

A Comparative Study on Menstrual Hygiene Among Urban and Rural Adolescent Girls of West Bengal

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ABSTRACT

Background: Menstruation is a normal physiological process to the females but sometimes it is considered as unclean phenomenon in the society. **Objectives:** To compare the perceptions of different aspects of menstrual hygiene between adolescent girls of rural and urban area. **Materials and Methods:** A community-based cross-sectional study was conducted from April 2013 to September 2013 in urban and rural area of South 24, Paraganas, West Bengal among 541 adolescent school girls in the age group of 13-18 years. Data were collected by the predesigned and pretested questionnaires. **Result:** Only 37.52% girls were aware of menstruation prior to attainment of menarche. The difference in the awareness regarding menstruation in urban and rural area was highly significant. Only 36% girls in the urban and 54.88% girls in the rural area used homemade sanitary pads and reused the same in the subsequent period. Satisfactory Cleaning of external genitalia was practiced by only 47.63% of the urban and 37.96% of the rural girls. This study found differences in hygienic practices followed by adolescent girls in urban and rural area. **Conclusion:** Hygienic practices during menstruation were unsatisfactory in the rural area as compared to the urban area. Girls should be educated about the proper hygienic practices as well as bring them out of traditional beliefs, misconceptions, and restrictions regarding menstruation.

Keywords: Adolescent girls, menarche, menstrual hygiene

Introduction

Menstruation is a normal physiological process indicating beginning of reproductive life but sometimes it is considered as unclean phenomenon in the Indian society.^[1] Insufficient, incorrect information regarding menstruation is often a cause of unnecessary restrictions in the daily normal activities of the menstruating girls creating various psychological issues. Besides, the lack of knowledge and awareness also lead to some poor personal hygienic practices during menstruation leading to many reproductive tract infections.^[1]

Menstrual hygiene depends upon the educational, socioeconomic, and cultural statuses of family. School curriculum also have some role in menstrual health.^[2]

Poor menstrual hygiene causes great impact in increased vulnerability to reproductive tract infections (RTI). Currently millions of women sufferers from RTI and infection is transmitted to the offspring. Women having knowledge

regarding menstrual hygiene are less vulnerable to RTI and its consequences. Therefore, increased knowledge about menstruation from adolescent period help in decreased suffering of millions of women.^[3] Various studies indicate that a huge information gap exists among rural and urban adolescent girls regarding menstrual hygiene.^[1,3]

The aim of this study is to gauge the perception of different aspects of menstruation and menstrual hygiene.

Objectives

General objective

- To compare the perceptions of different aspects of menstruation between adolescent girls of rural and urban area.

Specific objectives

- To compare the perceptions regarding different aspects of menstrual hygiene among the study population
- To compare the perceptions regarding menarche, social taboos, and stigma during menstruation among the study population.

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Materials and Methods

A cross-sectional, community-based study was conducted in two girls "school situated in urban and rural areas of South 24 Paraganas of West Bengal, India." Study was conducted from April 2013 to September 2013. The urban school is situated in the municipal area, that is, ward no. 17 of Rajpur Sonarpur municipality and the rural school is situated in the Panchpota block of Sonarpur gram panchayet. For conduction of the study necessary permission was taken from the school authority and due clearance was taken from the institutional ethics committee. According to the objectives a predesigned and pretested self-responding questionnaire with both close- and open-ended questions was prepared with the opinion of experts of Departments of Gynecology and Community medicine. The questionnaire was translated into vernacular and the translation was validated after retranslation with the help of language experts.

According to the admission register of each school, it was found that the total number of students in the age group, 13–18 years, was 500 in the urban and 480 in the rural area. Considering the attendance rate and availability of students it was found that approximately 50% of them, that is, 250 in the urban and 240 in the rural would be available on the day of study. Accordingly on the day of study, 275 students were available in the urban and 266 students were available in the rural school. The girls who had not achieved menarche till the days were excluded from the study.

Before commencing the study, all class teachers were explained about the purpose of the study and with the help of them briefing of the objectives and questionnaires was done to the study population. The confidentiality of the study was assured to them and verbal consent was obtained.

Students were instructed to fill up the questionnaire within a stipulated time period of 2 h. Information was collected regarding various aspects of menstruation like awareness about it prior to attainment of menarche and perceptions about the social taboos and stigma associated with it. Information was also collected regarding various hygienic practices during menstruation.

Statistical analysis

Statistical analysis was done by percentages, chi-square test. Statistical significance of differences between groups was tested. $P < 0.05$ was taken as statistically significant.

Results

Only 37.52% girls were aware about menstruation prior to attainment of menarche. The difference in the awareness regarding menstruation in urban and rural area was highly significant. Only 36% girls in the urban and 54.88% girls in the rural area were using homemade sanitary pads and reused the

same in the subsequent period. Satisfactory cleaning of external genitalia was practiced by only 47.63% of the urban and 37.96% of the rural girls. This study found differences in hygienic practices followed by adolescent girls in the urban and rural area.

Table 1 presents demographic characteristics of the study population. It is evident from the table that the age of study population ranged from 13 to 18 years, with mean age 15.38 ± 1.732 in urban and 15.49 ± 1.638 in the rural area. Majority of the study subjects belongs from Hindu religion.

Table 2 shows that in urban areas the mean age of menarche 12.18 ± 0.7483 and in rural area it was 12.31 ± 0.6980 . In this study, the overall mean age of menarche of the respondents is 12.24 ± 0.7261 .

Table 1: Demographic characteristics of study population (n=541)

Variables	Urban (n=275)	Rural (n=266)
Age (years)		
13	53 (19.27%)	37 (13.90%)
14	51 (18.54%)	47 (17.67%)
15	39 (14.18%)	54 (20.30%)
16	48 (17.45%)	52 (19.54%)
17	41 (14.90%)	31 (11.65%)
18	43 (15.63%)	45 (16.91%)
	Mean age= 15.38 ± 1.732	Mean age= 15.49 ± 1.638
Religion		
Hindu	213 (77.45%)	197 (74.06%)
Muslim	40 (14.54%)	54 (20.30%)
Christian	12 (4.36%)	13 (4.89%)
Mother's education		
Illiterate	19 (6.90%)	51 (19.17%)
Primary	43 (15.63%)	97 (36.46%)
Middle	52 (18.90%)	78 (29.32%)
Secondary school	87 (31.63%)	14 (5.26%)
Higher secondary	70 (25.45%)	17 (6.39%)
Degree and above	14 (5.09%)	9 (3.38%)

Table 2: Distribution of study population according to age of menarche and their reaction to menarche (n=541)

Variables	Urban (n=275)	Rural (n=266)	Statistical test
Age of menarche (years)			
<11	38 (13.81)	21 (7.89)	(Urban) Mean age 12.18 ± 0.7483
12	167 (60.72)	160 (60.15)	Mean age= 12.31 ± 0.6980 (rural)
13	52 (18.90)	69 (25.93)	
14 and above	18 (6.54)	16 (6.01)	
Reaction about menarche			
Normal	117 (42.54)	79 (29.69)	$P=0.001$
Scared			
Depressed	139 (50.54)	167 (62.78)	$P=0.004$

Table 2 also reveals that 203 (37.52 %) girls were aware about menstruation prior to attainment of menarche. It was evident from the table that 117 (42.54%) urban girls and 79 (29.69%) rural girls are considered menarche as normal phenomenon. The difference in the reaction to first menses in urban and rural area was statistically highly significant ($P = 0.001$). 70.54% girls in urban area and 53.73% girls in rural area considered menstruation as normal phenomenon. The rural urban difference is also highly significant ($P = 0.000$).

Table 3 depicts that more number of girls in the urban area were using sanitary pads as compared to girls in the rural area and this difference is also highly statistically significant ($P = 0.000$). Ninety-nine (36%) girls in the urban and 146 (54.88%) girls in the rural area were using cloth. Seventy five (27.27%) girls in urban 81 (30.45%) girls in rural area had changed the pads only once per day. 31.27% of urban girls and 71.42% of rural girls reused pads during menstruation period. Cleaning of external genitalia was satisfactory only in 131(47.63%) of the urban and 101(37.96%) of the rural girls. This study found differences in hygienic practices in urban and rural area. Hygienic practices are more satisfactory in urban area as compared to rural area ($P = 0.023$). Majority of urban girls (83.63%) had toilet facility in home whereas 56.39% of rural girls deprived of this facility.

Table 4 reveals that 114 (21.07%) girls believed menstruation as a physiological process while majority had no idea about the cause of it. Table 4 also shows that perceptions regarding the menstruation and different types of restriction followed during menstruation. 64.72% of urban and 78.57% of rural girls practiced different restrictions during menstruation. Among them 76.96%, 33.14%, and 10.67% of urban girls did not attend any religious occasion, play outside and not attend school, respectively, whereas in rural girls this percentage was little higher as 78.57%, 28.22%, and 17.70%, respectively.

Discussion

Awareness regarding menstruation

This study shows that 37.52% of girls were aware of menstruation before menarche of which 123 (44.72%) were urban and 80 (30.07%) were rural. In the study conducted by Deo *et al.*,^[4] it was reported that 40 (42.5%) rural and 41 (55.4%) urban girls were aware about menstruation prior to attainment of menarche. Findings of this study almost corroborating the findings of the study was done by Dasgupta *et al.*^[3] (32.5%) and Subhas *et al.*^[1] (36.95%). Similar study conducted in Nagpur by Patle *et al.*^[5] found that 63.38% girls in urban area were aware of menstruation before menarche as compared to 47.57% girls in rural area. On the contrary, Gupta *et al.*^[6] found that 68% of adolescent girls were not aware about menses before menarche.

In this study only 37.52% of girls aware of menstruation before menarche of them mother was the first informant in the case of 156 (76.84%) girls. Mother was the main source of information about menstruation in 91 (73.98%) urban and rural

Table 3: Distribution of study population according to hygienic practices during menstruation

Hygienic practices during menstruation	Urban (n=275)	Rural (n=266)	Statistical test
Use of sanitary pad			
Homemade cloths	99 (36.00)	146 (54.88)	$P=0.000$
Sanitary napkins	176 (64.00)	120 (45.11)	
Disposal of sanitary pad			
Once daily	75 (27.27)	81 (30.45)	$P=0.41$
Twice daily	129 (46.90)	132 (49.62)	$P=0.52$
Thrice daily	63 (22.90)	43 (16.16)	$P=0.02$
More than thrice	8 (2.90)	10 (3.75)	$P=0.58$
Reuse of sanitary pad			
Yes	86 (31.27)	190 (71.42)	$P=0.000$
No	189 (68.72)	76 (28.57)	
Method of disposal			
Throw it as routine waste	202 (73.45)	91 (34.21)	$P=0.000$
Others (flush/hide)	63 (22.90)	139 (52.25)	$P=0.000$
Burn it	10 (3.63)	36 (13.53)	$P=0.000$
Cleaning of external genitalia			
Satisfactory	131 (47.63)	101 (37.96)	$P=0.023$
Unsatisfactory	144 (52.36)	165 (62.03)	
Change in pad/cloths in school			
Yes	67 (24.36)	41 (14.90)	$P=0.009$
No	208 (75.63)	225 (81.81)	
Toilet facility at home			
Yes	230 (83.63)	116 (43.60)	$P=0.009$
No	45 (16.36)	150 (56.39)	

Table 4: Perception regarding menstruation and different restriction regarding menstruation

Variables	Urban (n=275) (%)	Rural (n=266) (%)
Cause of the menstruation		
Physiological cause	67 (22.18)	49 (18.42)
Do not know	127 (46.18)	159 (59.77)
Disease	81 (29.45)	60 (22.55)
Restriction practiced during menstruation		
Not practiced	97 (35.28)	57 (21.42)
Practiced (multiple responses)	178 (64.72)	209 (78.57)
Attend religious functions	137 (76.96)	199 (74.81)
Not go to school	19 (10.67)	37 (17.70)
Not played outside	59 (33.14)	59 (28.22)
Avoid sour foods	48 (26.96)	67 (32.05)

65 (81.25%). Other sources of information were sister/relatives 94 (46.30%), teacher 52 (25.61%), mass media 31 (15.27%). Study done in Nagpur supported the present study's findings where mothers were the first informants for 71.33% of the girls.^[1] On the contrary, a study conducted among schoolgirls in Egypt by El-Gilany *et al.* observed mass media were the main source of information about menstrual hygiene, followed by mothers.^[7]

This study observed that only 114 (21.07%) girls believed menstruation as a physiological process that almost corroborates the findings by Subhas *et al.*^[1] where 18.35% of the adolescent girls

opined menstruation as normal phenomenon. Opposite picture seen in the study conducted in Rajasthan by Khanna *et al.*^[8] where 86.25% girls believed it to be a physiological process and Dasgupta *et al.* observed that 86.25% girls believed it to be a physiological process. This study's observations might be due to poor educational status of mothers or the absence of health education and awareness programmes in school.

Hygienic practices during menstruation

This study observed that 176 (64%) in urban area and 120 (45.11%) in rural area used sanitary pads and 99 (36%) girls in the urban and 146 (54.89%) girls in the rural area were using homemade sanitary pads. This rural urban difference in using sanitary pads is highly statistically significant ($P = 0.0000$).

Patle *et al.*^[5] shows in their study that the use of sanitary pad was higher among girls in urban schools (50%) in comparison to rural (19%). In the study by Narayan *et al.*,^[9] it was found that only 1.7% girls in the rural area and 8.3% girls in the urban areas used commercially available sanitary pads. Drakshayani *et al.*^[10] found that almost all the girls were using old cloth as menstrual absorbent.

This study shows that 99 (36%) girls in the urban and 146 (54.88%) girls in the rural area were using homemade sanitary pads and reused the same in the subsequent period which almost corroborates studies in Nepal by Adhikari *et al.*,^[11] in India Narayan *et al.*, Dasgupta *et al.*,^[3] and Khanna *et al.*^[8]

Nair *et al.*^[12] found 74.8% of the girls used homemade sanitary pads and 24% used ready-made sanitary pads. So in this study, the use of sanitary pads was higher than those observed in other studies. The more availability of sanitary pads now-a-days might be the reason for this finding.

This study shows that majority of the girls preferred cloth pieces rather than sanitary pads as menstrual absorbent. Only 54.71% girls used sanitary pads during menstruation. Poverty and to some extent ignorance might be an obstacle from using the menstrual absorbents available in the market.

This study observed that in 75 (27.27%) girls in urban and 81 (30.45%) girls in rural area the frequency of changing the pads was only once per day. Cleaning of external genitalia was two times per day in 131 (47.63%) of the urban and 101 (37.96%) of the rural girls, which was satisfactory according to the criteria set in this study. One hundred and forty four (52.36%) of the urban and 165 (62.03%) of the rural girls cleaned genitalia only once, during bathing, which was satisfactory according to the criteria set in this study. Present study found that hygienic practices are more satisfactory in the urban area as compared to rural ones ($P = 0.02$). It was also found in the study done by Patle *et al.* That hygienic practices are more satisfactory in the urban area (62.03%) as compared to the rural (43.40%).

In this study, 83.63% of urban and 56.39% of rural adolescent girls had separate toilet facility. The difference between separate

toilet facility in urban and rural area is highly statistically significant ($P = 0.000$). The different aspects of poor personal hygiene such as not changing pads regularly may be due to lack of separate toilet facility.

Restrictions followed by menstruating girls

This study revealed different types of restrictions practiced during menstruation. 64.72% of urban and 78.57% of rural girls practiced different restrictions during menstruation. Among them 76.96%, 33.14%, 10.67% of urban girls did not attend any religious occasion, play outside, and not attend school, respectively, whereas in rural girls this percentage was little higher as 78.57%, 28.22%, and 17.70%, respectively. Shubhas *et al.*^[1] showed that 73.64% and Dasgupta *et al.*^[3] found that (85%) girls practised different restrictions during menstruation.

Conclusion and Recommendation

Awareness regarding menstruation was more in urban adolescent girls as compared to rural. Significantly more number of girls in the urban area was using sanitary pads as compared to the rural girls. Hygienic practices during menstruation were unsatisfactory in the rural area as compared to the urban area.

Girls should be educated about the facts of menstruation, physiological implications, significance of menstruation, and proper hygienic practices during menstruation. It is also required to bring them out of traditional beliefs, taboos, misconceptions, and restrictions. This can be achieved with the help of media, sex education in school curriculum, and focused group discussions. All mothers should be encouraged to break their inhibitions about discussing with their daughters regarding menstruation and menstrual hygiene. Universalized use of sanitary pads can be advocated to every girl by social marketing.

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