

Research Article

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Menstrual Myths and Women's Health: A cross-sectional study on menstrual myths and menstrual practices among educated women in an urban population

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Abstract: Introduction: In today's world, despite increasing education and awareness regarding menstruation, there is still a large group of people who are still misinformed about what changes take place during menstrual cycles in a woman's body, and how it should be managed. In the Indian subcontinent, there exist many myths surrounding menstruation that have been passed on from generation to generation. To effectively combat menstrual period-related misinformation, we must address menstrual hygiene management and societal myths simultaneously. **Method:** A cross-sectional observational study was conducted among female college students aged 20–24 years at NIIMS Medical College, Greater Noida, from September 2025 to March 2026. Data were collected using a structured electronic questionnaire administered under researcher supervision. The questionnaire assessed menstrual hygiene practices, general health concerns, menstrual symptoms, use and frequency of changing menstrual products, and beliefs related to menstrual myths. Of the 321 responses received, 299 complete responses were included for analysis after excluding 22 incomplete submissions. Participation was voluntary, informed consent was obtained, and anonymity and confidentiality were maintained. Data were analysed using descriptive statistics and presented as frequencies and percentages. **Results:** The preferred menstrual products used by the participants of the study were - menstrual pads only (95.98%), menstrual cup only (2.01%), period panties (.67%) and others using a combination of menstrual products. 52% of participants found it difficult to navigate daily life during menstruation. Only 15.8% of the participants did not believe in any common menstrual myths. Around 44.7% reported one or more genitourinary symptoms after periods ended. **Conclusions:** Good menstrual hygiene practices were associated with better menstrual understanding, improved management of menstrual concerns, and fewer self-reported genitourinary symptoms. However, menstrual myths continued to be prevalent despite awareness, potentially affecting daily life and well-being. Menstrual health education should therefore promote evidence-based hygiene practices and encourage open discussion to challenge persistent myths.

Keywords: Menstrual hygiene, Menstrual health, Menstrual myths, menstrual health in India, genitourinary symptoms.

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INTRODUCTION

Menstrual health is defined as a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity, in relation to the menstrual cycle [1]. Good menstrual hygiene management is when menstruators are using a clean menstrual management product to absorb or collect menstrual blood. Handwashing after changing, safe disposal of used products, convenient facilities to dispose of used menstrual management materials, and proper genital care before, during and after menstrual periods are few practices that are essential to achieve

good menstrual hygiene [2]. It includes good practices such as using sterile menstrual products, proper genital care, and using proper methods to dispose of used products. Poor menstrual hygiene may lead to health problems such as itching or rashes, bad odour, and sometimes major complications such as pelvic inflammatory disease and toxic shock syndrome [3]. People who menstruate may also face complications during conception and pregnancy due to poor menstrual hygiene [4]. Unaddressed menstrual hygiene is also said to hamper the achievement of some developmental milestones [2,5].

In India, there still remains a gap in knowledge regarding menstrual health and MHM (Menstrual Hygiene Management). The issue of menstrual hygiene is inadequately acknowledged and has not received proper attention. [6–8] Good hygienic practices, such as the use of sanitary pads and adequate washing of the genital areas, are essential during the menstrual period. Menstruators of reproductive age need access to clean and absorbent sanitary products which, in the long run, prevents infections [8,9].

In India, the concept of menstruation remains shrouded in myths and taboos, which leads to the adoption of wrong practices and restrictions like social and spiritual isolation during menstrual period. Many of these practices during menstruation have direct implications on reproductive health [10].

Studies in India have shown the proportion of menstruators using sanitary pads remains low. These studies centred around menstrual hygiene practices are focused on adolescent girls [3,6,11]. The present study was conducted in an urban Indian setting — Greater Noida, NCR. The objective was to study menstrual hygiene practices and menstrual myths among menstruators between the ages 20 to 24.

AIM

Investigate association between menstrual hygiene practices, prevailing myths and their consequent impact on physical health.

OBJECTIVES

- 1) To compare the practice of good menstrual hygiene with genitourinary symptoms.
- 2) To understand the impact of menstrual myths on genitourinary symptoms despite good menstrual hygiene practice, and their consequent impact on physical health and activities of daily living.

The findings of this study may provide valuable insights into the measures required to address existing gaps and improve overall health outcomes among the study population.

METHODOLOGY

This cross-sectional observational study was conducted among female undergraduate students aged 20–24 years enrolled at NIIMS Medical College, Greater Noida, over a period of six months, from September 2025 to March

2026. Data were collected using a structured, self-administered electronic questionnaire. The questionnaire was completed by participants under the direct supervision of the researchers to ensure that queries related to the questionnaire could be addressed and that responses were submitted appropriately. The tool consisted of two sections. The first section included questions on menstrual hygiene practices and general health concerns, such as the type of menstrual products used, frequency of changing menstrual products, and symptoms experienced during or after menstruation. The second section assessed commonly held menstrual myths, participants' reliance on such beliefs, and the extent to which they trusted or followed them. Most questions were in a multiple-choice format.

A total of 321 responses were received. After screening for completeness, 22 incomplete responses were excluded. Therefore, data from 299 participants were included in the final analysis.

Participation in the study was voluntary. Informed consent was obtained electronically from all participants before administration of the questionnaire. Confidentiality and anonymity were maintained throughout the study, and no personally identifiable information was included in the analysis. The collected data were compiled and analysed using descriptive statistical methods, with findings presented as frequencies and percentages.

RESULTS

Demographic Profile

The study population mainly consisted of young women in their early twenties. The most common participant age was 21 years (36%) followed by 22 years (23.1%), indicating a fairly homogenous sample in terms of age distribution. Most of the population reported having attained menarche between the ages of 12–14 years (82%), which is consistent with the mean age of menarche in Indian girls.

Awareness of Menstrual Hygiene and Health Consequences

The participants of this study demonstrated an adequate level of awareness regarding consequences of poor menstrual hygiene and how to ensure proper menstrual hygiene. They identified infections (28.7%), foul smelling discharge (23.6%), and itching (22.9%) as the most common problems that can be caused by improper hygiene.



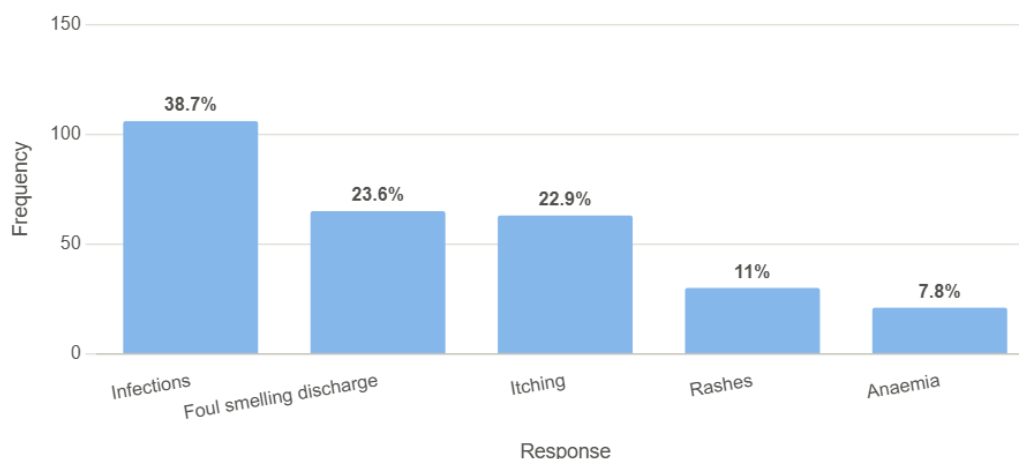


Fig.1: Responses for perceived consequences of bad menstrual hygiene

Symptoms Experienced During Menstruation

A significant percentage of participants reported one or more symptoms in the past 6 months during or after menses. The most common symptom was lower

abdominal pain (58.2%). Other symptoms include itching (12.4%), fever (5.9%), and foul-smelling discharge (7%). These problems highlight the discomfort regarding menstruation.

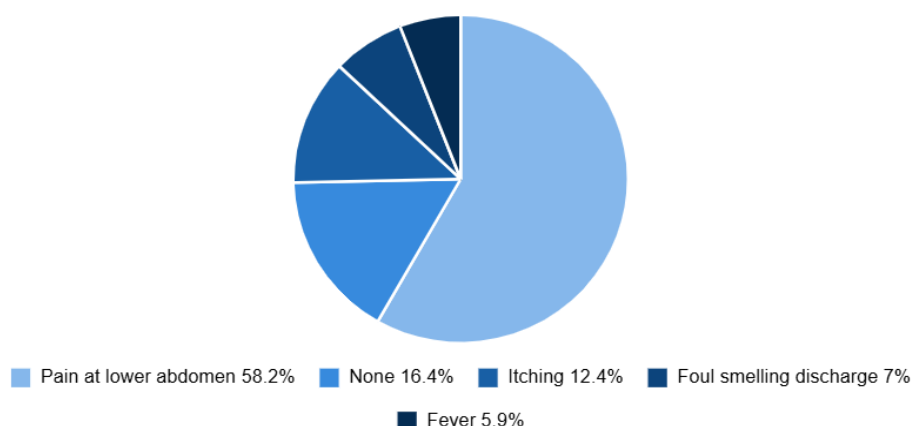


Fig.2: Responses for symptoms in last 6 months

Menstrual and Personal Hygiene Practices

The study showed that all (100%) the participants use menstrual products like menstrual pads (96%) or menstrual cups (0.3%). Those who use pads change pads thrice a day (47.2%) or twice a day (39.8%).

A small population underwent problems, which indicates that there might be more factors at play here like quality of products, personal hygiene practices, or following menstrual myths.

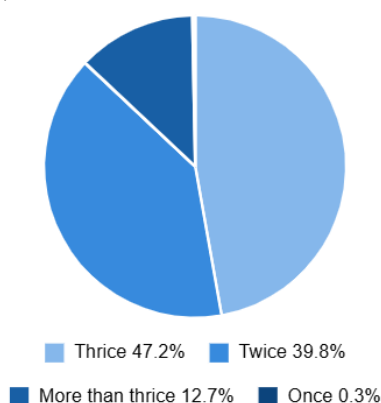


Fig.3: Responses for frequency of change

Prevalence of Menstrual Myths

Myths included restrictions regarding - food, religious activities, body/ hair wash, haircuts, touching people/objects, cooking and movement. 56.9% of the participants believe menstruation is something that should be kept private. The primary source of

information regarding menstruation was the mother (53.8%), followed by doctors (30%) and friends (11%). 84.2% of the participants followed one or more myths regarding menstruation. Only 15.8% of respondents reported not believing in any menstrual myths. Nearly half (48.6%) followed religious restrictions during menses.

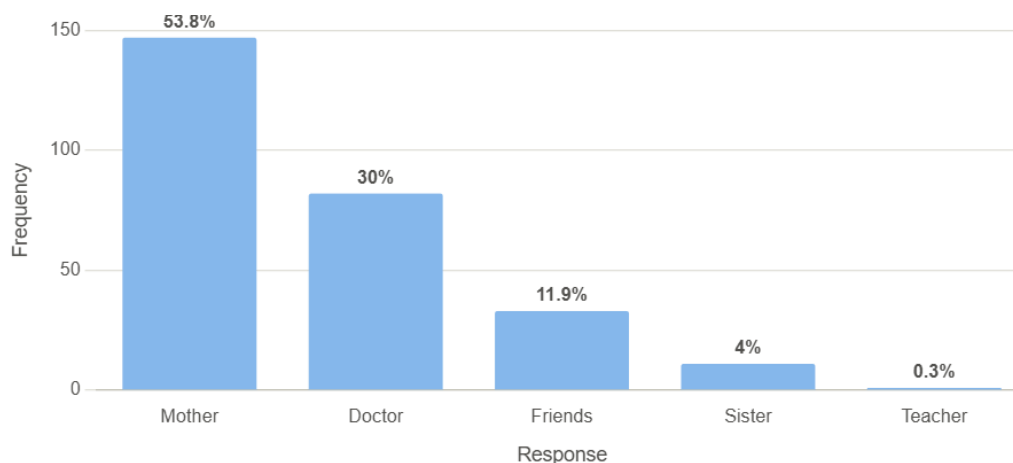


Fig.4: Responses for “ Who do you consult regarding menstruation”

Impact on Daily Life and Productivity

The impact of menstruation on daily functioning was significant. More than half of the participants (55.5%) reported lower productivity during menstruation. In addition, 50.5% of the participants also reported missing

classes or work during menses, and among those reporting absence, about 76.7% missed at least one day per cycle.

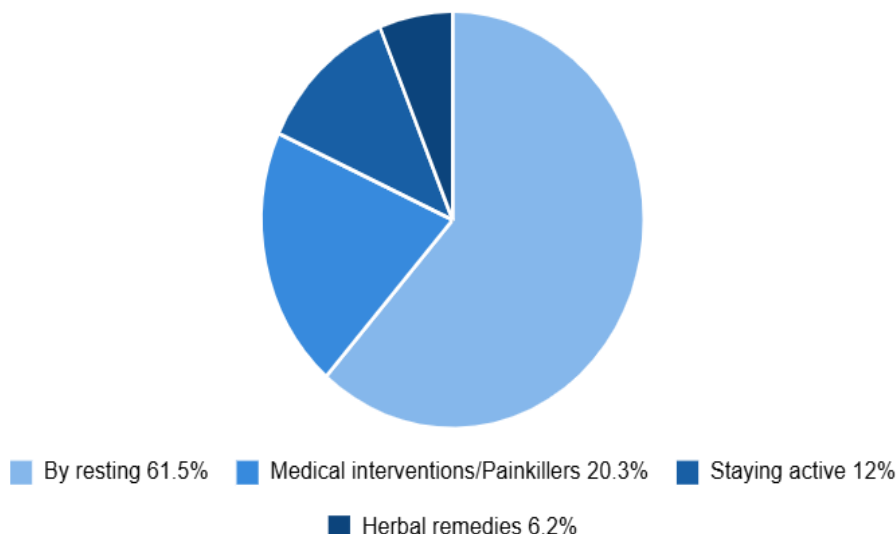


Fig.5: Responses for methods for comfort

Institutional and Environmental Factors

This study identified several external barriers that affect menstrual hygiene management. 71.2% of participants reported inadequate sanitation in their institutions

relative to basic requirements. Furthermore, around half (51.8%) expressed discomfort in managing menses in their institutions [4,8].

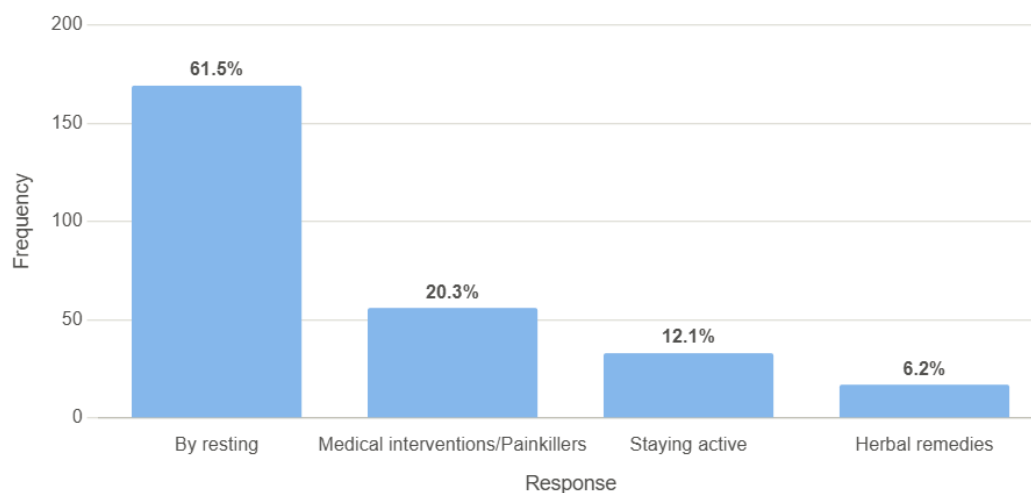


Fig.6: Responses for methods for Comfort

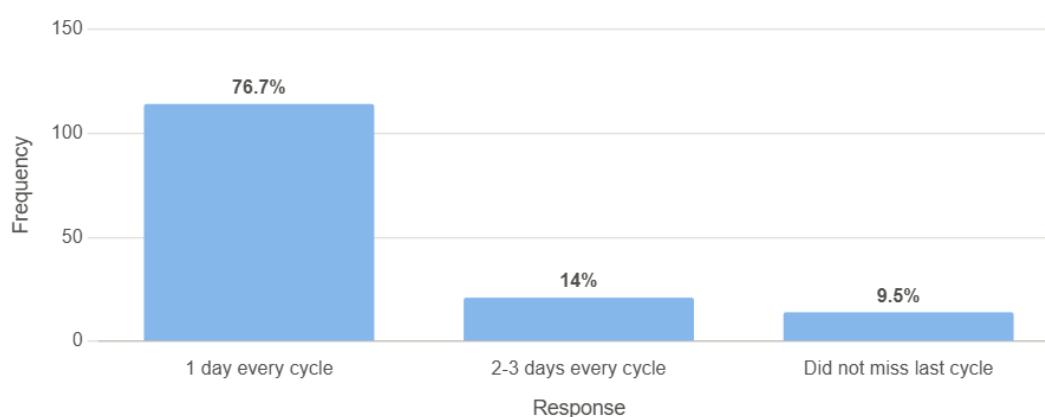


Fig.7: Responses for frequency of absence

Statistical Analysis of Myth Burden and Symptom Prevalence

To study the relationship between myth burdens and the genitourinary symptoms prevalence, a myth score (0–5) was constructed based on the number of menstrual restrictions followed by each participant. Among the 271 women with good menstrual hygiene practices (i.e., using standard products and changing menstrual products $\geq$ once daily), 84.1% followed at least one menstrual restriction.

Upon analysis of symptom prevalence across the individual myth scores, revealed a threshold effect and not a strict linear dose-response gradient from baseline.

Individuals reporting zero myth restrictions exhibited a baseline symptom rate of (30.2%). This rate dropped to (21.5%) among participants observing exactly one restriction, indicating that minor cultural compliance (such as basic solitary preferences) does not worsen outcomes. However, a significant clinical threshold is crossed at greater than equal to 2 restrictions, where symptom prevalence jumps to (36.4%) for 2 restrictions, escalates to (57.1%) for 3 restrictions, and reaches (100%) at the maximum myth score (5 restrictions). This confirms that low cultural conformity and myth belief is benign, believe in multiple myths and the burden it carries exerts a significant cumulative negative effect on perceived menstrual hygiene (Table 1).

Table 1: Association between Myth Score & Symptoms

Myth Score	N	With Symptoms	Symptom Rate (%)	Interpretation
0 (No myths)	43	13	30.2	Reference group
1 restriction	172	37	21.5	Lower than reference
2 restrictions	22	8	36.4	Rising above reference
3 restrictions	14	8	57.1	Substantially elevated

4 restrictions	16	6	37.5	Elevated
5 restrictions	4	4	100.0	All reported symptoms

Spearman rank correlation between myth score and symptoms score was found to be statistically significant in the good-hygiene subset.

($\rho = 0.150$, $p_2 = 0.014$), indicating a positive association: which means, as the myth burden increases, so does symptom burden, resulting in a poor health outcome.

Women with a high myth burden (≥ 2 restrictions, $n = 56$) had symptom prevalence of 46.4% when compared to 23.3% among those with low or no myth burdens ($n =$

215) — a difference that was highly significant ($\chi^2 = 10.702$, $df = 1$, $p = 0.001$).

Upon calculating the odds ratio, results showed odds ratio as 2.86 (95% CI: 1.55 -- 5.28) which indicates that women that have high myth burden were approximately three times more likely to suffer from genitourinary symptoms even with good menstrual hygiene being practiced. Pairwise Mann-Whitney U testing confirmed this threshold effect: the contrast between low-burden (1 restriction) and high-burden (≥ 2 restrictions) groups was highly significant ($U = 3466.0$, $p < 0.001$).

Table 2: Association Between Symptoms & Cultural factors

Symptom	Movement restriction s n=44	Food restriction s n=45	No cookin g n=10	No religious activitie s n=65	No touching things/people n=15	No hair washing/bath e n=44	No hairc ut n=4
Itching n=101	18	21	4	27	8	20	4
Redness & swelling n=28	4	4	—	4	3	4	—
Lumps & blisters n=32	10	10	2	10	4	8	—
Foul discharge n=32	8	8	2	8	2	8	—
Pain on urination n=10	2	4	—	4	—	4	—
Burning on urination n=14	4	4	—	8	2	6	—
Refuse to say n=8	2	2	—	2	—	2	—
Scale (co-occurrences):	0	1–5	6–10	11–15	16–20	21–27	

In above table, each cell shows the number of respondents who reported both a symptom and follow that cultural restriction. Colour intensity reflects co-occurrence count (darker = higher)

A heat map was made to analyse the link, if any, between menstrual myths followed and symptoms the participants faced. It helped understand the correlation if any.

Itching and religious restrictions have the most common correlation (27 participants) Both were the most common answers for their respective questions. Itching

was experienced by 101 participants, and religious restrictions by 65 participants.

The second most common restriction paired with itching, is food restrictions (21), hair/body washing restrictions (20), and place restrictions (18).

Blisters/ Lumps (32) and foul/ abnormal discharge (32) both showed similar correlation with restrictions. For



participants with blisters and lumps, reported following restrictions- religious (10), movement (10), food (10), body/hair wash (8).

For participants with abnormal discharge, reported following restrictions- religious (8), movement (8), food (8), body/hair wash (8).

Abnormal genital discharge, both Pain (10) and burning (14) sensation on urination, also show co-occurrence with bathing, hair wash, and religious restrictions.

DISCUSSION

The findings of this study are consistent with previous studies conducted in India. Kumar *et al.* (2017) reported improved use of sanitary pads among urban women, which aligns with the high usage observed in this study.^[3] Similarly, Dasgupta *et al.* found that awareness regarding hygiene is increasing but gaps remain in practice and understanding [7].

Despite good menstrual hygiene practices, a large proportion of participants in this study continued to follow menstrual myths. This is similar to findings from Sommer *et al.*, who highlighted that cultural beliefs persist regardless of education level [13]. This helps us understand that knowledge regarding menstrual hygiene and proper practices alone is not enough and we need to focus on tackling menstrual myths and social constructs surrounding menstruation.

The link between menstrual cramps and difficulties in activities of daily life is evidently strong, showing how menstruation significantly affects productivity, academic performance, and personal life. Over half of the participants reported skipping classes, reinforcing the need for better support systems that can help women lead an equitable life [10].

Another finding was the lack of adequate menstrual sanitation facilities, including provision of menstrual products, proper disposal facilities, and adequate cleaning supplies. Even if an individual follows proper menstrual hygiene practices, improper infrastructure and imposed myths can lead to improper menstrual management. This has also been reported in numerous public health articles across India [2,9].

Compared to rural studies, this urban, educated population showed better hygiene practices but similar persistence of myths. This contrast highlights that awareness campaigns should not only target rural populations but also urban and educated groups [8,14].

Overall, the study emphasises that menstrual hygiene is not just a medical issue but also a social and infrastructural one.

On examining the correlation between genitourinary symptoms and high myth burdens ($\rho = 0.150$, $p =$

0.014) within a population who is adept at using modern sanitary products and maintaining good hygiene, the causal pathway must be researched with caution. Since some religious exclusions and socio-cultural myths do not have a direct pathophysiological mechanism of causing dysmenorrhea, pelvic pain, or febrile response. As discussed before, an alarming (71%) of participants believe that institutional hygiene facilities are not adequate to manage menstruation. In addition to the myths, the inadequate infrastructure can add to the aetiology of the symptoms faced.

From the heat map we can infer that people who believe in stricter religious taboos, may be involved in less-than-ideal hygiene practices, hence leading to irritation and itching. However, these are presumptions and not direct causation proof. Restrictions to kitchen use and bathing due to religious beliefs, lead to disturbed mental and physical health during menstruation. Prolonged product use, and avoiding baths, can directly impact health and cause genital irritation.

Painful and burning micturition are often signs of genitourinary infections, which can be caused or worsened by neglecting washing and improper product replacement.

The restrictions that seem to impact health the most are- religious, bathing, food and movement restrictions. The symptoms associated with each restriction seems to be linked in a uniform manner, suggesting that it is not a single myth, but a combination of myths followed, that leads to improper menstrual management.

The shortcomings of the study lie in the biases (recall bias and social desirability bias) that might come into play, since all information provided is self-reported and the participants might not share all information due to stigma attached to menstruation, or over-reporting good practices. Along with this, a cross-sectional study can only provide data and knowledge with respect to a particular time, and a longitudinal study might be able to provide better information, which can be investigated.

The findings of this study highlight the need for targeted improvements in MHM across multiple domains. Integrating menstrual health education into school curricula and training community health workers has been widely recommended to improve awareness [15]. Addressing menstrual stigma is equally essential. Interventions involving a broader range of stakeholders including parents, peers, and community leaders have shown greater impact [16]. Infrastructural improvements such as private changing spaces, and safe disposal facilities remain critically inadequate, with approximately 24% of adolescent girls in rural India dropping out of school post-menarche due to insufficient MHM facilities [17]. A multi-sectoral approach extending beyond schools to communities and healthcare



settings is therefore necessary for meaningful and sustained improvements in MHM in India.

CONCLUSION

Menstrual hygiene practices among the students who participated in this study were generally found to be good. The majority used standard menstrual products and changed them at appropriate intervals, reflecting the benefit of menstrual health awareness in shaping basic health behaviours.

However, despite their educational background, myths and social restrictions surrounding menstruation remained widely prevalent among participants. Nearly half reported following religious restrictions during menses, and only a small fraction reported not believing in any menstrual myths.

Addressing this requires more than distributing pamphlets on hygiene. There is a need for combined, sustained efforts working on multiple levels simultaneously — education that goes beyond biology to actively challenge myths, behavioural change supported by open conversations rather than silence and stigma, and infrastructure that makes good menstrual hygiene practically possible, not just theoretically advised.

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