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Research Article

MENSTRUAL HYGIENE AWARENESS, PRACTICES, AND CULTURAL INFLUENCES AMONG COLLEGE-GOING WOMEN IN VIZIANAGARAM, ANDHRA PRADESH: A CROSS-SECTIONAL SURVEY

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ABSTRACT

Menstrual hygiene is a vital component of women's health and well-being, yet it remains shrouded in cultural taboos, misinformation, and inadequate educational outreach, especially in developing countries such as India. This study investigated menstrual hygiene awareness, practices, and cultural factors influencing college-going women in Vizianagaram, Andhra Pradesh. A descriptive cross-sectional survey was conducted among undergraduate and postgraduate female students via a structured questionnaire. Data on menstrual knowledge, hygiene behaviours, cultural taboos, and health experiences were collected. Descriptive statistics and thematic analysis were used to interpret the results. This study revealed that while most students were aware of menstruation as a biological function, gaps remained in their understanding of proper hygiene practices, safe product disposal, and associated health risks. Over 70% of the participants reported experiencing cultural restrictions during menstruation, and a significant proportion faced embarrassment, discomfort, or health issues due to poor hygiene. Sources of information were primarily informal, with mothers and peers being the most common. The level of formal menstrual education was insufficient, particularly in the rural or lower income groups. Many participants expressed a need for institutional support, better facilities, and awareness campaigns. Despite increased educational opportunities, college women continue to face menstrual stigma and health risks due to inadequate awareness and persistent cultural taboos. Strengthening menstrual education, improving access to sanitary products, and fostering open conversations are essential steps toward ensuring menstrual dignity and public health equity for young women.

Keywords: Menstrual hygiene, College students, Menstrual awareness, Cultural taboos, Reproductive health.

INTRODUCTION

Menstruation is a vital and recurring physiological process in the lives of women of reproductive age. Despite its biological normalcy, it continues to be surrounded by misinformation, stigma, and cultural silence, particularly in many developing countries. For college-going women, proper menstrual hygiene is essential not only for physical health but also for emotional well-being and academic success. However, awareness, access to hygiene products, and supportive facilities often remain inadequate due to persistent taboos, poor infrastructure, and limited education (Garg & Anand, 2015; Benshaul-Tolonen *et al*., 2022). In India, menstruation continues to be shaped by cultural norms that portray it as impure or shameful. Even among educated college students, restrictions such as avoiding temples, cooking, or physical contact during menstruation remain common (Rajagopal & Mathur, 2017). A nationwide survey revealed that more than 80% of Indian women experience restrictions during their menstrual cycle, highlighting the persistence of traditional beliefs in modern settings (Sulabh International, 2023). Such cultural attitudes also contribute to the use of unhygienic practices. For example, despite being aware of health risks, many women continue to use cloth in place of sanitary pads, as reported in urban slum communities (Sinha & Paul, 2018). The absence of open communication about menstruation

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contributes to embarrassment, anxiety, and widespread misinformation. This silence often begins at home and is perpetuated in schools and colleges, where menstrual health education is minimal or absent (Sinha & Paul, 2018). As a result, young women frequently rely on mothers, relatives, or peers, who may themselves hold incomplete or outdated knowledge (Kumari & Kumar, 2020). Research also indicates that parental education and family support strongly influence menstrual hygiene behaviours, whereas a lack of accurate guidance reinforces secrecy and stigma (Kansal *et al*., 2016; Kalyan *et al*., 2021). Poor menstrual hygiene practices can have both physical and psychological consequences. Health risks include reproductive tract infections (RTIs), urinary tract infections (UTIs), rashes, and skin irritations, particularly when sanitary products are changed infrequently or disposed of improperly (Van Eijk *et al*., 2016; Torondel *et al*., 2018). In addition to these physical outcomes, psychological impacts such as stress, shame, and reduced concentration in academic settings have also been reported (George, 2015). A lack of proper sanitation facilities further compounds these problems. Many young women are unable to manage menstruation with dignity in public institutions, as clean toilets, disposal facilities, and affordable sanitary products remain inadequate. While government programs such as the Rashtriya Kishor Swasthya Karyakram (RKSK) aim to improve menstrual health, their implementation has often been inconsistent (Ministry of Health and Family Welfare, 2015).

Although menstrual health research in India has grown, adolescent girls have received the most attention, whereas college-going women remain comparatively underrepresented. Their experiences differ significantly from those of adolescents because of greater autonomy, exposure to diverse environments, and increased academic responsibilities (Sinha & Paul, 2018). However, despite access to higher education, they continue to face embarrassment, limited access to hygienic products, and a lack of confidence in managing their menstrual health effectively (Chandra-Mouli *et al*., 2017; Van Eijk *et al*., 2016). The persistence of such challenges even in urban and semiurban contexts suggests that higher education alone does not eliminate menstrual stigma. Menstruation, although natural, remains culturally sensitive in South Asia, where it is often associated with impurity and subject to restrictions on daily activities. The contradiction between increased exposure to modern education and the persistence of traditional restrictions makes college demographics particularly important to study. Institutions in higher education play a crucial role in shaping attitudes, providing resources, and fostering health-promoting environments. However, unless menstrual health is actively included in academic discourse, policy, and institutional practice, many students will continue to suffer in silence (Chandra-Mouli *et al*., 2017).

In this context, the present study investigates menstrual hygiene awareness, practices, and cultural influences among college-going women in Vizianagaram, a semiurban district of Andhra Pradesh. This setting is particularly relevant, as it represents a space where modern education coexists with traditional practices. By focusing on this underrepresented group, this study seeks to provide nuanced, evidence-based insights into the barriers faced by college women and to identify potential interventions that can promote menstrual dignity and gender equity in higher education.

MATERIALS AND METHODS

Research Design

This study adopted a descriptive cross-sectional research design to evaluate awareness, hygiene practices, and cultural influences related to menstrual health among college-going women in Vizianagaram. A quantitative approach was employed to collect and analyse data at a single point in time, enabling the identification of prevailing behaviours, attitudes, and challenges associated with menstruation. The primary data source was a structured questionnaire distributed to a randomly selected group of female students from various academic disciplines and colleges in the district. The tool comprises both closed- and open-ended questions addressing multiple dimensions, including knowledge, hygiene practices, cultural taboos, and health concerns during menstruation. The quantitative design offered a practical and efficient means to assess the current state of menstrual hygiene management (MHM) and to inform future policy recommendations and health education strategies in academic institutions.

Sample Selection and Population

The target population consisted of female undergraduate and postgraduate students enrolled in different colleges across Vizianagaram. To ensure a representative and diverse sample, a simple random sampling technique was used. This approach captured students from various socioeconomic backgrounds, rural and urban settings, and different cultural and religious communities. Sample size: 423, age range: 18-25 years

Data collection tools

The primary instrument for data collection was a structured, pretested questionnaire designed to obtain both quantitative data and limited qualitative insights through optional open-ended questions. The questionnaire consisted of the following five sections: demographic details, age, academic year, residence, and socioeconomic status. Menstrual Awareness: Understanding menstruation, sources of menstrual knowledge. Hygiene practices: Type of menstrual products used, frequency of change, methods of disposal, and access to facilities cultural beliefs: Traditional restrictions, family practices, taboos. Health implications: Physical discomfort, infections, absenteeism, and emotional or psychological issues. The questionnaire was distributed physically or digitally, depending on student preference and institutional access, with clear instructions and optional anonymity to encourage honest responses.

Data analysis methods

The collected data were compiled and entered into Microsoft Excel and further analysed via descriptive statistical techniques. Data cleaning and coding were performed prior to analysis to ensure accuracy. Frequency distributions and percentages for demographic and categorical variables. Cross tabulations to explore relationships between key variables (e.g., awareness vs. hygiene practices). Visualization of findings via bar charts, pie charts, and tables for clarity. Qualitative data (from open-ended responses) were analysed via thematic analysis to extract common patterns and insights into cultural beliefs, stigma, and personal experiences. This mixed analysis approach provided both numeric trends and narrative depth, enhancing the understanding of menstrual hygiene management in the student population.

RESULTS AND DISCUSSION

Table 1 summarizes the awareness and knowledge levels of college-going women in Vizianagaram. The majority of participants had heard about menstruation prior to menarche, mostly from mothers and peers, although the depth of information was often limited. As shown in Figure 1, only approximately two-thirds of the respondents demonstrated adequate awareness of hygienic practices, whereas the remaining respondents relied on partial or inaccurate knowledge. These findings are consistent with earlier reports that mothers are the primary source of menstrual information but often pass on culturally influenced beliefs rather than scientific knowledge (Kumari & Kumar, 2020). Knowledge about infection risks associated with poor menstrual hygiene was considerably lower. Figure 2 shows that fewer than half of the participants recognized the link between irregular pad changes and infections such as RTIs and UTIs. Similar results were reported in studies from Delhi and Coimbatore, which highlighted the limited understanding of infection pathways despite awareness of sanitary napkins (Sinha & Paul, 2018; Van Eijk *et al*., 2016). The lack of comprehensive education programs in schools and colleges contributes to this gap, reinforcing the dependence on informal sources.

Table 1. Awareness and knowledge of menstrual hygiene among college-going women in Vizianagaram.

Variable	Most Common Response	Percentage
Age	18 years	54.6%
Living Arrangement	Hostel	51.8%
Field of Study	Science	51.3%
Aware of Menstrual Hygiene	Yes	59.6%
First Source of Information	Mother	59.6%
Product Used	Sanitary Pads	60.5%
Disposal Method	Wrap and bin	66.9%
Restrictions at Home	Yes	72.1%
Missed College due to Periods	Yes	67.8%
Menstrual Health Affects Academics	Yes	68.8%
Willing to Attend Workshop	Yes	70.7%
Support Free Product Distribution	Yes	70.4%

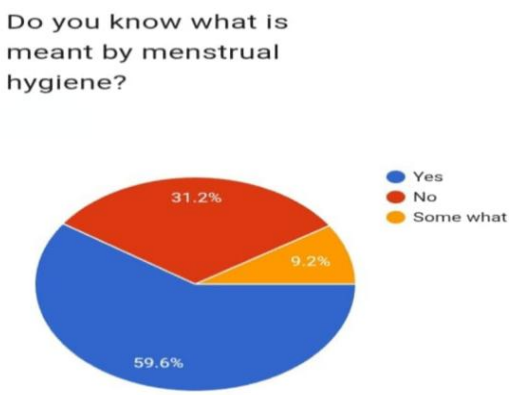

Figure 1. Awareness of Menstrual Hygiene.

Nearly 40.4% of the respondents demonstrated either limited or no awareness of menstrual hygiene, underscoring the urgent need for comprehensive menstrual health education across academic streams.

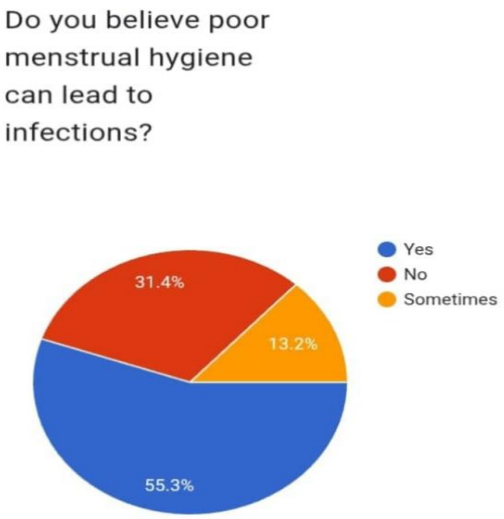

Figure 2. Awareness of Health Risks Associated with Poor Menstrual Hygiene.

Although more than half of the participants recognized health risks, a significant portion remained unaware or uncertain, making them vulnerable to infections such as UTIs, RTIs, and bacterial vaginosis. Figure 3 illustrates the sources of menstrual information and the extent of family communication. While mothers and elder sisters were the predominant sources, open discussion within families remained limited. Only a minority of students reported comfortable dialogue with fathers or brothers, reflecting the persistence of menstrual silence within households. This mirrors findings from George (2015), who noted that secrecy around menstruation fosters stigma and poor hygiene management. The continuation of such silence into higher education indicates that cultural barriers remain strong, even among educated families.

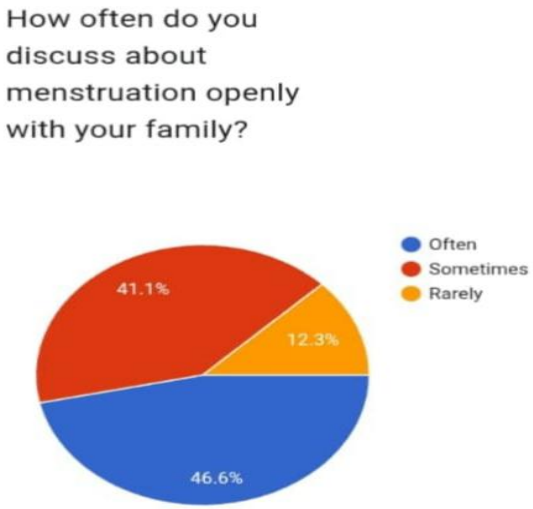

Figure 3. Family Communication About Menstruation.

Nearly half of the respondents reported feeling comfortable discussing menstruation with their families, whereas the remaining respondents expressed limited or no openness. This indicates that although conversations are beginning to normalize, stigma and discomfort persist. Promoting open dialogue within households is essential to dismantle taboos and ensure that young women are supported in managing their menstrual health. Cultural restrictions were widely

observed among the participants. As presented in Figure 4, restrictions included avoiding temples, cooking, and social gatherings during menstruation. Over 70% of respondents reported at least one restriction, in line with national surveys that suggest that more than 80% of Indian women experience some form of restriction during their cycles (Sulabh International, 2023). These practices reflect deeply ingrained cultural perceptions of impurity and continue to limit social participation among young women. Although some respondents reported relaxation of restrictions in urbanized settings, the persistence of such practices in semiurban Vizianagaram suggests that education alone is insufficient to overcome cultural stigma. Rajagopal and Mathur (2017) similarly reported that even among educated urban families, restrictions were enforced due to traditional beliefs. The findings of this study reinforce the view that both cultural and institutional interventions are needed to dismantle menstrual taboos.

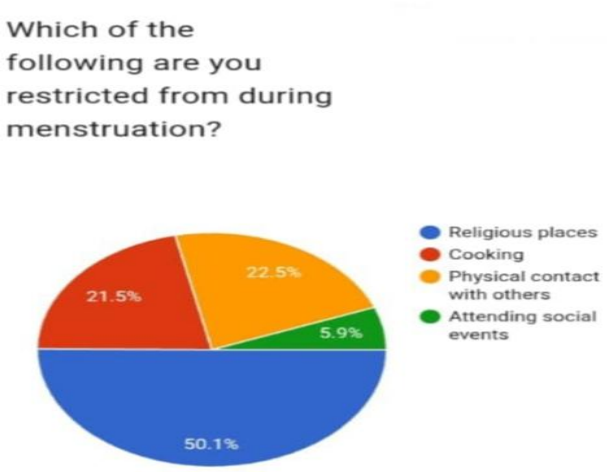

Figure 4. Cultural Restrictions Experienced During Menstruation.

Entry into religious places (50.1%) was the most frequently reported restriction, followed by limitations on cooking (22.5%) and attending social events (21.5%). A smaller proportion (5.9%) experienced restrictions on physical contact, reflecting the persistence of cultural taboos. Menstrual health problems were reported by a large proportion of participants. As depicted in Figure 5, common complaints included abdominal cramps, excessive bleeding, rashes, and irregular cycles. Notably, more than one-third of the respondents experienced skin irritation or rashes, which are often linked to prolonged use of absorbents or unhygienic disposal practices. These outcomes align with earlier research linking poor menstrual management to RTIs, UTIs, and dermatological issues (Torondel *et al*., 2018). Psychological impacts were also notable. Many participants reported stress, embarrassment, and absenteeism during menstruation, echoing the findings of George (2015), who emphasized the role of stigma in emotional distress and academic disruption. Although college-going women are presumed to be more informed than adolescents are, the persistence of these challenges suggests that higher education environments are not adequately supportive. The lack of clean toilets, private, and affordable sanitary products in public institutions further exacerbates both physical and psychological difficulties.

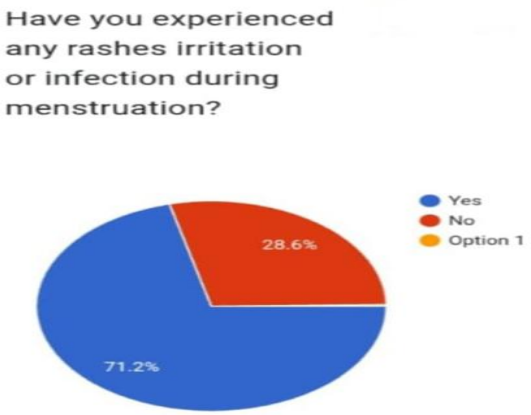

Figure 5. Health problems reported during menstruation.

A majority of the respondents (71.2%) reported rashes, irritation, or infection, indicating the role of prolonged pad use, poor-quality products, and inadequate hygiene education in addressing menstrual health challenges. The results of this study show that while awareness of menstruation among college-aged women has improved compared with that among earlier generations, critical gaps remain in terms of infection-related knowledge, hygienic practices, and cultural acceptance. These findings resonate with those of Sinha & Paul (2018) and Chandra-Mouli *et al*. (2017), who reported that higher education does not automatically translate into improved menstrual health outcomes. Government programs such as the Rashtriya Kishor Swasthya Karyakram (RKSK) and the inclusion of menstrual health in the National Education Policy (Ministry of Education, 2020) indicate progress at the policy level. However, inconsistent implementation and lack of institutional prioritization limit their effectiveness. Colleges represent a crucial space where both knowledge and attitudes can be reshaped. Interventions such as structured awareness sessions, the availability of affordable products, and the establishment of supportive facilities are essential for creating a menstrual-friendly academic environment.

This study highlights the intersection of knowledge, cultural norms, and institutional limitations in shaping menstrual hygiene practices among college-going women in Vizianagaram. The findings show that while awareness has increased, misconceptions persist, restrictions remain widespread, and health problems are common. Importantly, the contradiction between greater educational exposure and the persistence of traditional restrictions underscores the need for targeted, context-specific interventions. By documenting the lived experiences of college women in a semiurban setting, this study contributes to filling a critical research gap. The evidence underscores the importance of integrating menstrual health into higher education discourse, promoting gender equity, and ensuring that young women are empowered to manage menstruation with dignity.

Table 2. Reported menstrual hygiene practices and product usage among participants.

Question	Options	Percentage
What is your age?	18 years	54.6%
	19 years	30.5%
	Above 20 years	14.9%
Living arrangement?	Hostel	51.8%
	Family	42.1%
	Rented/shared accommodation	6.2%
Field of study?	Arts	41.4%
	Science	51.3%
	Commerce	7.3%
Do you know what is meant by menstrual hygiene?	Yes	59.6%
	No	31.2%
	Some what	9.2%
Have you received any formal education about menstrual hygiene?	Yes	57%
	No	34.3%
	Some what	8.7%
Where did you first learn about menstruation?	Family	61.9%
	School/friends	31.4%
	Social media/internet	6.6%
Do you know how often menstrual absorbents should be changed?	2-3 times	54.1%
	4 or more times	35%
	Only when full	10.9%
Are you aware of reusable menstrual hygiene products?	Menstrual cups	51.8%
	Cloth pads	39.2%
	No, I do not know	9%
Do you believe poor menstrual hygiene can lead to infections?	Yes	55.3%
	No	31.4%
	Sometimes	13.2%
Are you aware of any government schemes promoting menstrual hygiene?	Yes	58.6%
	No	31.7%
	Some what	9.7%
Do you think menstrual hygiene is a public health issue?	Yes	9.2%
	No	31.9%
	I do not know	58.9%

How often do you discuss about menstruation openly with your family?	Often	46.6%
	Sometimes	41.1%
	Rarely	12.3%
Do you think more awareness programmes are needed in colleges?	Yes	57.7%
	No	30%
	May be	12.3%
At what age did you attain menarche?	10-12	52.2%
	13-15	35%
	Above 15	12.8%
Are you aware of menstruation before your first period?	Yes	69%
	No	31%
What was your primary source of information about menstruation?	Mother	59.6%
	School/teacher	28.1%
	Friends	12.3%
Do you think menstruation is a biological process?	Yes	59.3%
	No	30.7%
	Not sure	9.9%
Do you know the average length of menstrual cycle?	Yes	72.6%
	No	27.4%
The average duration of your menstrual cycle is...	1-2 days	34.3%
	3-5 days	46.6%
	6-8 days	13.9%
	More than 8 days	5.2%
Are you aware of any menstrual disorders (PCOD, PCOS, amenorrhea)	Yes	29.8%
	No	70.2%
Is it possible to get pregnant during menstruation?	Yes	67.1%
	No	32.9%
Do you feel that your educational institution provides adequate information on menstrual health?	Yes	68.6%
	No	31.4%
What menstrual products do you commonly used?	Sanitary pads	60.5%
	Tampons	19.4%
	Menstrual cups	14.7%
	Cloth	5.4%
How do you dispose of used sanitary materials?	Wrap and bin	66.9%
	Flush	18.7%
	Burn Throw without wrapping	10.6%
Do you carry extra menstrual products when leaving home during your period?	Always	54.4%
	Sometimes	31%
	Rarely	9.5%
	Never	5.1%
Have you ever faced difficulty while accessing menstrual products?	Yes	74.5%
	No	25.5%
Do you track your menstrual cycle?	Yes, with an app	39.7%
	Yes, manually	35.7%
	No	24.6%
Are there restrictions in your house hold during menstruation?	Yes	72.1%
	No	27.9%
Which of the following are you restricted from during menstruation?	Religious places	50.1%
	Cooking	22.5%
	Physical contact	21.5%
	with others Attending social events	5.9%
Do you feel these restrictions are justified?	Yes	61.9%
	No	28.4%
	Unsure	9.7%
Have you been made to feel ashamed or embarrassed during menstruation?	Yes	73%
	No	27%
Do you feel comfortable discussing about menstruation	Yes	70.4%

with male family members?	No	29.6%
Does your culture/community have specific beliefs about menstruation?	Yes	56.5%
	No	29.3%
	Not sure	14.2%
Do you think menstrual stigma affects your mental health?	Yes	57.4%
	No	31.9%
	Not sure	10.6%
Have you ever avoided school/college due to menstruation related stigma or restrictions?	Yes	73%
	No	27%
Do you experience menstrual cramps?	Yes, severe	47.5%
	Yes, mild	32.4%
	No	20.1%
How do you manage menstrual pain?	Painkillers	38.1%
	Home remedies	22.2%
	Rest	32.9%
	No management	6.9%
Have you ever consulted a doctor for menstrual issues?	Yes	68.3%
	No	31.7%
Do you experience irregular periods?	Often	42.1%
	Sometimes	44%
	Never	13.9%
Do you experience mood changes during menstruation?	Yes	77.1%
	No	22.9%
Would you attend a workshop on menstrual health if offered?	Yes	70.7%
	No	29.3%
Should be men educated about menstruation?	Yes	68.8%
	No	31.2%
Would you support free sanitary product distribution on campus?	Yes	70.4%
	No	29.6%
Do you think awareness about menstruation has improved in recent times?	Yes	74.5%
	No	25.5%
Do you think menstrual health should be part of the college curriculum?	Yes	74%
	No	26%
Have you missed college due to menstrual discomfort?	Yes	67.8%
	No	32.2%
Do you feel menstruation affects your academic performance?	Yes	68.8%
	No	31.2%
Do you feel there is enough access to sanitary facilities at your college?	Yes	69%
	No	31%
Do you follow any specific dietary practices during menstruation?	Yes	56.5%
	No	29.1%
	Sometimes	14.4%
Have you experienced any rashes irritation or infection during menstruation?	Yes	71.2%
	No	28.6%
Are college toilets Clean and accessible during menstruation?	Yes	72.8%
	No	27.2%
Are there disposable bins for sanitary products in your college toilets?	Yes	77.1%
	No	22.9%

CONCLUSION

Menstrual hygiene is not merely a personal or biological concern; it is a critical public health, educational, and social issue that strongly affects the dignity, health, and opportunities of women. This study provides significant insights into the awareness, practices, cultural influences, and challenges related to menstrual hygiene management (MHM) among college-going women in Vizianagaram, Andhra Pradesh. The findings underscore that while a majority of students are aware of menstruation as a biological function, there is still a considerable gap in accurate knowledge, hygienic practices, and open communication. Most participants rely on informal sources such as mothers and peers for menstrual information, resulting in the continuation of myths, unsafe practices, and

unnecessary restrictions. Cultural taboos persist even in higher education settings, often silencing discussions and hindering healthy behaviours. Health risks associated with poor menstrual hygiene such as infections, irregularities, and emotional distress are common among respondents but often go unaddressed due to embarrassment, lack of awareness, or limited access to health services. Although the use of commercial sanitary products is widespread, economic disparities still force some students to rely on unsafe alternatives such as unclean clothes. The study also highlights a promising shift: a majority of the students expressed a willingness to attend menstrual health workshops, support the campus-based distribution of sanitary products, and believe that education and awareness programs can lead to change. There is growing recognition among students that menstruation is a public health concern and should be discussed openly and scientifically.

To bridge the gap between awareness and action, coordinated efforts are required from educational institutions, healthcare providers, policymakers, community leaders, and media platforms. Empowering young women with accurate information, accessible facilities, and a supportive environment is essential not only for their personal well-being but also for achieving broader goals of gender equality, educational attainment, and public health improvement. Ultimately, normalizing menstruation through education, media, and policy is a powerful step toward building a more inclusive and stigma-free society in which women can manage their menstrual health with confidence, comfort, and dignity.

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CONFLICT OF INTERESTS

The authors declare no conflict of interest

ETHICS APPROVAL

This research did not involve any clinical experimentation or invasive procedures. As a social science-based survey study, ethical concerns were minimal. The participants were fully informed of the study's objectives, and verbal consent was obtained before participation. No identifying or sensitive personal information was collected.

FUNDING

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AI TOOL DECLARATION

The authors declares that no AI and related tools are used to write the scientific content of this manuscript.

DATA AVAILABILITY

The anonymized datasets generated during and/or analyzed in this study can be made available upon reasonable request by contacting the corresponding author.

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