



Original Research Article

Menstrual Hygiene among Adolescent School Girls: An In-Depth Cross-Sectional Study in an Urban Community

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ABSTRACT

Introduction: Menstruation is generally considered as unclean in the Indian society. Women having a better knowledge regarding menstrual hygiene and safe menstrual practices are less vulnerable to reproductive tract infections and its consequences. Against this background, the present study was undertaken to explore the level of knowledge, attitude, status of hygiene and practices regarding menstruation among adolescent school girls.

Material & methods: The present cross-sectional study was conducted among 440 school going adolescent girls. After taking informed consent, the data was collected through self-administered questionnaire prepared in Hindi language to the girls.

Results: The mean age of menarche in school going adolescent girls was 12.7 ± 1.00 years. Out of 440 girls studied 315(71.59) faced some problem during menstruation. 75% girls knew about menstrual cycle before their menarche. In most cases their first informant was their teacher. The study on the practices during menstruation showed that 378(85.92%) girls used sanitary pads during menstruation, 13(2.95%) girls used old cloth pieces. Age, Number of family members, Mother's education and Awareness about menstruation before menarche were significantly associated with good menstrual hygiene.

Conclusion: The study showed that for more number of girls first informant about menstruation was their teachers and mothers. Different restrictions were practiced by most of the girls in the present study.

Keywords: Adolescent girls, Menstrual hygiene, Menstrual practices.

INTRODUCTION

The World Health Organization defines adolescents as young people between the ages of 10 and 19 years. ⁽¹⁾ Adolescence in girls has been recognized as a special period which signifies the transition from girlhood to womanhood. Menstruation is generally considered as unclean in the Indian society. Many cultures have beliefs or myths relating to

menstruation. Almost always, there are social norms or unwritten rules and practices about managing menstruation and interacting with menstruating women. Most cultures have secret codes and practices around managing periods. Isolation of the menstruating girls and restrictions being imposed on them in the family, have reinforced a negative attitude towards this phenomenon. ⁽²⁾ The first menstruation is

often horrifying and traumatic to an adolescent girl because it usually occurs without her knowing about it.

Menstruation is a natural process; however, if not properly managed it can result in health problems. Reports have suggested links between poor menstrual hygiene and urinary or reproductive tract infections and other adverse health outcomes. Women having a better knowledge regarding menstrual hygiene and safe menstrual practices are less vulnerable to reproductive tract infections and its consequences. ⁽³⁾

In spite of the changing social and cultural norms and practices in the society, the girls and women especially in the urban slums have less access to health care facilities. Thus information is often limited, wrong and confusing which makes the adolescents especially young girls to have incorrect notions and ideas which may lead to unsafe health practices. Against this background, the present study was undertaken to explore the level of knowledge, attitude, status of hygiene and practices regarding menstruation among adolescent school girls. It was also intended to find out factors affecting/influencing adverse or favorable practices related to menstruation.

MATERIALS AND METHODS

The present cross-sectional study was conducted among the adolescent school going girls of the government schools in the field practice area of the Urban Health Training Centre at Pulprahadpur, which is attached to the department of Community Medicine of Hamdard Institute of Medical Sciences & Research, New Delhi.

Inclusion and exclusion criteria: Adolescent girls of 8th standard and above, who have already attained menarche and whose guardians were willing to allow them to participate in the study were included.

Sample size: Review of literature suggests that 50% of school going adolescents have knowledge of menstruation. The optimum sample size for the proposed study was calculated assuming the proportion of girls having correct knowledge of menstruation as 50%, at 95% confidence interval, 10% allowable error and, with non-response rate of 10%. ⁽⁴⁾ The sample size came out to be 440. Thus a total of 440 girls were recruited in the study.

Technique for sampling: First of all, permission to carry out the study was sought from school authorities. Equal number of girls from the all classes/sections was enrolled to reach the desired sample size. A pre-designed, pretested and structured questionnaire was used for data collection. Girls and class teachers were oriented about the need of the study & process of filling the questionnaire. Girls were enrolled in the study according to serial number in attendance register to avoid any bias and thus anonymity was maintained by not including their names. After taking informed consent, the data was collected through self-administered questionnaire prepared in Hindi language to the girls. A pilot study was undertaken in 10% of sample. After collecting data, educational session was conducted for the girls related to the subject. Study was conducted from January 2014 to June 2014.

Statistical Methods: Data was entered in Microsoft Excel sheet and analyzed using the software SPSS version 17 and Open Epi version 2.3.

Ethical consideration: Written informed consent was taken from guardian during parent teacher meeting. The study was approved by institutional review board.

RESULTS

As shown in Table-1, out of 440 school going adolescent girls studied maximum were in the age between 13 to 15

years. Mean age was found to be 14.26±1.36. Among all these girls, 90.68% were Hindus, and 7.27% were Muslims. 84.77% of the girls were from nuclear family and at an average there were 5 members in each family. Most of the mothers of these girls were educated above high school and 36.59% of girls' fathers were engaged in skilled occupation.

Table 1: Demographic characteristics of the school going adolescent girls (n=440):

Characteristics	Number	Percentage
Age in years		
12	49	11.14
13	103	23.41
14	79	17.95
15	113	25.68
≥16	96	21.82
Religion		
Hindu	399	90.68
Muslim	32	7.27
Other	9	2.05
Type of family		
Nuclear	373	84.77
Joint	67	15.23
Family Size		
1-4	209	47.5
4-8	209	47.5
≥8	22	5
Education of mother		
Illiterate	31	7.05
Primary	23	5.23
Middle school	24	5.45
High school	189	42.95
Intermediate or post high school	9	2.05
Graduate or post graduate	151	34.32
Profession/honors	13	2.95
Fathers occupation		
Profession	6	1.36
Semi-profession	107	24.32
Clerk,shopkeeper,Farmer	88	20
Skilled	161	36.59
Semiskilled	53	12.05
Unskilled	15	3.41
Unemployed	10	2.27

The mean age of menarche in the study subjects was 12.7±1.00 years. Majority 71.59% of girls faced some kind of health problem during menstruation. 75% girls knew about menstrual cycle before their menarche. In most (41%) cases their first informant was their teacher. Majority (66%) of the girls reported that they are most comfortable receiving information on menstrual hygiene from their mothers, while

38% felt that sisters or friends would be the best person to discuss matters related to menstruation. Only 66.82% girls knew it to be a physiological process, 34% knew that path of urination and menstruation is separate. When girls were asked about first reaction when menstruation started, 44% felt discomfort.

Table 2: Distribution of school going adolescent girls according to restrictions practiced during menstruation (n=440).

Restrictions	Number	Percentage
Not practiced	148	33.64
Practiced for*		
Praying	277	62.95
Going to temple/religious places	292	66.36
Cooking/going and working in kitchen	66	15
Certain foods	188	42.73
Attending school	23	5.23
Doing routine household work	96	21.82
Playing or doing exercise	116	26.36

*Multiple responses

Table-2 depicts the different types of restrictions which were practiced during menstruation by school going adolescent girls. Only 33.64% of girls were not practicing any restrictions. 66.36% girls practiced different restrictions during menstruation. Among them, 62.95% girls did not pray, 66.36% girls did not visit religious places or temples, 15% girls were not allowed to cook or work in kitchen, 42.73% girls were not allowed to eat certain foods, 5.23% girls were not allowed to attend school, 21.82% girls were not allowed to do routine household work and 26.36% girls were not allowed to play or exercise during menstruation.

Table-3 reveals that the study on the practices during menstruation showed that 85.9% girls used sanitary pads during menstruation. 40.23% girls changed absorbent more than three times a day while 18% girls dispose of the absorbent once used. Large number 89.77% of girls threw absorbent in routine waste after use. Out of 52 girls who reused cloth 73.08% reported

that washroom facilities are available at home for cleaning cloth used as absorbent. In cases of reused cloth, the places of its drying which were observed, was outside the house in sunlight in 6.54% subjects, 44.23% dried them inside the house, and, 19.23% subjects dried them outside without sunlight. When enquired about reasons for nonuse of sanitary pads, 48.0% girls not used it because of high cost. 91.82 girls take daily bath during menstruation and 97.73% girls used to wash hands after visiting toilet. Most (89.77%) of the girls washed their hands with soap and water. The cleaning of the external genitalia was practiced by 65.68% of girls. For the cleaning purpose, 24.09% girls used soap and water, 52.5% used only water and 23.41% used water and antiseptics.

Table-4. Depending upon 6 menstrual hygiene practices related questions, girls were given scores. Each question having favorable answer was given 1 mark. Those who have scored 0-3 marks were categorized as bad and 4-6 were categorized as having good menstrual hygiene practices. Test of significance (Chi-square test) was applied to see the relation between various socio-demographic factors and menstrual hygiene practices. It was found that Age, Number of family members, Mother's education and Awareness about menstruation before menarche were significantly associated with good menstrual hygiene practices.

DISCUSSION

In the present study, age at menarche of the participants ranged between 10 to 15 years with mean of 12.7 ± 1 years. It is comparable to the study conducted by Subhash B. Thakre et al ⁽⁵⁾ who reported the mean age at menarche to be 12.76 years and a study conducted by Dinesh Kumar et al ⁽⁶⁾ where mean age at menarche was 13.02 years.

Table 3: Distribution of school going adolescent girls according to their hygienic practices during menstruation (n=440).

Hygienic practices during menstruation	Number	Percentage
Type of absorbent		
Sanitary pad	378	85.92
Old cloth	13	2.95
New cloth	3	0.68
Both(sanitary pad+cloth)	46	10.45
Change of the cloth or pad during a period		
Once a day	25	5.68
2-3 times	236	53.64
More than 3 times	177	40.23
Dispose of /reuse		
Dispose off	388	88.18
Reuse	52	11.82
Method of disposal		
Burn it	25	5.68
Throw it in routine waste	395	89.77
Others(Don't dispose/Flush/Hide)	20	4.55
Wash room facilities for cleaning cloth used as absorbent at home (n=52)		
Yes	38	73.08
No	14	26.92
Places of drying (n=52)		
Outside house in the sunlight	19	36.54
Inside house	23	44.23
Outside house without sunlight		
Daily bath		
Yes	404	91.82
No	36	8.18
Hand washing after visiting toilet		
Yes	430	97.73
No	10	2.27
Hand washing with		
Water	44	10.23
Water and soap	386	89.77
Cleaning of external genitalia		
Yes	289	65.68
No	151	34.32
Cleaning of external genitalia		
With Water	231	52.5
Water and soap	106	24.09
Water and antiseptic	103	23.41

Overall prevalence of the problem faced during menstruation in the present study was found to be 71.59%. Awareness regarding menarche is common among young girls before its occurrence. In the present study it was 75%. This may be due to higher literacy (93%) of mothers of adolescent girls in this study. Another studies by Dinesh kumar et al ⁽⁶⁾ showed 60.2% and Shanbhag D et al ⁽⁷⁾ showed 57.9% girls were aware about menarche before its occurrence. Teachers were the

first informants for 40.23% of the girls followed by mothers for 35.23%. Studies which were conducted by Keerti Jogdand et al (3) and Subhash B. Thakre et al (5) reported that the first informant was the mother in 61.29% and 71.33% of the subjects, teachers in 13.98% and 11.89% of the girls respectively. It was observed in this study, that 66.82 % of the girls believed menstruation to be physiological process,

whereas in a similar study conducted in west Bengal by Shamima Yasmin et al (8) found that 72.08% of the girls believed it to be a physiological process. When inquired about first reaction to menarche 194(44.09%) girls felt discomfort, while 117(26.59%) were scared. Similar study done at Nagpur by Ruapli Patle (9) found similar results. In their study 34.57% girls scared when they had their menarche.

Table 4: Factors affecting/influencing menstrual hygiene practices of school going adolescent girls (n=440).

Menstrual hygiene practices	Good (%)	Bad (%)	Total (%)	P value
Religions				
Hindu	313 (78.45)	86 (21.55)	399 (100)	0.50
Muslim	23 (71.88)	9 (28.12)	32 (100)	
Other	8 (88.89)	1(11.11)	9(100)	
Total	345 (78.41)	95 (21.59)	440 (100)	
AGE				
12-13	102 (67.11)	50 (32.89)	152 (100)	0.00
14-16	237 (84.64)	43 (15.36)	280 (100)	
17-19	7 (87.5)	1 (12.5)	8 (100)	
Family type				
Nuclear	294 (78.82)	79 (21.18)	373 (100)	0.62
Joint	51 (76.12)	16 (23.88)	67 (100)	
Family members				
1-4	177 (84.69)	32 (15.31)	209 (100)	0.01
4-8	152 (72.73)	57 (27.27)	209 (100)	
>8	16 (72.73)	6 (27.27)	22 (100)	
Mothers education				
Up to High school	195 (73.03)	72 (26.97)	267 (100)	0.00
Post high school and above	150 (86.71)	23 (13.29)	173 (100)	
Awareness about menstruation before menarche				
Yes	269 (81.52)	61 (18.48)	330 (100)	0.01
No	76 (69.09)	34 (30.91)	110 (100)	

Different restrictions were practiced by most of the girls in the present study, possibly due to false perceptions about menstruation; same were practiced by mothers and elderly females in their family. These findings were consistent with those of other studies. (3-5, 8) (Table-2).

This study revealed that most of the girls used sanitary pads (85.92%) as absorbent. In similar study done by Shamima Yasmin et al (8) and Subhash B. Thakre et al (5) found that 82.2% and 60.58% of the girls used sanitary pads respectively. This finding is consistent with these studies. In the present study 40.23% of the girls changed absorbent more than 3 times a day. Similar study conducted by M.K.C.Nair et al

found that only 17.3% of the girls changed absorbent more than 3 times a day. (10)

In this study although only 52 (11.82%) girls reused cloth after washing; out of that only 26.92 % girls faced problem of lack of facility for washing cloth pieces, 44.23% girls dried cloth pieces inside house. Reuse of absorbent material after washing could lead to infection if it is improperly cleaned and dried. Health education regarding menstrual hygiene practices should be given to adolescent girls so that they shift to appropriate health-taking behaviors. Cleaning of the external genitalia was not practiced by 34.32% girls. A study which was conducted by Subhash B. Thakre et al revealed that 58.09% of the girls

unsatisfactorily cleaned their genitalia. ⁽⁵⁾ (Table-3)

It was found that as the age of girls is increasing more number of girls was showing good menstrual hygienic practices. The test of significance was applied and was found highly significant ($p=0.00$). This finding was similar to the study conducted by Dinesh Kumar et al. ⁽⁶⁾ More number of girls having less than 4 family members shown good menstrual hygienic practices. The test of significance was applied and was found to be highly significant. ($p=0.00$). This may be due to more interaction and communication of mothers with daughters with few family members. The numbers of girls having good menstrual hygiene practices were more in those families where the mother's education was post high school and above. When test of significance was applied it showed significant association between mother's education and good menstrual hygiene practices. Mother's plays important role in maintaining healthy menstrual hygiene practices for each and every girl child. Obviously educated mother will do this better. Majority of girls who were aware about menstruation before menarche had good menstrual hygiene practices. The P value was found to be significant. (0.00). This was similar to the study conducted by Dinesh Kumar et al. ⁽⁶⁾

CONCLUSION AND RECOMMENDATIONS

The study showed that for more number of girls first informant about menstruation was their teachers and mothers. There is need to empower teachers and mothers regarding menstruation and reproductive health as they are accessible to handle adolescent issues and facilitate referral as needed. Different restrictions were practiced by most of the girls in the present study. There is need to encourage them for safe and hygienic practices and

bring them out of restrictions regarding menstruation. It was found that Age, Number of family members, Mother's education and Awareness about menstruation before menarche were significantly associated with good menstrual hygiene practices. Therefore Girls should be informed well in advance about the menstruation, physiological process involved, its importance etc.

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