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Awareness and attitudes toward menstrual cups among college students

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Abstract

Background: Menstrual cups offer a cost-effective, eco-friendly, and healthful alternative to disposable menstruation products. Nevertheless, adoption is still low globally, particularly among young adults, despite their benefits. Practical problems and ignorance are often the root of this. The views, attitudes, and knowledge of Indian female college students on the usage of menstrual cups are assessed in this study.

Methods: Eighty female students between the ages of eighteen and twenty-five from Banasthali Vidyapith in Rajasthan took part in a descriptive survey. Data was collected using a systematic knowledge questionnaire and an attitude survey, and the responses were analyzed using descriptive statistics like frequency and percentage distributions.

Results: The survey found that respondents' awareness of menstruation cups varied: 40% showed strong knowledge, 51.25% had average knowledge, and 8.75% had low understanding. Practical issues were the biggest obstacles to adoption, with 61.25% reporting insertion difficulties and 30% expressing worries about hygiene. Interestingly, societal stigma was not mentioned as a significant impediment. 56.3% of respondents said they knew someone who has used a cup, and 47.5% said recommendations would impact their choice, suggesting that peer influence could be a catalyst. Economic (31.3%) and environmental (26.3%) factors were the main reasons for contemplating use. The majority (87.5%) had never attended a formal instructional session on the subject, and social media was the most common source of information (47.5%). Menstrual cups should be provided for free or at a reduced cost in colleges, according to a resounding 93.8% of participants.

Conclusion: Menstruation cups are known to college students, but there is still a significant knowledge-practice gap that is mostly due to practical challenges rather than cultural taboos. The findings demonstrate the urgent need for coordinated educational interventions, practical training, and peer-led campaigning. In order to increase menstrual equity and encourage the use of menstrual cups in educational settings, it is necessary to use digital platforms to spread accurate information and incorporate financial aid.

Keywords: Menstrual cups, menstrual hygiene management, knowledge and attitude, college students

Introduction

Despite being a crucial component of gender equity and public health, menstrual hygiene management (MHM) is still a taboo subject in many communities. Menstrual hygiene goods, such as tampons and disposable sanitary pads, have historically dominated the market. Although these items are convenient, they also present serious problems, such as harm to the environment, ongoing expenses, and possible health hazards like toxic shock syndrome and inflammation. Menstrual cups have become a viable, affordable, and health-conscious option in recent years, but their use is still low, especially among young adults attending college. Menstrual cups are reusable, bell-shaped devices made of rubber or silicone of medical quality that are put into the vagina to collect menstrual fluid. Menstrual cups can be emptied, cleaned, and reused for up to ten years, in contrast to pads and tampons, which retain fluid and need to be thrown away after usage. Because of this, they are both economically and environmentally beneficial. Menstrual cups are still underutilized despite these advantages, frequently as a result of misconceptions, cultural taboos, and ignorance. It is impossible to exaggerate

the significance of menstruation health awareness. Despite being a normal biological function, menstruation is often associated with stigma and false information. Infections, problems with reproductive health, and psychological anguish can result from poor menstrual hygiene. Furthermore, college students—especially women—may struggle academically and socially due to limited access to menstrual products and knowledge. Ensuring safe and respectable menstruation hygiene is a basic requirement for women's health, well-being, and human rights, according to UNICEF. Encouraging students to make educated decisions regarding menstrual hygiene products is crucial in college settings when they are juggling independence with self-care. One important group for menstrual health interventions is college students. They frequently have access to digital platforms that can affect their decisions, and they are in a transitional time of life where habits and attitudes are formed. Menstrual cups are becoming more widely known, mostly thanks to social media, but actual use is still low because of worries about insertion, leaking, and cultural views on virginity and bodily autonomy, according to studies. For example, 93.5% of female medical and dental

students in Karnataka, India, were aware of menstrual cups, but only 5.9% actually used them, according to a research. Fear of insertion and ignorance of appropriate usage methods were the most frequently mentioned obstacles. Studying menstrual cups among college students is justified by the convergence of empowerment, sustainability, and health education. Teachers and legislators can create focused programs that support menstruation equity by comprehending the attitudes and knowledge levels of this population. Additionally, examining the obstacles to adoption might help dispel misconceptions and promote a more inclusive conversation about menstruation. The larger objective of normalizing menstruation and incorporating menstrual health into public health discourse is further advanced by research in this field. Such studies are especially useful in places like India, where menstruation taboos are deeply ingrained. They provide insights into how cultural, economic, and educational factors influence menstrual choices in addition to highlighting the inequalities in accessibility and awareness. It is crucial to make sure that young women in developing nations are not left behind in this transition toward sustainable menstruation as menstrual cups gain popularity worldwide.

Literature Review

Menstrual cups have drawn interest as an economical and environmentally friendly substitute for single-use menstrual consumables. Despite their advantages, their uptake is still restricted worldwide. Just 1% of the 1.8 billion menstruation people globally use menstrual cups, according to the Menstrual Cup Coalition (2024) ^[6]. Lack of knowledge, cultural taboos, and initial discomfort with insertion and usage are some of the reasons for this poor acceptance. However, research indicates that if consumers get used to the product, acceptability rates can rise above 80%, with many eventually surpassing 90% (Menstrual Cup Coalition, 2024) ^[6].

Menstrual cups are being promoted as environmentally beneficial options in industrialized nations, and they are becoming more visible in stores and online. Developing countries, on the other hand, deal with issues such restricted access, poor menstruation health education, and ingrained cultural stigmas. For example, a pilot research conducted in Kenya revealed that uptake among schoolgirls increased from 84% to 96% over a nine-month period with appropriate training and peer support (as quoted in Menstrual Cup Coalition, 2024) ^[6]. These results highlight the significance of community involvement and education in encouraging menstrual cup uptake.

There are significant regional and demographic differences in menstrual hygiene product awareness. In a study conducted in 2025, Nirmala and Shyamala examined the awareness levels of 247 women between the ages of 16 and 25. They discovered that although general awareness of menstruation cups was quite high, specific knowledge—particularly with regard to materials and safety—was inadequate. 51% of younger participants (ages 16 to 20) were unaware whether menstrual cups were manufactured of silicone suitable for medical usage. This knowledge gap emphasizes the necessity of focused educational interventions.

According to Jamkhandi and Tile (2024) ^[4], just 5.9% of

female medical and dentistry students in Karnataka routinely used menstrual cups, despite the fact that 93.5% of them were aware of them. Fear of insertion, discomfort, and inadequate direction were the most often mentioned obstacles. These results imply that practical expertise and self-assurance in using the product are essential; awareness by itself does not convert into usage.

Furthermore, menstrual cups are on par with or better than pads and tampons in terms of leakage, safety, and user satisfaction, according to a meta-analysis by Philips-Howard *et al.* (2019) that was published in *The Lancet*. To increase consumption, the study also highlighted the necessity of a familiarization period and peer support.

Menstrual health decisions are heavily influenced by social conventions and cultural beliefs. Menstruation is still taboo in many civilizations, which causes humiliation and false information. Nambiar (2025) ^[7] revealed significant differences in awareness and acceptance between urban and rural Indian women's sociocultural opinions of menstruation cups. Due to media exposure, peer pressure, and education, urban women were more receptive to utilizing menstruation cups. On the other hand, family and community members opposed rural women, with worries about virginity and bodily autonomy serving as significant barriers.

These results are consistent with a larger body of research that highlights the relationship between menstruation health and social equity, gender, and education. Improving menstrual hygiene management and enabling young women to make educated decisions require addressing cultural taboos and encouraging candid conversations about menstruation.

Objective of the study

To evaluate college students' awareness and knowledge about menstrual cups.

Methodology

Research Design: College students' views and knowledge of menstrual cups were evaluated using a descriptive survey approach. The purpose of this design was to record consciousness and impressions at a particular moment in time.

Study Population: Female college students between the ages of 18 and 25 who were enrolled in professional, science, and art studies at Banasthali Vidyapith in Tonk, Rajasthan, made up the target group.

Sampling Technique

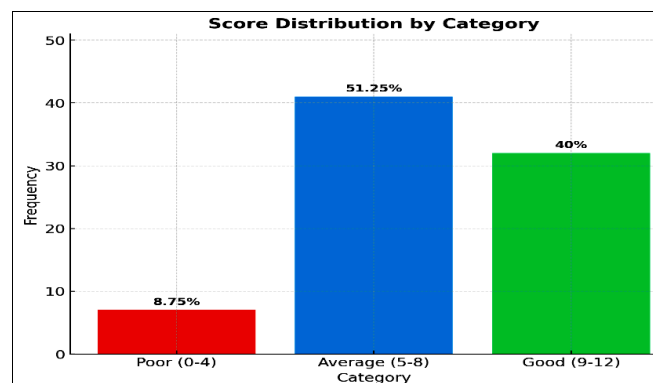
Sample Size: Eighty female respondents in all, chosen among college-bound students, participated in the study. In order to ensure variety in age and academic background, the sample size was established based on accessibility and willingness to participate.

Data Collection Tools

- **Knowledge Questionnaire:** Twenty multiple-choice questions covering the definition, use, advantages, cultural views, environmental concerns, willingness, and safety of menstrual cups make up this structured, verified tool.
- **Data Analysis: Descriptive statistics:** Frequency, percentage, mean, and standard deviation.

Table 1: frequency and percentage distribution of respondents in various categories of awareness.

Categories of awareness	Frequency	Percentage
Poor	7	8.75%
Average	41	51.25%
Good	32	40%

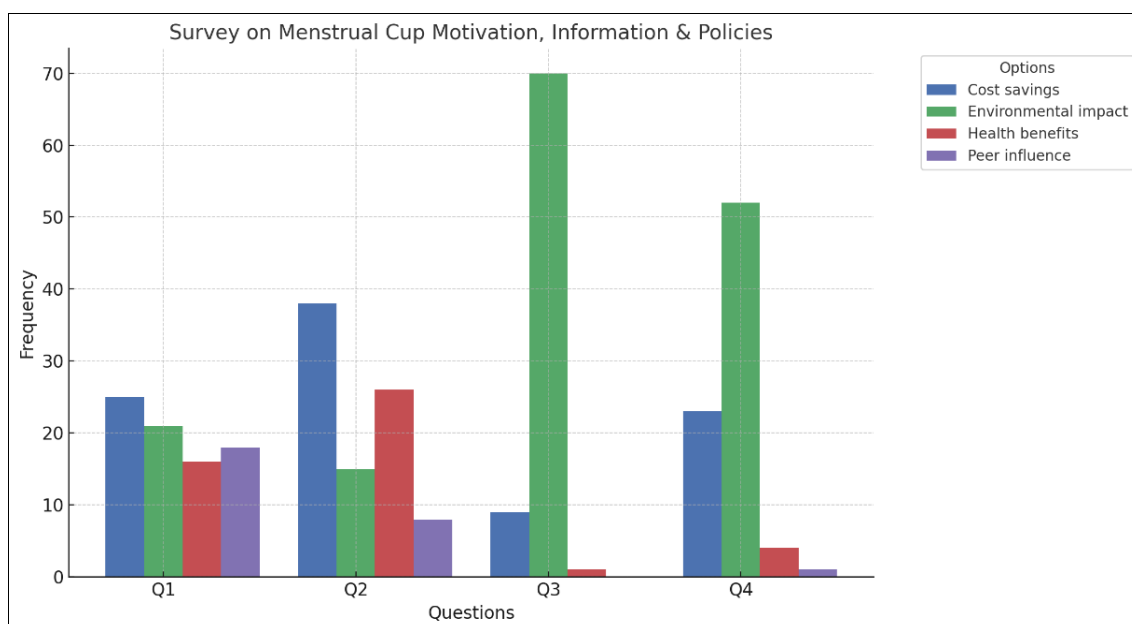
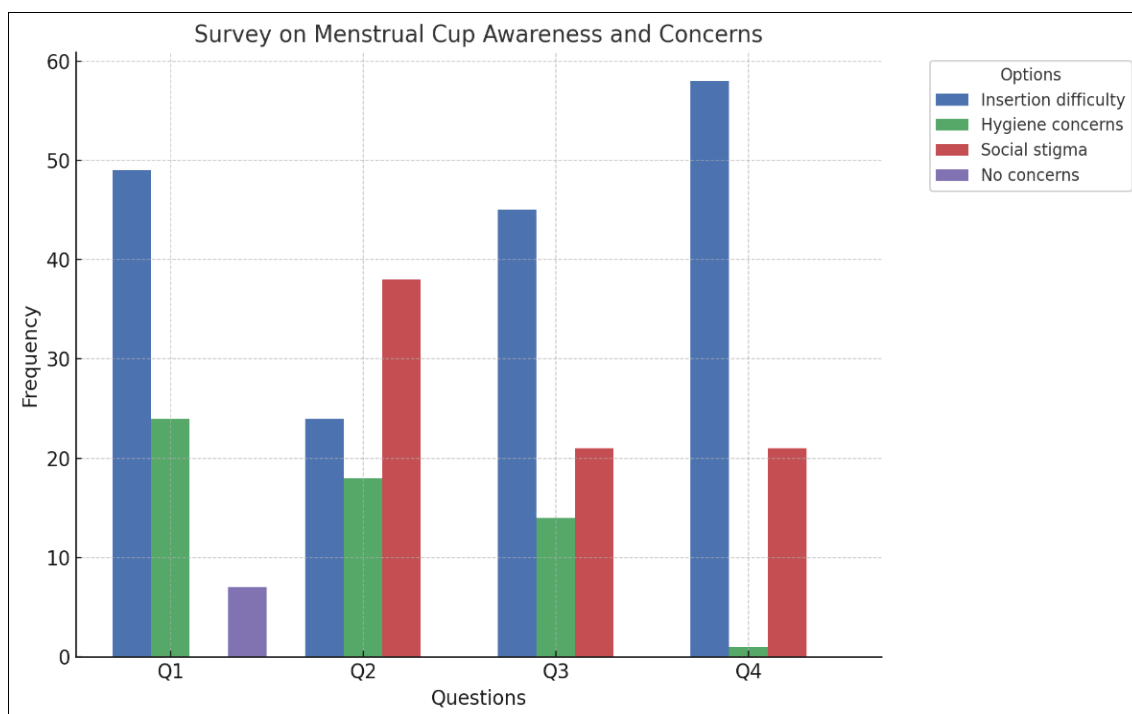


Three separate ranges—Poor (0-4), Average (5-8), and Good (9-12)—represent a clear pattern in responder performance or perception, according to the score

distribution data. 8.75% of responders fall into the Poor group, which denotes a low level of comprehension, involvement, or alignment with the evaluated criteria. With space for development through focused interventions or awareness campaigns, the majority, 51.25%, are categorized as Average, indicating moderate familiarity or partial competence. In the meantime, 40% of respondents received a Good grade, indicating excellent understanding, favourable attitudes, or successful behavioural alignment with the subject being assessed. According to this distribution, more than half of the population is still in the middle tier, a small but noteworthy group may need foundational support, and a sizable fraction of the population shows potential awareness or performance. The information can be used to customize policy messaging, outreach tactics, or instructional initiatives, with an emphasis on closing the disparities among the lowest scoring while encouraging the average group to engage more. All things considered, the score range analysis offers a helpful diagnostic snapshot for creating tiered interventions, tracking impact over time, and determining priority areas for curriculum improvement or capacity-building.

Table 2: frequency and percentage of respondents' attitudes regarding menstrual cups

S. No.	Questions	Options	Frequency	Percentage
1	What is your biggest concern about using a menstrual cup?	Insertion difficulty	49	61.5%
		Hygiene concerns	24	30%
		Social stigma	0	
		No concerns	7	8.75%
2	Would peer recommendations influence your decision to try a menstrual cup?	Yes	24	30.0%
		No	18	22.5%
		Maybe	38	47.5%
3	Has anyone close to you (friend or family) used a menstrual cup?	Yes	45	56.3%
		No	14	17.5%
		Maybe	21	26.3%
4	How open do you feel discussing menstrual cups with friends?	Very comfortable	58	72.5%
		Uncomfortable	1	1.3%
		Somewhat comfortable	21	26.3%
		Never discuss	0	
5	What would motivate you most to try a menstrual cup?	Cost savings	25	31.3%
		Environmental impact	21	26.3%
		Health benefits	16	20.0%
		Peer influence	18	22.5%
6	What is your preferred source of information on menstrual products?	Social media	38	47.5%
		School/college seminars	15	32.5%
		Friends/family	26	18.8%
		Healthcare professionals	8	10.0%
7.	Have you ever attended a session or workshop about menstrual cups?	Yes	9	11.3%
		No	70	87.5%
		Not sure	1	1.3%
8.	Do you think menstrual cups should be subsidized or provided freely in colleges?	Strongly agree	23	28.8%
		Agree	52	65.0%
		Disagree	4	5.0%
		Strongly disagree	1	1.3%



The survey data offers important insights into respondents' attitudes, obstacles, and driving forces regarding the usage of menstruation cups. Insertion difficulty is the most often mentioned issue (61.25%), followed by cleanliness concerns (30%). Social stigma receives no comments, and only 8.75% report no concerns, suggesting that practical and physical difficulties trump cultural taboos in this situation. 47.5% of respondents stated "maybe," 30% said "yes," and 22.5% said "no" when asked about peer recommendations, indicating that peer influence has a moderate amount of sway and might be used in testimonial-based advertising. The majority (56.3%) have a close relative who has used a menstrual cup, demonstrating how social exposure shapes opinions. A supportive peer environment that supports participatory education is highlighted by the fact that 72.5% of respondents feel extremely comfortable and 26.3% are

moderately comfortable, with very little discomfort, when it comes to openness in conversation. Cost savings (31.3%), environmental effect (26.3%), peer influence (22.5%), and health advantages (20%), among other motivational factors, indicate that economic and ecological messaging may be more convincing than appeals based on health. There is a need for reliable, kid-friendly digital content because social media is the most popular source of knowledge (47.5%), followed by seminars (32.5%), friends and family (18.8%), and medical experts (10%). Interestingly, 87.5% had never participated in a menstrual cup workshop, indicating a significant deficiency in formal teaching. Lastly, 93.8% of respondents favor college subsidies, highlighting the high demand for institutional support. Overall, the evidence indicates that targeted menstrual health interventions have clear prospects due to social openness and economic

motivations, even though practical concerns still exist.

Results

A solid basis for creating focused menstrual health interventions is provided by the survey data on menstrual cup awareness and attitudes, which provides a thorough understanding of behavioral patterns, informational gaps, and motivating drivers among respondents. Only 8.75% of respondents fall into the Poor category, indicating limited awareness or engagement, while the majority (51.25%) fall into the Average range, indicating moderate familiarity with menstrual cups and related concepts, according to the score distribution, which is divided into three categories: Poor (0-4), Average (5-8), and Good (9-12). A noteworthy 40% of respondents received a Good score, indicating a potential degree of comprehension and transparency. This distribution indicates that even while a sizable segment of the populace is open-minded and knowledgeable, formal education and peer-led lobbying are still necessary to uplift individuals in the lower and intermediate tiers. When it comes to specific questions, 61.25% of respondents said that insertion difficulty is their biggest worry when using a menstrual cup. This draws attention to a practical obstacle that can discourage novice users and emphasizes the necessity of educational resources, practical examples, and peer endorsements to demystify the procedure. 30% of respondents have hygiene concerns, which reflect worries about safety and cleanliness. These issues can be resolved with evidence-based messaging and support from medical experts. It's interesting to see that social stigma receives no answers, indicating that cultural taboos might not be the main obstacle in this population. Just 8.75% of respondents say they have no worries, highlighting the significance of using focused communication to address certain anxiety. 47.5% of respondents indicated "maybe," 30% said "yes," and 22.5% said "no" when asked if peer recommendations would affect their decision to try a menstrual cup. This suggests that, while not always, peer influence has a significant impact. The high "maybe" answer implies that although peer advice is appreciated, it might not be enough to promote adoption on its own. This creates opportunities for ambassador models, testimonial-based campaigns that blend factual information with personal narratives, and organized peer education programs. The fact that 56.3% of respondents have a close friend or relative who has used a menstrual cup lends more credence to the impact of social networks. When paired with candid communication and shared experiences, this exposure can normalize the product and lessen reluctance.

A startling 72.5% of respondents say they are extremely comfortable talking about menstruation cups with friends, while 26.3% say they are somewhat comfortable. Only 1.3% say they are uncomfortable, and none say they "never discuss" the subject. This implies a comparatively stigma-free peer environment that can be used for peer-to-peer interaction and participatory education. In menstrual health advocacy, being open to discussion is essential because it allows information to spread naturally and promotes a transparent and supportive society. Cost savings were the most common reason to use a menstrual cup (31.3%), followed by environmental effect (26.3%), peer pressure (22.5%), and health benefits (20%). This suggests that

ecological and economic reasons could be more convincing than just health-related messaging. Potential consumers are likely to respond more favorably to campaigns that highlight long-term affordability, decreased waste, and peer validation. The need to reframe health message in terms of empowerment and autonomy is highlighted by the comparatively reduced emphasis on health advantages, which implies that while safety and hygiene are concerns, they may not be the main motivators. Social media is the most popular source of knowledge (47.5%), followed by seminars at schools and colleges (32.5%), friends and family (18.8%), and medical experts (10%). This illustrates how menstrual product knowledge is mostly shaped by informal and digital channels, particularly among younger demographics. It also emphasizes the need for reliable, kid-friendly content on social media sites like YouTube, Instagram, and WhatsApp, where false information may spread quickly. A gap in clinical engagement that may be filled by outreach and training is indicated by the comparatively low dependence on healthcare professionals, which may indicate either restricted access or perceived irrelevance. Only 11.3% of respondents reported attending a menstrual cup session or workshop, compared to 87.5% who did not and 1.3% who were unclear. This is an important finding. This highlights a significant lack in organized menstrual health education and gives organizations a great chance to host practical seminars, product demystifications, and Q&A sessions to boost confidence. These seminars, which are best led by qualified peer educators and bolstered by visual aids and sample kits, could be incorporated into community outreach programs, health camps, or college orientation programs. Lastly, 65% of respondents agreed and 28.8% strongly agreed that menstruation cups should be free or subsidized in colleges; only 5% disagreed and 1.3% definitely disagreed. Both economic necessity and favorable opinions of institutional assistance are reflected in the overwhelming support for subsidization. In order to guarantee accessibility, it presents a compelling argument for legislative lobbying, the inclusion of menstruation cups in campus health programs, and collaborations with NGOs or government initiatives. In addition to lowering financial obstacles, subsidies convey institutional support, which can boost uptake and trust.

The survey results presents a complex picture of attitudes and awareness regarding menstruation cups. Adoption is facilitated by the lack of stigma, open communication, and robust peer networks, even though practical issues like insertion and hygiene continue to be major obstacles. Digital platforms are essential for the spread of information, and economic and environmental incentives are strong levers. Clear policy and programmatic opportunities are indicated by the absence of formal schooling and the high demand for subsidies. Stakeholders may promote menstrual equity and enable people to make knowledgeable, self-assured decisions about their menstrual health by addressing these insights through inclusive, evidence-based, and participatory ways.

Discussion

The study's conclusions offer insightful information about college students' perspectives, understanding, and obstacles related to menstrual cup adoption. While 40% of

respondents showed strong awareness, the majority (51.25%) stayed in the average range, and 8.75% showed poor knowledge, according to the score distribution. This implies that while menstruation cups are not wholly unknown, there is still a significant knowledge gap that requires focused awareness campaigns and organized instruction. Over 60% of responders cited insertion difficulty as a major obstacle. This is consistent with previous research that highlights the value of practical advice, peer endorsements, and health education in fostering confidence in product use. Concerns about hygiene (30%) also surfaced as a frequent problem, highlighting the necessity of precise, fact-based information from reliable sources like medical experts. It's interesting to note that, in contrast to many previous research conducted in rural or conservative situations, cultural stigma did not play a significant role in the outcomes. According to this research, societal taboos may be less important among college students, creating a favorable atmosphere for the introduction of cutting-edge menstrual products. With 56.3% of respondents knowing someone who has used a menstrual cup and nearly half saying that peer recommendations might impact their decisions, the role of peer influence was clear. This suggests the possibility of peer-led teaching strategies, especially when combined with the high comfort level (72.5%) when talking about menstruation cups with peers. Global narratives surrounding sustainable menstruation are also reflected in motivational factors like cost savings (31.3%) and environmental effect (26.3%), indicating that economic and ecological framing may be more persuasive than health-centric messaging alone.

Strong support for institutional or policy initiatives is indicated by the very positive response (93.8%) regarding subsidization, which highlights the financial obstacles faced by students. All of these findings point to the necessity of multifaceted approaches that include institutional seminars, peer advocacy, reliable digital content, and policy support in order to normalize the use of menstruation cups and advance menstrual equity in higher education settings.

Conclusion

This study provides important insights for menstrual health education and policy creation by highlighting the crucial intersections of college students' knowledge, perception, and uptake of menstrual cups. The results show that although awareness levels are encouraging, the biggest obstacles to widespread adoption continue to be practical issues such as insertion difficulty and hygiene concerns. The majority of respondents showed average understanding, with only a tiny percentage falling into the low group and 40% exhibiting good awareness. This distribution shows that although there is a basis of understanding, it is unequal and needs systematic interventions to help the majority apply it with confidence and knowledge. The lack of societal stigma as a significant obstacle is among the most startling conclusions. This sample showed a high degree of openness while addressing menstruation cups, in contrast to earlier studies carried out in rural or conservative settings where taboos and cultural beliefs dominated the debate. Over 70% of participants said they felt extremely comfortable discussing menstruation cups with their peers, indicating that there are

supportive peer networks in college settings that can be successfully used for awareness campaigns. This is a significant potential because testimonial-driven campaigns, ambassador initiatives, and peer education models can all serve as effective means of normalizing the use of menstruation cups. The study also highlights how economic and environmental factors, rather than health advantages, are the main drivers of menstrual cup adoption. The most persuasive motivators were cost savings (31.3%) and environmental sustainability (26.3%), which is consistent with larger global narratives surrounding sustainable menstruation. This finding implies that advertisements portraying menstruation cups as economical and environmentally advantageous may have a greater impact on young adults than those that are just focused on health. The need to redefine menstruation health communication as a question of empowerment, autonomy, and long-term well-being rather than just hygiene and safety is highlighted by the comparatively lesser emphasis on health advantages.

Sources of information are also very important. The most popular medium was found to be social media (47.5%), followed by peer groups and seminars. This highlights the dangers of false information and the lack of medical authority in forming narratives, even as it shows the reach of internet platforms. The medical community's minimal involvement in menstrual health education or lack of access are the reasons for the low dependence on medical professionals (10%). This disparity emphasizes the critical need for cooperative interventions that bring together academic institutions, healthcare providers, and digital campaigns to deliver accurate, kid-friendly information. The absence of formal teaching was found to be a significant gap: 87.5% of respondents had never gone to a menstruation cup session. This implies that although informal peer and digital channels offer exposure, they are not enough to give young women the confidence and practical skills necessary for adoption. Therefore, institutional initiatives like health awareness camps, workshops, and orientation programs are crucial. Insertion challenges can be addressed, familiarity can be increased, and misconceptions can be dispelled through practical demonstrations, peer testimonials, and Q&A sessions. The strong support (93.8%) for menstrual cup subsidies or free distribution at universities highlights the importance of institutional support and policy in removing financial obstacles. This research makes a compelling case for the inclusion of menstruation cups in government programs, NGO-led projects, and college health programs. In addition to lowering costs, subsidization conveys institutional support, which fosters legitimacy and confidence.

Although there are still practical difficulties, the situation is generally encouraging. Scaling the use of menstruation cups is made possible by the lack of shame, the openness of debate, the powerful influence of peers, and the broad support for institutional provision. Going forward, a combination of peer-led activism, organized seminars, reputable internet campaigns, and supporting policies are needed. By bridging the knowledge gap between awareness and practice, these strategies can promote menstrual equity and provide college students the power to make wise, sustainable decisions. In the end, removing these obstacles and taking use of these opportunities advances public health,

gender justice, and environmental sustainability in addition to better managing menstrual hygiene.

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