged 21-30 years (71.4%), with a higher proportion of female participants (68.4%). This gender distribution is consistent with the growing trend of women in medical education, as observed by Jefferson et al.¹¹ The majority of participants (71.3%) reported receiving formal education on menstrual hygiene, primarily from school (55.1%). This finding aligns with Chandra-Mouli and Patel's global review, which emphasized the importance of school-based menstrual health education.¹² However, the fact that 28.7% of medical students in our study had not received formal education on this topic highlights a persistent gap in comprehensive menstrual health education.

While 72% of participants rated their overall menstrual health knowledge as high (7-10 on a 10-point scale), this

self-assessment may not necessarily reflect accurate or comprehensive knowledge. This discrepancy between perceived and actual knowledge has been noted in other studies, such as Hussein et al, which found that healthcare providers often overestimated their menstrual health knowledge.¹³

The varying levels of familiarity with different menstrual hygiene products observed in our study reflect broader trends in product awareness and use. The high familiarity with sanitary pads (95.6%) is consistent with global usage patterns.⁸ However, the relatively lower awareness of reusable options like cloth pads (55.1%) and period panties (44.1%) suggests a need for more comprehensive education on sustainable menstrual products, as advocated by Van Eijk et al.¹⁴

Interestingly, awareness of menstrual cups (69.9%) was higher than expected, possibly indicating a growing trend among medical students. This contrasts with lower awareness levels found in general population studies, such as those reported by Jain et al, and may reflect the impact of medical education or greater exposure to diverse health topics.¹⁵

The frequency of menstrual health discussions among peers varied, with 71.3% of participants engaging in such conversations for 4-10 days. This openness to discussion is encouraging and aligns with calls for breaking menstrual taboos in healthcare settings, as emphasized by Hennegan et al.¹⁶ However, the 5.9% who reported no discussions at all indicate persistent communication barriers.

The identified barriers to menstrual health education, particularly the lack of a formal curriculum (51.5%) and social taboos (47.8%), echo findings from other studies. For instance, Thirunavukarasu's review of reproductive health education in India highlighted similar curricular gaps in reproductive health topics.¹⁷ The presence of social stigma as a significant barrier aligns with global patterns observed by Mason et al, underscoring the need for culturally sensitive approaches to menstrual health education.¹⁸ The reported inadequacy in healthcare provider training (29.4%) is particularly concerning for future medical professionals. This gap has been noted in other contexts, such as Yamamoto et al.'s study of Japanese healthcare providers, suggesting a global need for improved menstrual health training in medical curricula.¹⁹ Gender-based discomfort in discussions (22.1%) highlights the importance of creating inclusive educational environments. This finding resonates with Peranovic and Bentley's work on menstrual health narratives, which emphasized the need for engaging all genders in menstrual health discourse.²⁰

CONCLUSION

The present study demonstrates that while a majority of medical professionals report high perceived knowledge

regarding menstrual health products, important gaps remain in awareness of newer and sustainable products, proper usage, and disposal practices. The absence of structured menstrual health education within formal medical curricula and the persistence of social taboos continue to limit comprehensive understanding among future healthcare providers.

Recommendations

Integration of comprehensive menstrual health education into undergraduate and postgraduate medical curricula is strongly recommended. Structured training modules addressing menstrual hygiene products, sustainable alternatives, and safe disposal practices should be incorporated. Additionally, targeted interventions aimed at reducing menstrual stigma and promoting open discussions within medical institutions are essential to improve menstrual health literacy and patient counselling practices.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

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Cite this article as: Varsha G, Kamat AV.

Assessment of menstrual health product knowledge and education among medical professionals: a cross-sectional study. *Int J Community Med Public Health* 2026;13:738-42.