

## ORIGINAL ARTICLE

## Practice of menstrual hygiene among school going adolescent girls in the rural areas of district Muzaffarnagar

Nidhi Nain<sup>1</sup>, Nirankar Singh<sup>2</sup>, Lubna Zarin<sup>3</sup>

<sup>1</sup>Junior Resident, Department of Community Medicine, Muzaffarnagar Medical College & Hospital, Muzaffarnagar, Uttar Pradesh; <sup>2</sup>Professor & Head, Department of Community Medicine, Muzaffarnagar Medical College & Hospital, Muzaffarnagar, Uttar Pradesh; <sup>3</sup>Assistant Professor, Department of Community Medicine, Muzaffarnagar Medical College & Hospital, Muzaffarnagar, Uttar Pradesh

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### Corresponding Author

Dr. Nidhi Nain, Department of Community Medicine, Muzaffarnagar Medical College & Hospital, Muzaffarnagar, Uttar Pradesh-251201.  
E Mail ID: [drnidhinainchahal@gmail.com](mailto:drnidhinainchahal@gmail.com)



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### Abstract

**Background:** Every year, May 28 is considered as the Global Menstrual Hygiene Day. Many studies have revealed that most of the adolescent girls had incomplete and inaccurate information about the menstrual physiology and hygiene. Hygiene related practices during menstruation are of considerable importance, as it has a health impact in terms of increased vulnerability to reproductive tract infections (RTI) and other health problems. **Aim & Objectives:** To find out the menstrual hygiene practices and their association with socio-demographic characteristics of study participants. **Material and Methods:** A cross sectional study was conducted among 286 school going adolescents girls in the age group of 11-19 years in 5 schools (three government and two private) in the rural area of district Muzaffarnagar. Study was conducted in December, 2021 using a pre- designed, pre-tested questionnaire. Data was analysed statistically and chi square test was applied. **Results:** Most of the girls achieved menarche at the age of 10-13 years (79.7%). Mothers of around 83.5% girls were illiterate and these girls were less aware about menstrual hygiene practices. Only 63% girls knew about menstruation before menarche. According to 75.5% girls, source of menstrual bleeding was vagina and only 65.7% girls knew about the physiology of menstruation. **Conclusion:** The study shows that there is significant lack of knowledge among girls regarding menstruation. Only 62% girls use sanitary pads as absorbent material due to various reasons like shyness, high cost, etc. Majority of girls had restrictions of not touching kitchen items and not to take bath during menses. There is a need to make the girls aware regarding menstrual hygiene by various health awareness programs in schools and the community.

### Keywords

Adolescence; Menstrual Hygiene.

### Introduction

WHO has defined "Adolescence" as the period between 10-19 years of life.(1) It is a time period between adulthood and childhood. Girls experience menstruation for the first time during adolescence. "Menstruation" may be defined as a periodic and cyclical shedding of endometrium accompanied by loss of blood. It takes place at approximately 28 days interval between menarche (onset of menstruation) and menopause (cessation of menstruation).(2) Every year, 28 May is considered as the Global Menstrual Hygiene Day. In India, the Swachh

Bharat: Swachh Vidyalaya Campaign has been launched in every school to provide WASH facilities, which includes soap and water for sanitation and private space for changing and disposal of menstrual absorbents.(3) Efforts are being made to provide low cost sanitary napkin vending machines and incinerators to dispose MHM (Menstrual Hygiene Management) products at schools.(4) Many studies have revealed that most of the adolescent girls had incomplete and inaccurate information about the menstrual physiology and hygiene. It also revealed that mothers, television, teachers and friends were the main sources who provided information on menstruation to

adolescent girls.(5) Many communities restrict menstruating women from various activities such as cooking, touching food, being with family members, attending religious ceremonies and bathing.(6) Social prohibition and strong bondage with taboos and traditional beliefs during menstruation and hesitation of parents not discussing the related issues openly to their adolescent daughters has blocked the access to get the right kind of information regarding menstrual hygiene.(7) Hygiene related practices of women during the menstruation are of considerable importance, as it has a health impact in terms of increased vulnerability to reproductive tract infections (RTI) and other health problems. There is a need to make the girls aware regarding menstrual hygiene by various awareness programs and by educating their mothers about menstruation so that they can tell girls about menstrual cycle before menarche. This study is done in the rural area because girls in the rural area are less aware about the menstrual hygiene practices.

### Aims & Objectives

1. To find out the menstrual hygiene practices among school going adolescent girls in rural areas of district Muzaffarnagar.
2. To find out the association between menstrual hygiene practices and socio-demographic characteristics of study participants.

### Material & Methods

**Study design:** A school based cross-sectional study.

**Study area:** Schools present in the Rural Field Practice Area of RHTC under the Department of Community Medicine, Muzaffarnagar Medical College & Hospital, Muzaffarnagar. There are about 15 schools (both private and government) in the field practice area of RHTC. Each school was assigned a number and then 5 schools were selected randomly by lottery method for the study.

**Study population:** School going adolescent girls in the age group of 10-19 years.

**Sample size:** All the girls in the age group 10-19, attending the school, whose menstrual cycle has been started. A total of 286 girls from the randomly selected 5 schools (by lottery method) of rural field practice area under the Department of Community Medicine were taken.

**Sampling technique:** Randomly selected 5 schools by lottery method and then, all the adolescent girls in the age group 10-19 years attending the school were selected.

**Study duration:** 2 months i.e. November, 2021 to December, 2021.

**Study method:** A self- made, pre- designed, pre- tested questionnaire regarding knowledge about menstruation, menstrual pattern and practice of menstrual hygiene was prepared and used. Questionnaire was made in both the languages: English and Hindi as selected schools were located in rural area, hindi language was more easy for them to understand.

**Data collection:** Face-to- face questions were asked from the adolescent girls by visiting schools and then, questionnaires were filled by the expert health workers. All the incomplete questionnaires were further again asked by the girls and then completed.

**Inclusion criteria:** Girls in the age group 10-19 years whose menstrual cycle have started and girls who gave consent and whose parents gave their assent to answer the questions from questionnaire. All girls who were present in the school at the day of data collection.

**Exclusion criteria:** Girls >19 years and <10 years and girls who are >10 years but their menstruation has not started yet. Girls who didn't give consent, were not having assent of their parents and who were absent on the day of data collection were excluded.

**Ethical approval:** This study was approved by the institute's ethical committee and verbal informed consent was taken from all the participants.

**Consent:** Consent was taken from the head of each school before conducting the study. Each participant was interviewed after taking verbal informed consent and written assent was taken by the parents who were informed by the head of the school about the study and the questionnaire. Only those girls were included whose parents gave their assent for the study.

**Statistical analysis:** Data was entered in MS-Excel sheet and analysed using the software SPSS 21.0. Chi- square test was applied to find out the association between socio demographic factors and menstrual hygiene practices among the study participants. p- value was calculated. p< 0.05 was considered significant.

### Results

Most of the girls achieved menarche at the age of 10-13 years (79.73%). Mother of about 92% girls were housewife and around 65% were illiterate (Table 1). 65.73% girls knew that menstruation is a physiological process while according to 25% girls, menstruation is a disease. Around 63% girls knew about menstruation before menarche (Table 2).

In 44.4 % girls, source of information regarding menstruation among girls was mother. In 22.37% girls, this source was media also like television, internet, magazines, etc. In very few girls, source of information was teachers so it was found that more awareness should be made among teachers so that they can make the girls educate regarding menstrual process (Figure 1). Around 75.52% girls were unaware about the source of menstrual bleeding (Figure 2).

According to our study, 62.23% girls used sanitary pads during menstruation and method of pad disposal was use of dustbin among most of the girls (82.02%) (Table 3). There was a positive association between use of sanitary pads and age group of girls as more girls in the age group 14-16 years (96.1%), were using sanitary pads as absorbent material. This can be due to more awareness

and more knowledge among the girls of this age group (Table 4). The education of mother was also directly related to the use of sanitary pads as the use of sanitary pads was maximum (92.1%) among those girls whose mother were educated and it was minimum (47.8%) among those girls whose mother were illiterate. There is also a positive association among the type of family and use of sanitary pads among girls as girls living in nuclear families were using sanitary pads as absorbent material (79.68%) more than those who live in joint families (Table 4). There was a negative association between the use of sanitary pads and the religion of the girls (Table 4). Many restrictions were informed among girls during menstruation like not allowed to take bath (68.18%), not allowed to touch kitchen items (79.72%) and not allowed to attend religious ceremonies (78.32%) (Figure 3).

## Discussion

The present study showed that the majority of girls knew that menstruation was a normal physiological process (65.73%). Kamath et al. in Udipi taluk reported that 72.2% of urban and 68.9% of rural adolescent girls knew that menstruation was a physiological process.(8) This finding is consistent with the study. According to a study done in Ethiopia in 2018, about 27.7% of adolescent girls did not have information regarding menstruation and its hygienic practice before their menarche.(9) Another study done in Bangladesh found that 64% of girls reported they had no knowledge of menstruation before reaching menarche and 26% of girls received information on menstruation prior to menarche from their female relatives before menarche.(10) In our study, around 37% girls did not know about menstruation before menarche. This difference may be due to different study settings. This finding of our study is similar to a study done by Nabvera and Shah in Gambia in 2021 where 64% girls reported that they had learnt about menstruation before menarche.(11) In our study, according to 75.5% girls, source of menstrual bleeding was vagina. Only 3.84% had correct knowledge about source of menstrual bleeding i.e. uterus. A study done in rural area of West Bengal by Yasmin et al. elicited that 63.3% of the respondents knew bleeding occurs from uterus.(12) This finding was inconsistent with our study. The reason for this inconsistency can be the higher age group of study participants as in the present study, maximum participants were in the age group of 10-13 years (78%).

In our study, 62.23% of girls use sanitary pads as the absorbent material. This was less than the finding of a study done by Patavegaret et al from Delhi (85.92%) and another done in Karnataka where 70.7% of the girls were using commercial sanitary napkins and 12.7% were using cloth as absorbent material and the reason for this difference can be the different study setting.(13,14) This finding is similar to the study done by Subash Thakre in northern India (60.58%).(15) In a study done in Gujarat in

2015,(15) 61% females were using cloth and 39% were using sanitary napkins as an absorbent for menstrual blood. The material used during menstruation, varies in the different parts of the country. Similar study conducted in the West Bengal state of India, showed that 92% and 8% females were using cloth and sanitary napkins respectively during menstruation.(16,17) These findings were different from our study and the reason can be different study settings, different literacy rate and less knowledge about menstrual hygiene.

In the present study, there are a lot of restrictions of not taking bath (68.18%), not touching kitchen items (79.72%) and not attending religious ceremonies (78.32%). In a study done in Karnataka, 38.5% said that they avoided religious ceremonies and practices during their periods.(14) Another study done in Karnataka revealed that 40.3% of the rural girls said that they avoided cultural functions during their periods and 37.6% girls said that they avoided religious ceremonies and practices during their periods.(18) The difference in the educational status can be the reason for this.

## Conclusion

The study shows that there is significant lack of knowledge among girls regarding menstruation. 65.73% girls knew that menstruation is a physiological process while according to 25% girls, menstruation is a disease which means that there is still need to educate these girls regarding the menstrual cycle. Around 63% girls knew about menstruation before menarche. 62.2% girls use sanitary pads as the absorbent material and shyness was the main reason for not using sanitary pads. Majority of girls had restrictions of not taking bath and touching the kitchen items during menses. There is an urgent need for implementation of appropriate health measures at various levels to generate awareness about safe menstrual hygiene practices among adolescent girls to prevent reproductive tract infections (RTIs) and other future complications.

## Recommendation

There are few recommendations according to the study done:

- There should be free distribution of sanitary napkins to the girls who cannot afford them to promote good health.
- Grass root level health workers like ASHA, ANM, etc. in rural areas, should tell the girls about different services provided by the government for their good health. They should educate the mothers about menstrual cycle and hygiene practices so that girls can get correct information regarding menstrual cycle from the very beginning.
- Regular awareness programs should be done in schools so that teachers and students both can be made aware regarding the menstrual hygiene practices. In schools, teachers should be taught to make the school

environment more friendly to manage menstruation with dignity. Sex education in schools helps adolescents to protect themselves from sexual abuse, unwanted pregnancies, and sexually transmitted diseases, and to know physiological changes occurring in the body and how to take care of personal hygiene during menstruation.

### Limitation of the study

The study has few limitations. Firstly, the sample size is small. There are chances of bias also as the girls self-reported their symptoms according to the questionnaire and because of being a sensitive topic, some girls were hesitant in replying some questions.

### Relevance of the study

This study helps to understand the current situation of menstrual hygiene related practices in the rural population as reproductive health is very important for adolescent girls. It will also help to check the incorrect information regarding menstruation among the adolescent girls and different policies required to be implemented in the community to improve the menstrual hygiene practices.

### Authors Contribution

All authors contributed equally.

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### Tables

TABLE 1 SOCIO- DEMOGRAPHIC CHARACTERISTICS OF GIRLS (N=286)

	Variant	Number	Percentage (%)
Age group (years)	10-13	223	78
	14-16	51	17.8
	17-19	12	4.2
Religion	Hindu	115	40.20
	Muslim	171	59.79
Mother’s education	Illiterate	186	65.03
	Primary	63	22.02
	Secondary & above	37	12.95
Mother’s occupation	Housewife	264	92.30
	Private job	19	6.64
	Government job	03	1.04
Father’s occupation	Farmer	139	48.60
	Private job	84	29.37
	Government job	38	13.28
	Unemployed	23	8.04
Type of family	Nuclear	128	44.75
	Joint	158	55.24

**TABLE 2 KNOWLEDGE ABOUT MENSTRUATION: (N= 286)**

		Number	Percentage (%)
Know about menstruation before menarche:	Yes	181	<b>63.28</b>
	No	105	36.71
Knowledge about physiology of menstruation:	Disease	72	25.17
	Normal process	188	<b>65.73</b>
	Don't know	26	<b>9.09</b>

**TABLE 3 PRACTICE OF MENSTRUAL HYGIENE (%)**

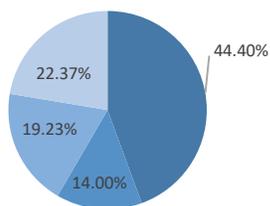
		Number	Percentage (%)
Use of material during menstruation: (N= 286)	Sanitary pads	178	<b>62.23</b>
	Cloth	108	37.76
Cleaning of external genitalia:	With water	127	44.40
	With soap and water	159	<b>55.59</b>
Method of disposal of pad: (n= 178)	Dustbin	146	<b>82.02</b>
	Toilet	32	17.97
Reason for not using sanitary pads: (n= 108)	No knowledge	10	9.25
	Shyness	66	<b>61.11</b>
	High cost	28	25.92
	Unavailability	4	3.70
Frequency of changing of absorbent material: (N= 286)	>2 times	85	29.72
	<2 times	134	<b>46.85</b>
	Don't change	67	23.42

**TABLE 4 ASSOCIATION OF SANITARY PADS IN RELATION TO AGE, RELIGION, EDUCATION & FAMILY**

	Study population		Use of sanitary pads		Chi- square	
	Number	Percentage (%)	Number	Percentage (%)		
Age group (years)	10-13	223	78	118	7.45, df=2, p= 0.024	
	14-16	51	17.8	49		96.1
	17-19	12	4.2	11		91.7
Religion	Hindu	115	40.20	82	71.3	1.54, df=1, p= 0.21
	Muslim	171	59.79	96	56.1	
Mother's education	Illiterate	186	65.03	89	47.8	10.37, df=2, p= 0.005
	Primary	63	22.02	58	92.1	
	Secondary & above	37	12.95	31	83.8	
Type of family	Nuclear	128	44.75	102	79.68	6.91, df=1, p= 0.008
	Joint	158	55.24	76	48.1	

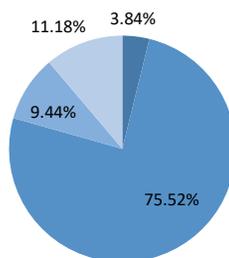
**Figures**

**FIGURE 1 INFORMATION REGARDING MENSTRUATION**



■ Mother ■ Teachers ■ Friends ■ Others (Media)

**FIGURE 2 MENSTRUAL BLEEDING ACCORDING TO STUDY PARTICIPANTS**



■ Uterus ■ Vagina ■ Abdomen ■ Don't know

**FIGURE 3 RESTRICTIONS DURING MENSES**

