

Research Article

A cross sectional study of knowledge and practices regarding menstrual hygiene, in undergraduate student girls of Moradabad, Uttar Pradesh, India

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ABSTRACT

Background: Observation of menstrual hygiene and practices during this period has a substantial bearing on the genito-urinary health of an individual. In Indian society discussion on menstruation is still considered a taboo resulting in poor knowledge and unhygienic practices during this period. Objectives of the study was to assess the status of knowledge and practices of menstrual hygiene among the undergraduate student girls and to assess the source of information and prevailing myths regarding menstruation in the society.

Methods: 396 female first year students pursuing undergraduate course were studied with the help of a structured pilot tested questionnaire.

Results: 68.7% girls were aware about menstruation before attaining the menarche. Mother or sister was the source of such information in 75.8% of those who were having this awareness. In spite of 56.6% girls being aware that sanitary napkin are the best absorbent to be used; only 24.75% were found to use it. Ordinary new cloth was used by 40.4% while 34.85% used any available cloth. 39.4% girls cleaned external genitalia less than three times. Plain water was used for cleaning by 50.5%. Nearly three fourth of the girls were found to practice some or the other kind of restriction during menses.

Conclusions: There is an urgent need to create awareness regarding menstrual hygiene among all the females in the society and to de-root the prevalent myths. The role of teachers and media should be enhanced. This will help in reducing the burden of genito-urinary infections and improve the reproductive health.

Keywords: Menstrual hygiene, Knowledge, Practices, Undergraduate girls

INTRODUCTION

Menstruation is a characteristic feature of the women's physiology. Starting of menstruation in adolescent girls signifies the transition of girlhood to womanhood. It is associated with a number of changes which are responsible for various physical and psychological stresses on the girls. It's first appearance assures the parent that the girl's development is normal and she will be able to conceive after her marriage in near future. Yet it is still dealt with secrecy in many developing and underdeveloped countries including India. Hence most of

the girls don't have sufficient knowledge about reproductive function in general and menstruation in particular.¹

Menstruation is associated with a number of changes in the functioning of the body, which are responsible for various physical and psychological stresses on the girl. Observation of Menstrual hygiene and practices during this period has a substantial bearing on the genito-urinary health of an individual. Infection due to lack of hygiene during menses has been reported in many studies.²⁻⁴

In Indian societies, restrictions imposed by the family members on the menstruating girls make them consider it as an unclean and bad event.⁵ They believe in various specific taboos imposed on them during menstruations.⁶ Several studies have revealed a low level of awareness about menstruation among the girls when they experience it for the first time.⁷⁻⁹ There are various myths prevalent in the society, especially in the rural areas, regarding this normal physiological process.

Finding out the status of awareness and practice of menstrual hygiene will be helpful in planning a health education program for the population. Keeping in view the above advantages the assessment of knowledge and practice of menstrual hygiene among student girls pursuing various undergraduate courses in Colleges of Teerthanker Mahaveer University Moradabad was planned.

Objectives of the study was to assess the knowledge and practice of menstrual hygiene among girl students of undergraduate courses in Moradabad, west Uttar Pradesh and to assess the source of information and prevailing myths regarding menstruation in the society.

METHODS

Study was conducted in Teerthanker Mahaveer University, Moradabad. The University has more than 14000 students studying in 17 colleges and pursuing 125 courses. Of these, three courses were selected by purposive sampling as they had predominantly female students. To minimize the effect of university education we selected only first year female students pursuing the three selected undergraduate courses. All the unmarried students present on the day of visit, who have attained menarche and gave verbal consent, were included in the study. Thus a total of 396 females were studied. A structured pilot tested questionnaire was used in the study.

The data collection technique used was filling of the questionnaire by the study subjects preceded by a formal introduction regarding the purpose and method of study, and reassuring the confidentiality of the results. Participants were not required to disclose their identity in the questionnaire format.

Ethical considerations

Anonymity, confidentiality and rights of the respondents were respected in the study. Informed verbal consent with the respective college's principal and the respondents was taken before data collection. The type and purpose of the survey, issues of anonymity and confidentiality, voluntary participation and freedom to quit at any stage and absence of any known risk or benefit for participating in the study was explained beforehand.

RESULTS

A total of 396 girls participated in the survey. Age of the subjects ranged from 16 to 30 years. Majority (90.9%) being between 16 to 25 years. Mean age being 21 years. 58.6% belonged to rural background while 41.4% belonged to urban background. In majority (56.1%) of cases the father of the girls were laborers or farmers by occupation. In 14 (3.5%) cases they were semiskilled where as in 32 (8.1%) they were skilled workers. In 64 (16.2%) and 26 (6.6%) they were businessman and professionals respectively. Father of fourteen 14 (3.5%) were engaged in some miscellaneous occupations. Mothers of majority of students (88.4%) were either housewives or doing some work from home itself. Only in 44 (11.1%) cases they were employed in some outside job.

Table 1: Socio-demographic characteristics of the respondents (n=396).

Age in Years	No.	%
16-20	216	54.55
21-25	144	36.36
26-30	36	9.09
Background		
	No.	%
Rural	232	58.6
Urban	164	41.4
Occupation of the father		
	No.	%
father died	4	1.0
Unemployed	20	5.1
Laborers/ Farmers	222	56.1
Semi-skilled workers	14	3.5
Skilled workers	32	8.1
Buisiness	64	16.2
Professionals	26	6.6
Others	14	3.5
Occupation of the mother		
	No.	%
Mother Died	2	0.5
Housewife/ working in home	350	88.4
Employed in some outside job	44	11.1
Mother's education		
	No.	%
Illeterate	172	43.4
Just literate	26	6.6
Primary	24	6.1
High School	68	17.2
Inter	74	18.7
Graduate or more	32	8.1

The age of menarche ranged from 12 to 15 years. In 66 (16.7%) and 70 (17.7%) girls it was 12 years and 13 years respectively, whereas in 156 (39.4%) it was reported to be 14 yrs. 104 (26.3%) had their menarche at

the age of 15 years. The mean age was 13.8 years. Duration of bleeding period in menstruation was found to be normal (3-9 days) in 319 (80.56%) girls. However in 55 (13.9%) it was less than 3 days whereas in 22 (5.6%) it was more than 9 days. In 308 (77.8%) girls the blood flow during menses was reported to be normal, in 42 (10.6%) it was scanty whereas 46 (11.6%) found it to be excessive. Appearance of clots was reported by 188 (47.5%) girls. Menses was reported to be regular by 312 (88.9%) whereas 84 (11.1%) had irregular menses.

Table 2: Menstrual pattern.

Duration of menstrual bleeding		
Days	No	%
<3	55	13.89
3 to 9	319	80.56
>9	22	5.56
Flow of menstruation		
Type	No.	%
Normal	308	77.78
Excessive	46	11.62
Scanty	42	10.61
Appearance of clots		
	No.	%
Present	188	47.47
Absent	208	52.53
Age at menarche		
Age in yrs.	No.	%
12	66	16.67
13	70	17.68
14	156	39.39
15	104	26.26

When asked for knowledge regarding menstruation before menarche 272 (68.7%) were found aware, whereas 124 (31.3%) had no idea about the menses when they had it for the first time. The source of knowledge in those who had it was mostly found to be mother and sister (in 75.8%) or friend (in 37.5%). Other sources like teachers, media and books were reported only by 4.4% girls (few students reported to have more than one source). However when they were asked about the source of present knowledge, only 132 (33.3%) and 52 (13.1%) reported it to be mother and sister respectively whereas in 108 (27.3%) it was the teacher who acted as source of information. Role of friend, books and media as a source of information was found in 70 (17.7%), 64 (16.2%) and 16 (4.0%) respectively. (Few had multiple sources of information).

When asked about the cause of menstruation 274 (69.2%) considered it to be a normal body activity, 28 (7.1%) regarded it to be a curse of God while 94 (23.7%) had no idea regarding the cause of menses.

In response to the question regarding ideal absorbent to be used for menstrual blood 224 (56.6%) went in favor of

sanitary pads, 100 (25.3%) reported ordinary new cloth to be ideal whereas 72 (18.2%) said that any cloth will do.

Table 3: Knowledge regarding menstruation.

Knowledge regarding menstruation		
Awareness before menarchy n=396		
	No.	%
Yes	272	68.69
No	124	31.31
Source of knowledge n=272		
Source	No.	%*
Mother	134	49.3
Sister	72	26.5
Friend	102	37.5
Teacher	2	0.7
Media	6	2.2
Books	4	1.5
Source of present knowledge n=396		
Source	no.	%*
Mother	132	33.33
Sister	52	13.13
Friend	70	17.68
Teacher	108	27.27
Media	16	4.04
Books	64	16.16
Cause of menstruation		
Cause	no.	%
Normal body activity	274	69.19
Curse of god	28	7.07
Don't know	94	23.74
Ideal absorbent for menstrual blood		
Absorbent	no.	%
Sanitary pad	224	56.57
Ordinary new cloth	100	25.25
Any cloth	72	18.18

* Total may be more than 100 due to multiple sources reported by some subjects.

Only 98 (24.75%), students used sanitary pads as absorbent for menstrual flow. Ordinary new cloth was being used by 160 (40.4%) girls while 138 (34.85%) used any available cloth during menses. Total no of pads used during last menstruation were reported to be more than 6 in 226 (57.1%) subjects, while in 170 (42.9%) it was found to be 6 or less. Average no of pads used was more than five in 200 (50.5%), 3 to 5 in 92 (23.2%) and equal to or less than 2 in 104 (26.3%) students. For disposing the used pads majority (70.2%) throws it along with household refuse, 21.2% throw it in toilet and only a small proportion (8.6%) disposed it off by burning.

Only 240 (60.6%) cleaned their external genitalia by washing more than two times a day during menstrual periods. 148 (37.4%) cleaned it 1-2 times while 8 (2.0%) didn't clean them at all. Material used for cleaning was plain water in 200 (50.5%), 160 (41.9%) used water and

soap while 30 (7.6%) claimed to use water with some antiseptic added to it.

Table 4: Practice of menstrual hygiene.

Material used as absorbent		
Material	No.	%
Sanitary Pad	98	24.75
Ordinary New Cloth	160	40.40
Any cloth	138	34.85
Method of disposal of pads		
Method	No.	%
Burning	34	8.59
Thrown in household refuse	278	70.20
Thrown in toilet	84	21.21
Cleaning of external genitalia per day		
Times / day	No.	%
No Cleaning	8	2.02
1-2 times	148	37.37
>2 times	240	60.61
Material used for cleaning		
Material	No.	%
Plain water	200	50.51
Water and soap	166	41.92
water and antiseptic	30	7.58
Place of drying the undergarments		
Place	No.	%
Outside in sun	244	61.62
Outside in shade	38	9.60
Inside the house	114	28.79
Total pads used during last menstruation		
No. of Pads	No.	%
≤6 Pads	170	42.93
>6 Pads	226	57.07
Average no of pads used per day		
No. of Pads	No.	%
≤2 Pads	104	26.26
3-5 Pads	92	23.23
>5 Pads	200	50.51

Place of drying the undergarments was reported to be outside the house in sun by 244 (61.6%), outside the house in shade by 38 (9.6%) and inside the house by 114 (28.8%) students.

When asked for any restriction practiced or imposed upon during menstruation 296 (74.75%) admitted that they practice some or other type of restriction during menstrual periods. On many of them, more than one restriction was imposed. In majority 190 (64.2%) of those who practiced it, the restriction was on taking part in religious activity. Other common restrictions found were on cooking the food (in 27.0%) and touching the stored/preserved foods (in 16.9%). Only 24 (8.1%) and 8 (2.7%) students were restricted for going to school and touching family members respectively.

Table 5: Restrictions practiced during menstrual period.

Restricted practiced n=396		
	No.	%
Yes	296	74.75
No	100	25.25
Restriction practiced for n=296		
	No.	%*
Religious activities	190	64.19
Household Work	80	27.03
Touching stored food	50	16.89
Touch family members	8	2.70
Going to School	24	8.11

*Total may be more than 100 due to multiple restrictions by some subjects.

DISCUSSION

In the present study all the participants were first year U. G. degree students having an educational level of intermediate (class 12th). This removed chances of any difference in the level of knowledge or hygienic practices during menstruation due to educational status in the study cohort. The mean age of the girls was 21 years. and at this age she is supposed to be mature enough to know about her body and have learnt all that is required to maintain her health. The mean age of menarche was 13.8 years whereas in a study conducted in Rajasthan by Khanna et al it was reported to be 13.2 years.⁹

Only 68.69% girls were found to be aware about menstruation before menarche. Similar results were reported by Dasgupta and Sarkar who found 32.5% girls being ignorant about menses till they had it for the first time.¹⁰ Jyothi Kamalam and Rajalakshmi in a study conducted in college girls of Thiruvananthapuram reported that almost one-third of the girls had no knowledge regarding menstruation at menarche.¹¹ This shows that still the discussion on menstruation is considered to be a taboo and is main hurdle in creating awareness regarding a normal physiological function. Among those who had this knowledge (n=272), 75.8% had received it from mother or sister. Friends (37.5%) were found to be the largest source of information outside the house. Role of teacher media and books was limited to mere 4.4%. When asked for the present source of knowledge mother and sister were still found to be the main source (46.5%), however the friend's role was reduced to 17.7%. Role of teacher, media and books together hiked to 37.5% out of which the teacher's role was found to be the highest. Of course many girls had more than one source of information. In a study conducted by El-Gilany et al.¹² in Egypt on 664 schoolgirls aged 14-18, mass media were the main source of information about menstrual hygiene.

Present study showed that only 69.2% girls regard menstruation as a normal body activity. Dasgupta and sarkar in a study conducted in Singur, West Bengal,

found 86.25% secondary school girls believing it to be a physiological process.¹⁰ Whereas Khanna et al. in their study conducted in Rajasthan found about 70% girls not regarding menstruation to be a natural process.⁹

Only 56.57% believed that sanitary pads are the best absorbent to be used to soak menstrual blood while for 25.25% any ordinary new cloth was as good as sanitary pad. However 18.18% still believed that any cloth will do. This is mostly because of lack of knowledge regarding the role of absorbent as a source of infection and the non-affordability of the people due to poor economic conditions.

As far as the practice of menstrual hygiene is concerned, in spite of 56.6% girls regarding the sanitary pad as best absorbent, only 98 (24.75%) used it. Users of any cloth were 34.85%. This was mostly due to poor affordability for sanitary pads and new cloth. In a similar study performed by Dasgupta and Sarkar only 11.25% girls were reported to use sanitary pads during menstruation whereas Juyal R et al. in their study conducted in college girls of Dehradun, found 38.4% subjects using sanitary napkins.^{10,13} An average use of two or less pads per day (highly unsatisfactory) was reported by 26.3%. Only 50.5% girls were found to use more than five pads in a day. Most of the girls (70.2%) disposed of the used pad by throwing it in refuse while 21.21% thrown it in the toilet. Only 8.59% reported to dispose it off by burning. However no girl was found to reuse the once used cloth after washing as was reported by Dasgupta and Sarkar in 73.75% of girls of their study.¹⁰ Improper disposal of sanitary napkins imposes the problem of clogging of toilets and environmental pollution.

Cleaning of external genitalia during menstruation was found satisfactory (> 2 times per day) in only 60.6% girls. Majority of girls (50.5%) used only plain water for cleaning while 41.9% used soap and water. More frequent washing with soap and water or with some antiseptic solution need to be emphasized for proper hygiene. Place of drying the undergarments was satisfactory (outside the house in sun) in case of 61.6% subjects. Rest of them either dried it in shade or inside the house.

Menstruation is still regarded an impious period in most of the Indian communities and due to ignorance various restrictions are imposed on menstruating girls. Majority (74.75%) of study subjects were found to practice some or the other restriction during menses. Most common restriction practiced was for participating in religious activities (by 64.2%). Other common restrictions were for cooking food and for touching stored/ preserved foods. Many girls practiced more than one restriction.

CONCLUSION

The results of the present study show that in spite of improvement in educational status of the girls, the knowledge and practice of menstrual hygiene is still poor

in majority of them. In view of the crucial role of menstrual hygiene in preventing genito-urinary infection, there is an urgent need of creating awareness regarding the normal physiological process of menstruation not only in adolescent girls but also the other members of the society. Mothers were found to be the most important source of information for young girls. So they need to be educated regarding their role in making the girls fully aware, of menstruation and related hygienic practices, before menarche. This will help in removing the deep rooted erroneous believes regarding this process and the psychological trauma resulting from ignorance. The role of teachers cannot be underestimated to fulfill this need. Proper educational material needs to be introduced in the curriculum of the school going girls at primary level to clear their concepts. Mass media, especially television can be used as an important medium for educating the people in this regard.

In spite of having knowledge about sanitary napkins, many girls still use alternative cloths and even old cloths as absorbent. This is due to the poor availability and high cost of available sanitary napkins. Such material should be made freely available at such a subsidized cost which can be easily afforded even by poor girls. Dispensers can be used in schools, colleges and in places from where the girls can fetch these products without any hesitation. Provision should also be made for proper disposal of these pads in the form of closed bins placed at schools and public places. Such steps will go a long way in reducing the prevalence of genito-urinary infections among female population of the country and the burden incurred in the cost of treatment for such diseases.

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