

Menstruation Related Practices and their Determinants in Adolescent Girls of Urban Area of District Ghaziabad

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ABSTRACT

Background: Menstrual hygiene is essential for the health and well-being of adolescent girls. Although awareness and the use of sanitary pads have improved, several restrictions and gaps in hygienic practices still persist. **Aims & Objectives:** To evaluate menstrual hygiene practices in school going adolescent girls and to determine their correlation with sociodemographic variables. **Methods:** Cross-sectional study was carried out in 140 school going adolescent girls in district Ghaziabad. A pre-designed and semi-structured questionnaire was used to collect data and then participants were subjected to counselling through awareness session. Data was collected in MS EXCEL and statistical analysis was done using appropriate statistical methods. **Results:** Most of the participants (60%) were from 16–18 years of age. Among the participants 82.9% used sanitary pads and the remaining used cloth. Overall, 51.4% of the girls changed their absorbents 2–3 times daily. 57.9% of girls practiced genital hygiene and 60.7% of girls reported changing undergarments daily. Significant associations were observed between age, class, and religion with various hygiene practices, However, there was no discernible correlation with socioeconomic level. 84.3% of girls reported missing school while they were menstruating and 75% preferred to stay indoors during this time. Despite good awareness, several traditional restrictions and poor hygiene practices were prevalent. **Conclusion:** Although most adolescent girls use sanitary pads, significant gaps in hygiene practices and traditional restrictions persist. These ongoing taboos and poor practices highlight the urgent need for targeted interventions. Strengthening education, encouraging open discussion, and implementing focused interventions are essential for improving menstrual health among adolescent girls.

KEYWORDS

Menstruation; Menstrual Hygiene Products; Sanitary Napkins; Adolescent; Health Behaviour; India

INTRODUCTION

According to the World Health Organization, adolescence is the age group of 10–19 years. In India, menarche commonly occurs between 10 and 16 years of age (mean 13.5 years), making proper menstrual hygiene essential for the health and well-being of adolescent girls.(1)

Menstruation is a normal biological process; however, in many developing countries including India, it is still associated with stigma, misconceptions, and cultural taboos. These factors can cause physical discomfort, emotional distress,

and negatively affect the well-being and confidence of adolescent girls during this critical stage of development.(2)

Adolescence is a transitional period from childhood to womanhood that requires special attention to health and hygiene. Poor menstrual hygiene practices can increase the risk of reproductive tract infections and other health problems, and may also affect a girl's comfort, dignity, and well-being.(1,3) Information about menstruation is often obtained from mothers or peers, which may be incomplete

or inaccurate, leading to a persistent knowledge gap among adolescent girls.(4)

Early education on menstruation can promote healthy practices and improve the well-being of adolescent girls.(5)

Hence, this study was done with the aim to evaluate menstrual hygiene practices in school going adolescent girls and to determine their correlation with sociodemographic variables.

MATERIAL & METHODS

Study Type and Design: A school-based cross-sectional study

Study Setting: The study was conducted in an urban area of District Ghaziabad, Uttar Pradesh. One school was selected randomly from the list of schools in the urban area.

Study Population: School-going adolescent girls who had attained menarche and were present on the day of the survey.

Study Duration: The study was conducted during the year 2025.

Sample Size: A total of 140 adolescent girls participated in the study.

Inclusion Criteria

School-going adolescent girls aged 10–19 years

Girls who had attained menarche

Those who provided consent to participate

Exclusion Criteria

Girls who had not attained menarche

Those absent during data collection or unwilling to participate

Strategy for Data Collection: Data were collected through face-to-face interviews using a pre-designed and semi-structured questionnaire. The tool included sections on sociodemographic profile, menstrual hygiene practices and restrictions faced during menstruation.

Working Definitions

Adolescent: Girls aged 10–19 years (WHO definition)

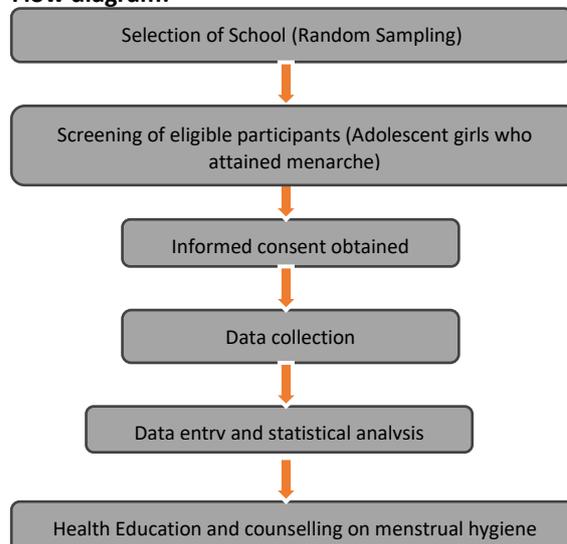
Proper menstrual hygiene practice: Use of sanitary absorbents, regular changing, genital hygiene, and safe disposal methods.

Ethical Issues and Informed Consent: Informed consent was obtained from school principal and participants. Confidentiality and anonymity of the participants were maintained. Awareness and counselling sessions were organised after completion of data collection. Counselling regarding menstrual physiology, hygiene practices and proper use and disposal of absorbents, during menstruation was done. Awareness sessions were organized to bust myths and break the silence around the restrictions adolescent girls face during menstruation, such as not entering kitchens or attending religious places. Interactive sessions were

also conducted using group discussion and question and answers.

Data Analysis (Software): Data were entered in Microsoft Excel and analysed using Stata MP version 17. Appropriate statistical tests were applied and p-value <0.05 was considered statistically significant.

Flow diagram:



RESULTS

Table-1: Socio-Demographic Profile of Participants.

Sociodemographic characteristics	Number	Percent (%)
Age groups		
10-12	4	2.9
13-15	52	37.1
16-18	84	60.0
Religion		
Hindu	116	82.9
Muslim	21	15.0
Other	3	2.1
Number of family members		
3 – 5	74	52.9
6 – 8	59	42.1
9 - 11	7	5
Socio-economic status according to (Modified B.G Prasad 2025)		
I	139	99.3
II	1	0.7
Total	140	100.0

Table I shows that the majority of participants belonged to the age group of 16–18 years. Most of the girls were Hindus and were from families comprising 3–5 members. Nearly all participants belonged to the upper socioeconomic class (Class I) as per the Modified B.G. Prasad classification.

Table-2: Restrictions observed in study participants during menstruation.

Restrictions	Number	Percentage (%)
Washing Hairs		
Yes	20	14.3
No	120	85.7
Going to Religious places		
Yes	2	1.4
No	138	98.6
Entering kitchen/Preparing food		
Yes	87	62.1
No	53	37.9
Staying Indoors		
Yes	105	75
No	35	25
Attending Outdoor Games		
Yes	29	20.7
No	111	79.3
Going to School		
Yes	118	84.3
No	22	15.7

In Table 2 most participants reported various social restrictions during menstruation. The common restrictions included avoiding religious places, staying indoors, and not participating in outdoor games. A considerable proportion of girls were also restricted from entering the kitchen or preparing food. However, restriction from attending school was reported by a smaller proportion of participants.

Table 3: Practises of adolescent girls during menstruation.

Practises	Number	Percentage (%)
Absorbent used		
Clothes	24	17.1
Sanitary pads	116	82.9
Frequency of Changing		
Only once	63	45
2 - 3 times	72	51.4
>3 times	5	3.6
Disposing the Absorbent		
Dumping openly	46	32.9
Flushing in toilet	10	7.1
Rolling in paper and dumping	75	53.6
Other	9	6.4

Table 4: Association between menstrual practises of adolescents' girls with socio-demographic variables.

	Type of absorbent		p value χ^2	Frequency of changing absorbent			p value χ^2	Do you clean your genitals		p value χ^2	Changing undergarments			p value χ^2
	Pad	Cloth		once	2-3 time	>3 times		Yes	No		Daily	2-3 days	>3 days	
Age														
10-Dec	2	2	0.025	4	0	0	0.033	0	4	0.012	2	2	0	0.561
13-15	48	4	7.396	29	21	2	10.491	26	26	8.808	28	23	1	2.979

Washing Hands after Disposal		
Yes	120	85.7
No	20	14.3
Agent used for Washing Hands		
Only water	79	56.4
Both soap and water	55	39.3
Others	6	4.3
Cleaning Genitals		
Yes	81	57.9
No	59	42.1
Way of Cleaning		
Only water	54	38.6
Soap and water	21	15
Commercial prepared washes	6	4.3
I don't wash	59	42.1
Frequency of Changing Undergarments		
Daily	85	60.7
2 - 3 days	51	36.4
>3 days	4	2.9
Drying of Undergarments		
Bathroom	51	36.4
Inside the house	43	30.7
Open in the Sun	46	32.9
Taking Bath During Menstruation		
Daily	79	56.4
2 - 3 days	59	42.1
>3 days	2	1.4

Table 3 illustrates that most of the participants reported using sanitary pads as the menstrual absorbent. About half of the girls changed their absorbent two to three times a day. The common method of disposal was wrapping the used absorbent in paper and discarding it, although some girls still practised open disposal. The majority reported washing their hands after disposal, however, many used only water instead of soap. More than half of the participants practised genital hygiene, while a considerable proportion did not clean the genital area during menstruation. Most girls changed their undergarments daily, but some changed them less frequently. Drying of undergarments was commonly done inside the house or in the bathroom, with fewer girls drying them in the sunlight. More than half of the participants reported taking a daily bath during menstruation.

	Type of absorbent			Frequency of changing absorbent			Do you clean your genitals			Changing undergarments				
16-18 Class	66	18		30	51	3		55	29		55	26	3	
5th-7th	3	3	0.038	6	0	0	0.027	0	6	0	2	4	0	0.006
8th-10th	58	14	8.436	38	32	2	14.294	33	39	22.237	35	33	4	17.966
11th-12th	55	7		19	40	3		48	14		48	14	0	
Religion														
Hindu	97	19	0.515	53	60	3	0	66	50	0.869	73	39	4	0.516
Muslim	16	5	1.325	10	11	0	36.097	13	8	0.28	10	11	0	3.258
Other	3	0		0	1	2		2	1		2	1	0	
Socio economic status (Modified B.G Prasad 2025)														
1	115	24	0.648	62	72	5	0.54	80	59	0.392	84	51	4	0.722
2	1	0	0.208	1	0	0	1.231	1	0	0.734	1	0	0	0.652

Table 4 shows that age and educational class were significantly associated with the type of absorbent used, frequency of changing absorbent, and genital hygiene practices. Changing of undergarments was significantly associated with educational class. Religion showed a significant association only with the frequency of changing absorbent. No significant association was observed between socioeconomic status and any of the menstrual hygiene practices.

DISCUSSION

In the present study, 82.9% of adolescent girls reported using sanitary pads during menstruation. Similar findings were seen in the results of Suneela Garg et al. (2022), who reported that 84.4% of girls from low-income urban areas in Delhi used sanitary pads(6). Similarly, Vidhi Parikh et al. (2022) found that 96.06% of adolescent girls in a university setting in Gujarat used sanitary napkins, likely reflecting better access and awareness in higher educational settings.(7) In contrast, Geetika et al. (2023) found a slightly lower usage (72%) in rural Patna, which may be attributed to limited resources and access(8). A major difference was observed in a tribal group studied by Prasanna Kumar Mudi et al. (2023) in Odisha, where only 9.2% of Juang women used sanitary pads which can be due to less awareness and limited access for affordable sanitary napkins (9). Ishita Sarkar et al. (2017) also reported lower usage (64%) in school-going young girls in rural areas of West Bengal(10).

Regarding social restrictions during menstruation, 98.6% of the participants in the present study reported not going to religious places during their periods. This finding is consistent with Geetika et al. (2023), where 92% of girls refrained from attending religious functions(8). Ishita Sarkar et al. (2017) also found that 86.3% of participants were restricting themselves to go to religious places during menstruation. Even among tribal women in Odisha, 85% of married women studied by Prasanna Kumar Mudi et al. (2023) were not allowed to attend religious activities suggesting the fact that such cultural practices are prevalent across urban, rural

and tribal populations(9). This practice mainly comes from traditional cultural and religious beliefs that see menstruation as something unclean or impure. Vidhi Parikh et al. (2022) also reported a slightly lower percentage (74.8%) of girls avoiding religious places which may reflect increasing awareness and changing attitudes in some urban populations.(7)

In terms of hygiene practices, 32.9% of adolescent girls in the present study reported drying their undergarments in sunlight but Geetika et al. (2023) found that 93% of participants reported drying their undergarments in sunlight, which may be due to availability of plenty of open space in rural areas, allowing them to dry clothes more freely and hygienically (8). Ishita Sarkar et al. (2017) reported a similar figure (27.8%) for drying reusable cloth in sunlight.(10) . A smaller number of participants reported drying their undergarments in sunlight, which could be due to lack of awareness, limited private space, or feelings of embarrassment while drying clothes in open areas. This suggests that menstrual hygiene practices are influenced by local conditions and the availability of suitable facilities. It emphasises how crucial it is to educate adolescent girls about proper menstrual hygiene and provide community assistance in order to promote safe and stigma-free practices.

CONCLUSION

The study found that although the majority of adolescent girls used sanitary pads, several unhygienic practices and social restrictions during menstruation were still prevalent. Menstrual hygiene practices were significantly associated with age, class, and religion, while socioeconomic status showed no significant association. These findings indicate that awareness alone is insufficient, and social and cultural factors continue to play an important role.

RECOMMENDATION- DONE

- Regular health education sessions on menstrual hygiene should be conducted in

schools to improve knowledge and promote healthy practices among adolescent girls.

- Schools should ensure easy availability of sanitary pads and provide adequate facilities for safe disposal, such as covered bins and incinerators.
- Behaviour Change Communication activities such as group discussions, peer education, and counselling should be carried out to address myths, misconceptions, and social taboos related to menstruation.
- Awareness programs should also involve teachers, mothers, and parents to create a supportive environment for adolescent girls.
- School health programs and adolescent health services should be strengthened to promote menstrual hygiene management.

LIMITATION OF THE STUDY- DONE

The study was conducted in only one school, so the findings may not represent all adolescent girls. Also, the information was self-reported, which may be influenced by recall errors or the tendency of participants to give socially acceptable responses.

RELEVANCE OF THE STUDY- DONE

This study shows that gaps in menstrual hygiene practices and social restrictions still exist among school-going adolescent girls even in an urban setting. The findings highlight the need for targeted interventions such as regular school-based health education sessions, inclusion of menstrual hygiene in the school curriculum, and ensuring availability of sanitary products and proper disposal facilities in schools. Behaviour Change Communication (BCC) strategies should include interactive group discussions, peer education, counselling sessions, and use of audio-visual materials to promote correct practices and dispel myths. Involving teachers, parents, and mothers in awareness activities and creating a supportive school environment can help address cultural taboos and promote healthy menstrual hygiene practices.

AUTHORS CONTRIBUTION- DONE

NA, GKG, SHNZ, and AK made substantial contributions to the conception and design of the study, acquisition of data, and analysis and interpretation of data. All authors were involved in drafting the manuscript and revising it critically for important intellectual content. All authors read and approved the final version of the manuscript

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Nil

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DECLARATION OF GENERATIVE AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

No generative AI or AI-assisted technologies were used in the writing or preparation of this manuscript.

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