

Menstrual Practices among Medical Students in a Tertiary Care Teaching Hospital in Central Kerala

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Abstract

Introduction: Menstruation is a part of women's healthy well-being. The objective of this study was to assess the menstrual hygiene practises among female medical students in a tertiary care teaching hospital in Central Kerala.

Methods: An institution-based cross-sectional study was conducted in 2021 among 225 female undergraduate MBBS students aged 18–25 years in a tertiary health care facility in Kerala. The data was collected using an expert validated semi-structured questionnaire after obtaining informed consent from the participants via Google Forms. The universal sampling technique was used, and the data was analysed with SPSS version 20.0.

Results: The mean age of the study participants was 21.65 ± 1.34 years and 91.1% were from the APL socioeconomic category. 95.5% of participants were using disposable sanitary pads. The frequency of washing external genitalia and changing sanitary products were adequate in 69.4% and 33.8% respectively. The common mode of disposal of menstrual products were burning(50.2%), incineration(34.7%) and discarded into general waste(8.9%). 66.7% were not allowed to do religious activities during menstruation.

Conclusion: Most of participants used disposable sanitary pads. The frequency of changing sanitary products and their disposal was found to be inadequate. Menstruation related myths were common among participants.

Keywords: Sanitary pads, Menstrual hygiene, Menstrual cup, medical students, myths

Introduction

Menstruation is a part of women's healthy well-being. Women's health has a big impact on the community in addition to themselves. Individuals' attitudes on menstruation and how it should be addressed can differ based on their experiences, how they assess their health. In addition social and

cultural influences also have an impact. Menstruation poses social, psychological, and health challenges for young girls and women living in middle income countries.^[1]

Menstruation-related issues are considered taboo and not to be discussed publicly, so related research was insufficient. But it is extremely important to

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ensure the safety and quality of menstrual hygiene products as they are in repeated, direct contact for a longer duration in women's lives.^[2]

Sanitary protection material that is preferred by an individual is based on personal choice, cultural acceptance, economic status, and availability in the local market. Clothes were commonly used as menstrual absorbents in the past.^[3] However, recently there has been a rise in awareness regarding menstrual hygiene and the usage of various sanitary products, and among them, the usage of sanitary pads is more prevalent. Also, due to the easy accessibility of social media, people are able to learn about various new sanitary products.^[4,5]

Most of them were using disposable sanitary products, which pose a major threat to the environment. So it is advisable to use sustainable, reusable, and eco-friendly products like menstrual cups. It is not advisable to flush the used sanitary products or throw them away with general waste. Burning is also not advisable; instead, incineration can be used as a method of disposal.^[6,7,8]

If adequate menstrual hygiene is not maintained, women may contract genito-urinary tract infections, which can lead to pelvic inflammatory diseases.^[4] This study gives an understanding of the practices female medical students adopt for maintaining proper menstrual hygiene. This study aims to assess the menstrual hygiene practices among female medical students within the age group of 18–25 years in Central Kerala.

Materials and Methods

Study design: Institution-based cross-sectional study.

Study area: The study was conducted at a private medical college in Central Kerala.

Study population: MBBS undergraduate students from the selected medical college in Central Kerala.

Inclusion criteria: Female medical students aged between 18 and 25 who were willing to participate in the study. Informed consent was obtained via Google form from all the participants.

Sample size: Sample size was calculated using the formula, $n = Z\alpha^2pq/d^2$ at 5% significance level with an allowable error of 6.2% and was found to be 218.^[9]

Sampling method: Universal sampling

Study duration: November 2021 to December 2021

Study tools and data collection:

The study tool used for data collection was a semi-structured questionnaire containing personal details and questions on the menstrual practices of female medical undergraduate students between 18-25 years of age. The purpose of the study was well explained to all the participants. An online questionnaire via Google Forms was kept active for four days and then closed. Data from online Google forms were entered into MS Excel spreadsheets. Throughout the procedure, anonymity was maintained.

Statistical analysis: The information gathered was entered into a Microsoft Excel spreadsheet, and a master chart was created. The data was analyzed using the software SPSS version 20. Frequency distribution tables and graphs were generated. Descriptive statistics were expressed in percentage and frequency.

Ethical concern: Informed consent was obtained from medical students prior to data collection through Google forms. Confidentiality was maintained through the anonymity of the collected data. The study adhered to the terms of the Declaration of Helsinki for research in humans.

Results

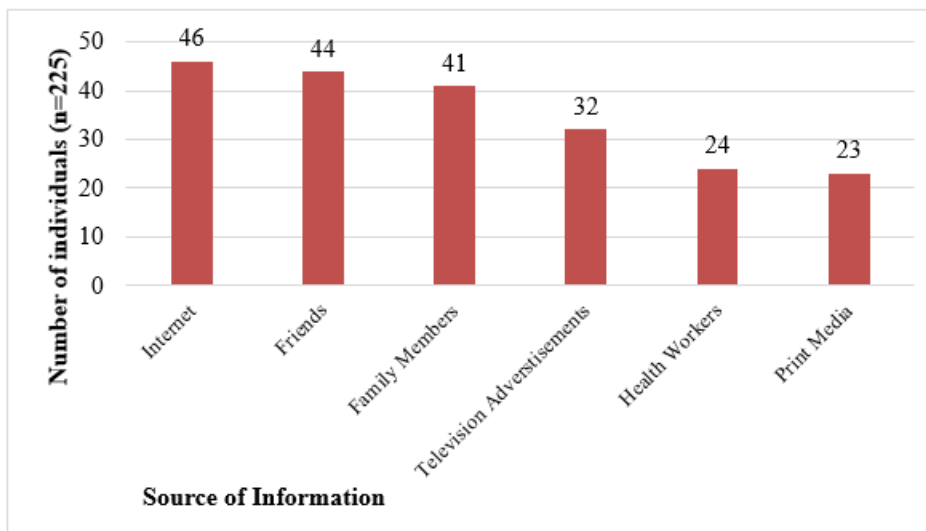
Among the 237 participants, 12 of them found it difficult to give information about their personal menstrual hygiene practices, so the study was conducted among 225 participants (response rate: 94.9%). The mean age of the study participants was 21.65 ± 1.34 years. The majority of them were from the APL socio-economic category (Table 1).

Table 1: Distribution of study participants based on socio-demographic characteristics (n=225)

Variables	Category	Frequency (%)
Age (in years)	18 - 21	103 (45.8%)
	22 - 25	122(54.2%)
Marital status	Married	10 (4.4%)
	Unmarried	215 (95.6%)
Highest Educational status	Higher Secondary or equivalent	211 (93.8%)
	Degree or equivalent	14 (6.2%)
Socio economic status	APL	205 (91.1%)
	BPL	20 (8.9%)
Year of admission	Final year	54 (24%)
	Third year	53 (23.6%)
	Second year	62 (27.6%)
	First year	56 (24.9%)

The majority of participants [214 (95%)] were aware of sanitary pads, but only one participant (0.4%) was aware of period underwear. Tampons [148 (65.8%)], menstrual cups [178 (79%)], the use of fresh

cloths [125 (55.6%)], and old rag cloths [61 (27.1%)] were also known to many participants. Common sources of information among participants were the internet, friends, and family members (Figure 1).

**Figure 1: Distribution of study participants based on source of information about menstrual hygiene products (multiple responses)****Table 2: Distribution of study participants based on activities forbidden during menstruation (multiple responses)**

Activities forbidden during menstruation	Number of individuals (n=225)	Percentage (%)
Not allowed to do religious activities	150	66.7
Not go to certain places.	52	23.1
Not to touch certain things	47	20.9
Not to eat certain food	10	4.4
Not allowed to cook	5	2.2
Not allowed to go out	1	0.4

Two-thirds of the participants were not allowed to participate in religious activities (Table 2). About

70 participants had no restrictions, and a few of them were not allowed to eat certain foods or cook food.

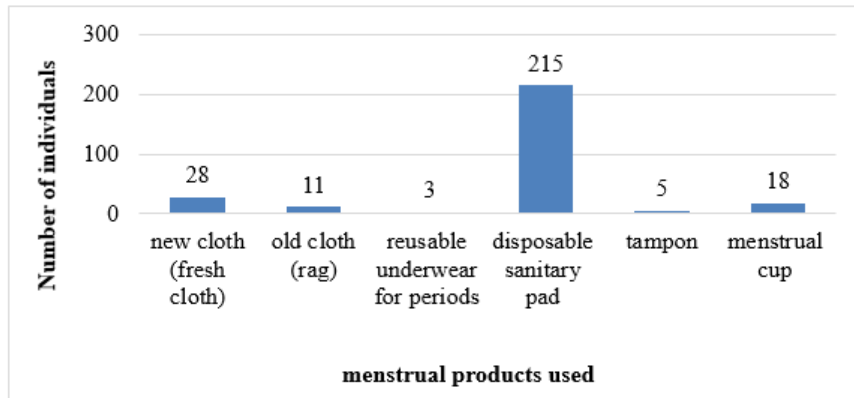


Figure 2: Distribution of study participants based on the products used during menstruation (multiple responses) n=225

Out of the 225, the majority (95%) had used disposable sanitary pads, and only a few of them used tampons, cloths, or menstrual cups during menstruation (Figure 2). The expense of sanitary

products had no financial impact on 109 (49%) of the participants. It had a moderate and significant financial impact among the 91 (40%) and 25 (11%) study participants.

Table 3: Menstrual practices among study participants

Menstrual Hygiene	Category	Number of participants	Percentage (%)
Reuse of sanitary products (n=225)	No	192	85.3%
	Yes	33	14.7%
Method of drying re-used sanitary products (n=33)	Dry it outside in bright sunlight	23	69.7%
	Dry it inside house	7	21.2%
	Dry it in a hidden area indoors	2	6.1%
	Others	1	3%
Method of cleaning re-used sanitary products (n=33)	With water only	1	3%
	With soap and water	12	36.4%
	With soap, savlon/dettol and water	18	54.6%
	Doesn't clean	1	3%
	Cleaning solution	1	3%
Frequency of changing menstrual products (n=225)	Once	4	1.8%
	Twice	48	21.3%
	Thrice	97	43.1%
	Four or more times	76	33.8%
Frequency of cleaning external genitalia (n=225)	Once	4	1.8%
	Twice	19	8.4%
	Thrice	46	20.4%
	Four or more times	156	69.4%
Mode of disposal at place of stay (n=225)	Burning	113	50.2%
	Incineration	78	34.7%
	Throw the pads/clothes in general waste	20	8.9%
	Flush them in toilet	5	2.2%
	Others	9	4%

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Convenience in changing sanitary material at the institution (n=225)	Convenient	182	80.9%
	Inconvenient	43	19.1%
Facilities towards menstrual hygiene at the institution (n=225)	Appropriate for managing menstrual hygiene	169	75.1%
	Inappropriate for managing menstrual hygiene	56	24.9%
Modes of disposal at the institution (n=225)	Throw into separate bin in toilet	186	82.7%
	Flush them in toilet	5	2.2%
	Throw into biomedical waste	22	9.8%
	Throw into general waste bin	12	5.3%

The majority of participants [193 (85%)] do not reuse their sanitary products. Details regarding menstrual practices among study participants are given in table 3. The majority (182, 80.9%) could change their menstrual hygiene products whenever they wanted, while the remaining (43, 19.1%) found it inconvenient. Table 4 shows the difficulties faced by participants in practicing menstrual hygiene practices in the institution.

Table 4: Distribution of study participants based on difficult in practicing menstrual hygiene practices in institution (multiple response, n=43)

Reasons	Number of participants
No separate waste bins in washroom for disposing sanitary materials	32
No incineration facilities for disposable sanitary pads/cloths	23
No tissue paper or soap	6
No emergency accessibility of sanitary products	6

Discussion

This study assessed the menstrual hygiene practices among medical students in central Kerala. In the present study, the majority were using disposable menstrual pads, and very few used new clothes. A similar result was found in the study conducted in Korea by Hansol Choi et al on women of reproductive age (18–45 years). They found that disposable menstrual pads (64.6%) and cloth menstrual pads (4.5%) were used in their study population. [7] But in

a study conducted among the adolescent schoolgirls of Nagpur, it was found that the majority of the girls were using old clothes, and very few were using sanitary pads that were available in the market. [8] The use of sanitary pads in the present study was much higher than in the above study; this may be due to the higher socioeconomic status, greater availability of the pads, or greater awareness about menstrual hygiene among medical students.

In the present study, only 15% of the participants reused their sanitary products. As per the study conducted by Subhash et al in Nagpur, the practice of reusing old clothes was reported by 45.74% of participants. [8] This may be due to the higher socioeconomic status of the present study population. In the present study, among those who reused the sanitary products, it was revealed that 70% of them dried their reusable sanitary products outside under bright sunlight, which is comparable to a study conducted in Nagpur, where 63.1% of them dried their reusable sanitary products outside under bright sunlight.[8]

The frequency of washing external genitalia among the present study population was satisfactory in 70% of participants when compared to a study conducted in Nagpur, where it was unsatisfactory in 66% of participants. [8] This difference may be due to the higher literacy rate and a better standard of sanitary hygiene practices. In the current study, about 34% of individuals changed their sanitary products four or more times per day, which was much more than the studies conducted by Prajapati et al (5.5%) in Gujarat. [8] The population in the present study had better knowledge regarding the change in sanitary products.

Half of the study participants in the present study were financially affected (significantly or moderately) by the practice of safe menstrual hygiene. In a study done by Dhara et al in rural areas of Gujarat, it was found that 9.7% of women couldn't use sanitary pads because of the cost. [9] Another study done in Maharashtra found that non-usage of sanitary pads was reported in 40% of the individuals from rural areas, owing to their socio-economic status. [8] This result is in congruence with the study conducted by us.

According to the present study, most of the participants preferred burning as the main mode of disposal. While others prefer incineration, and very few opt for other methods such as disposal into general waste, flushing down the toilet, etc. Very few used reusable menstrual cups. Similar results were found in a previous study conducted among adolescents from rural high schools in the Thrissur district, Kerala. They found that the majority of girls preferred burning as the major mode of disposal (75.6%), followed by throwing them into general waste, while the rest flushed it down the toilet. [10]

With reference to the present study, a large proportion of the participants involved in the study found it convenient enough to change their sanitary materials at work (81%), and therefore look after their sanitary hygiene. Only a few found it inconvenient. Now, according to the community-based cross-sectional study conducted on schoolgirls in Maharashtra, they observed that the majority of the girls find it inconvenient to change their sanitary material at school and do not do so. [8] Only a small number of participants change the products at school. Thus, we come to the conclusion that the standard of sanitary hygiene is better in institutions in Kerala than in other states as it has a higher literacy rate and standard of hygiene. Our state also takes a huge step towards raising awareness about the importance of hygiene for girls of menstrual age.

In the current study, the majority (192) disposed of the sanitary materials into separate bins kept in the toilet at work. A similar study done by Karthika et al in Thrissur district, Kerala, found that, among the rural high school students, 75.6% resorted to burning. [10] This could be associated with a lack of awareness or the stigma associated with the topic in question.

In research conducted based on whether there are appropriate facilities at their workplace for managing menstrual hygiene, 22% of females disagreed. The most common reason for their disagreement is the lack of separate waste bins in the washroom for disposing of sanitary pads and materials, followed by the lack of incinerating facilities for disposable sanitary pads/clothes. In a review article compiled by Rajanbir et al, the frequency of women reporting a lack of waste bins for disposing of sanitary pads was lower than in the present study. [11] In the present study, females complained of a lack of incineration facilities for the disposal of pads. However, in the study by Rajanbir et al., they did not dispose of pads despite the availability of incinerators due to their shyness.

The study was limited to medical students due to the ongoing COVID pandemic and the omicron variant. Due to the social stigma, the population had to be limited to students, as the topic is considered sensitive.

Conclusion

Menstrual hygiene is important in the empowerment and well-being of girls and women worldwide. Most of the participants used disposable sanitary pads. The frequency of changing sanitary products and their disposal was found to be inadequate among most of the participants. Menstruation-related myths were common among participants. The majority are able to change the menstrual hygiene products at the institution when they want to, while the remaining finds it inconvenient. The institution can provide better hygienic conditions, such as a separate bin to dispose of used sanitary items, facilities for proper hand hygiene, and health awareness programmes for students.

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Conflict of Interest: Nil

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