

Original Research Article

Assessment of menstrual health among school going adolescent girls of urban slums of Berhampur, Odisha, India: a cross-sectional study

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ABSTRACT

Background: Menarche is a significant milestone in the developmental journey of an adolescent girl about which she should be aware so that she can manage it properly. Poor personal hygiene and unhealthy menstrual practices give rise to repeated reproductive tract infections (RTIs). The Objectives were to assess the knowledge and perception regarding menarche; to study various problems related to menstruation and to evaluate various practices to manage menstruation with special emphasis on hygiene.

Methods: Field based cross-sectional study was conducted among students of Class IX of a Government Girls High School in the field practice area of Department of Community Medicine in October 2015 using pre-designed, pre-tested, semi structured questionnaire. Data thus collected was analysed using appropriate statistics.

Results: Menarche was attained by 86% of girls. Of which only 15% were aware about it. Mothers were the source of information for 94% of the girls. Duration of menstrual bleeding lasted normally for 3-4 days among 50% girls. Normal periodicity of cycles of (21-35) days was present in 69% of girls. Exclusively, sanitary napkins and clothes were used by 56% and 31% of the girls respectively. Clothes were reused by 73% of them, out of which 88% sundried after washing. Due to unavailability of soaps and dustbins, only 42% changed their pads or clothes in school.

Conclusions: The knowledge and practice about menstruation is not adequate among the adolescent girls. Education of girls and their caretakers about healthy menstrual practices is essential. Schools should be provided with better sanitary facilities.

Keywords: Adolescent, Menarche, Menstruation, Sanitary napkins

INTRODUCTION

WHO has defined Adolescence as the period between 10-19 years of life.¹ Adolescents girls constitute about one-fifth of total population in the world.² Adolescence is a phase of transition from girlhood to womanhood and marks the onset of female puberty. This period of attaining reproductive maturity between ages of 10-19 years is marked by a number of physiological, behavioural, psychological changes, the most notable being onset of menarche.³ It is still considered as

something unclear or dirty in Indian society.⁴ As every stage of a woman's health influences the next stage, menstrual hygiene is an important component of adolescent health in females as poor menstrual hygiene can potentially be a cause of urinary tract infections, reproductive tract infections, and sexually transmitted diseases like cancer, HIV/AIDS.⁵ Untreated reproductive tract infections can have severe consequences on health, fertility and productivity of women. It also results in fetal wastage and perinatal infections.⁶ Effective management of menstrual bleeding requires access to information and

education on the safe practices of menstrual hygiene.⁷ Manner in which a girl learns about menstruation and its associated changes may have impact on her response to the event of menarche.⁸ Infections due to lack of hygiene during menstruation have been reported in many studies.⁹ The need of the hour for girls is to have information, education and an enabling environment to cope with menstruation issues.¹⁰ With the above background this study was conducted among school going adolescent girls in one of the urban slums of Berhampur with the following objectives.

- To assess knowledge and practice regarding menarche and menstrual hygiene status among school going adolescent girls.
- To study social and medical problems related to menstruation.

METHODS

This community based cross-sectional study was conducted among the adolescent girls of the Government Girls High School present in the field practice area of Department of Community Medicine from September to October 2015.

As convenient sampling, all the students of class IX were selected as study subjects. Inclusion criteria was all the willing students present on the day of data collection.

For the study purpose a pre-designed, pre-tested, semi structured questionnaire was prepared in local language. Necessary modification to the questionnaire was done after pre-testing among 15 adolescent girls in a nearby Anganwadi centre. Data was collected by self administered questionnaire. Questions were divided in two sections:

- The first section had questions related to socio demographic data.
- Questions relating to menstrual health including menstrual pattern and hygiene were present in second section.

Permission was obtained from District Education Officer to conduct the study. This was communicated to the head mistress of the school who subsequently facilitated by arranging one free period for data collection on a scheduled day. All the students of class IX present on that day were explained about the purpose of the study and with their verbal consent questionnaire was distributed among the willing students. Students were explained the questions in which they had difficulty to understand. This was followed by an interactive session educating the students about the normal physiology of menstruation and importance of menstrual hygiene by the investigator. Their queries related to menstrual health were also answered. Data thus collected was entered into the excel sheet and analysed in the Department of Community Medicine to get mean, standard deviation, percentages.

Chi-square tests were used to determine significance of association (p value) between socio demographic data (education of mother, occupation of father and type of family) with knowledge and practices regarding menstruation (awareness prior to menarche, type of material used, reuse of clothes, site of drying of clothes).

Ethical considerations: The study protocol was approved by Institutional Ethical Committee of M. K. C. G Medical College and Hospital.

RESULTS

Total 118 girls responded to the questionnaire. Majority 99 (83.9%) belonged to the age group of 10-14 years with mean age of 13.3±0.5 years. Most 110 (93%) the girls were Hindus by religion and 62% belonged to nuclear families. Mothers of 33 (28%) girls were educated upto primary level whereas 14 (11.9%) were illiterates. About 12% mothers were working as daily labourers whereas rest were housewives. None of the fathers were illiterates and 45 (40.1%) of them had education upto secondary level and above. By occupation fathers of 44(39.2%) of girls had business whereas 25 (22.3%) were professionals (Table 1).

Table 1: Socio-demographic profile.

Variable	Frequency
Age (n=118)	
10-14 years	99(83.9%)
15-19 years	19(16.1%)
Religion (n=118)	
Hindus	110(93.2%)
Christian	8(6.8%)
Family (n=118)	
Nuclear	73(61.9%)
Joint	14(11.9%)
Three generation	31(26.2%)
Education of mother (n=118)	
Illiterate	14(11.9%)
Primary	33(28%)
Upper primary	25(21.2%)
Secondary	32(27.1%)
Higher secondary and above	14(11.8%)
Education of father (n=112)*	
Primary	25(22.3%)
Upper primary	12(11.6%)
Secondary	33(29%)
Higher secondary and above	45(40.1%)
Occupation of mother (n=118)	
Housewife	104(88.1%)
Working	14(11.9%)
Occupation of father (n=112)*	
Unskilled labourers	29(25.8%)
Skilled labourers	14(12.7%)
Semi-professional	44(39.2%)
Professional	25(22.3%)

*For 6 girls fathers were not alive.

Menarche was attained by 102 (86%) girls. Age of attainment of menarche ranged from 11-15 years with mean age at 13±0.5 years. Only 18 (15%) of girls were aware about menstruation prior to menarche. For majority of girls 17 (94%), mothers were the source of information. This awareness had no significant association with education of mothers (p=0.643) and type of family (p=0.076). Problems relating to menstruation were discussed freely by 80% of girls with their mothers. Almost half of the girls 56% had experienced sense of fear during menarche. Duration of cycle was 3-4 days for 51 i.e. half of the girls whereas it varied between 5-7 days for 45% (Table 2). Half of the girls had flow of normal duration i.e. (3-4) days. Perception of girls regarding normal duration of flow varied. Out of 46 girls having (5-7) days flow during menstruation, 41(89%) felt that it was normal. Duration of (1-2) days was considered normal for 4 out of the remaining 5 girls. Majority of the girls 70 (69%) had normal periodicity of cycles i.e. (21-35days). Of those having periodicity less than 21 days and those more than 35 days, 9 (82%) and 9 (43%) perceived as normal respectively.

Table 2: Students perception about menstruation (n=102).**

	Yes	No	Total
Duration of cycles as normal			
(1-2) days	4 (80%)	1 (20%)	5 (5%)
(3-4) days	48 (94%)	3 (6%)	51 (50%)
(5-7)days	41 (89%)	5 (11%)	46 (45%)
Periodicity of cycles as normal			
<21days	9 (82%)	2 (18%)	11 (10.7%)
21-35days	65 (93%)	5 (7%)	70 (68.6%)
>35days	9 (43%)	12 (57%)	21 (20.7%)

**-Remaining 16 girls did not achieve menarche.

Premenstrual syndrome and dysmenorrhoea were experienced by 58 (57%) and 75 (73.5%) of the girls respectively. Of them 59 (78.6%) used medication to get relief (Table 3).

Table 3: Health and social problems related to Menstruation.

Variable	Yes	No
Premenstrual syndrome (n=102)	58 (57%)	44 (43%)
Dysmenorrhoea (n=102)	75 (73.5%)	27 (26.5%)
Use of medication for discomfort (n=75)	59 (78.6%)	16 (21.4%)
Absenteeism from school (n=102)	78 (76.5%)	24 (23.5%)
Any restriction during menstruation (n=102)	94 (92.2%)	8 (7.8%)

Considering the use of sanitary napkins, none of the girls were counselled to use sanitary napkins by the AWWs or

Health Workers in their area and also napkins were not available for sale with them as provided under RMNCH +A. Only 58 (56.8%) of the girls exclusively used sanitary napkins whereas 13 (12.7%) used only clothes. However rest used both sanitary napkins and clothes. Type of material used had no association with education of mother (p=0.377) but was significantly associated with occupation of father (p=0.040). Out of those who used clothes, 33 (73%) reused it after washing. Sun-drying after washing the reused clothes was done by 29 (87.8%) of them (Table 4). Reuse of clothes (p=0.793) and sun drying (p=0.550) after washing had no association with education of mother (Table 4).

Table 4: Menstrual hygiene practices.

Menstrual hygiene practices	N (%)
Type of material used (n=102)	
Sanitary napkins	58 (56.8%)
Clothes	13 (12.7%)
Both	31 (30.4%)
Pattern of using clothes (n=45)	
Reuse	33 (73%)
Single use	12 (27%)
Place where clothes are dried (n=33)	
Sundried	29 (87.8%)
Dried in bathroom	4 (12.2%)
Changing pads/clothes at school (n=102)	
Yes	59 (57.8%)
No	43 (42.2%)

Changing of clothes or napkins daily once was done by 20% of girls. Majority of them explained that due to scanty bleeding they did not feel it necessary to change frequently.

Only 23.5% of girls missed schools during cycles whereas 54% admitted that their studies were adversely affected during those days. Itches and sores during menstruation developed in about 57% of girls. Only 11.4% consulted with Anganwadi workers for problems related to menstruation. All of them took bath daily and washed their private areas during bathing, after urination and after defaecation. About 47% of the girls used only water to wash their private area. Pads/napkins were changed at school by 42.2% of the girls. Rest of the girls reasoned that although there was constant water supply in toilets but due to unavailability of soaps and dustbins they did not change their napkins in school. Restriction during menstruation i.e. worship, kitchen, touching households, sleeping on bed was followed by 93% of girls.

DISCUSSION

Present study was conducted among class IX students in an urban slum of Berhampur. Menarche has been attained by majority 86% of girls.

Mean age of attainment of menarche was found to be 13 years. In a study conducted in Jaipur by Khanna et al in year 2005, mean age of menarche was reported to be 13.2 years.¹¹ A comparative study conducted among rural and urban adolescent girls by Deo DS and Ghattargi in 2005 highlighted that the age of menarche in their study ranged from 12-17 years.⁸ In a descriptive cross-sectional study conducted among rural and urban adolescent girls, Dasgupta et al found mean age of menarche as 12.8 years. Mean age of menarche in the present study corresponded with that of above studies.^{4,8,11} Awareness prior to menarche was present in 15% of girls in the study.⁴ Kamanth et al showed that 32.27% and 35.82% of urban and rural participants respectively had awareness about menstruation prior to menarche in a study in 2003 in Udipi Taluk, Karnataka.¹² Dasgupta et al found 32.5% girls were ignorant about menstruation before menarche.⁴ As reported by Deo et al, higher number of girls both urban (42.5%) and rural (55.4%) had awareness prior to menarche.⁸ Nair P et al conducted a study in Gazipur of East Delhi in 1998 in which 74% of girls had knowledge about menses prior to menstruation.¹³ Awareness prior to menarche was less in the present study as compared to the above studies may be because of hesitance of mothers and teachers to discuss with their daughters and students regarding this sensitive issue.^{4,8,12,13} In 94% cases, mothers were the most common source of information in the present study. But a much lesser percentage of adolescents were informed by their mothers about menarche (urban 27.5% and rural 27.1%) as described by Deo et al.⁸ According to a study conducted in 2013 in Nagpur by Patle R et al, mother was main source of information in 32.09% and 36.5% in urban and rural areas respectively.¹⁴ Frequency of mothers as source of knowledge was much higher in the present study as compared to others. This may be because daughters were more comfortable with their mothers.^{8,14} Perception of girls regarding normal duration of flow and periodicity varied among girls. This may be due lack of health education. Exclusive use of sanitary napkins and clothes were done by 56% and 13% of girls respectively. Use of sanitary napkins was found to be higher in urban area 75.9% compared to rural participants 65% in a study by Kamanth et al. This could be due to awareness and literacy of the mothers. Though under RMNCH+A, provision of sanitary napkins to be sold under social marketing is there, in this district it was not implemented.¹² Clothes were reused by 73% of girls. Similar finding were observed in a study by Khanna et al where 75% used old clothes.¹¹ Use of old piece of cloth was higher among rural group 52.43% according to Rupali Patle et al.¹⁴ Dasgupta et al found that 73.5% reused cloth pieces and 57.5% properly disposed the used material.⁴ Clothes were dried in bathroom by 12% of girls. It was observed by Kamanth et al that more of rural participants dried the clothes inside in the house because menstruation is considered as impure and dirty and meant to be hidden which reflects taboos in society.¹² Narayan KA et al in South India in 2001 found that after washing, 42% girls dried their clothes in sun and 46.5% stored

them in bathroom.¹⁵ In present study it was found that still 20% of girls were there who change their napkins/clothes only once. Narayan KA et al found that 42% girls had changed their pads twice a day.¹⁵ Keeping the blood soaked clothes for longer period might result in fungal infection in the inguinal area. Social restrictions like worshipping God, entering into kitchen, touching households materials and sleeping on bed were followed by 93% of girls in the present study which could be due low literacy status of the mothers. These taboos hampered the routine activities of the girls.

CONCLUSION

Knowledge of menstrual health and menstrual hygiene status was not satisfactory among the girls. Only few of the girls consulted health workers for their menstrual problems. Due to unavailability of adequate sanitary facilities half of the girls were reluctant to change their napkins or pads in school. Still restrictions and taboos existed in society which hampered their routine activities.

Recommendations

- There is a need to provide education and equip the adolescent girls with skills regarding safe and hygienic practices during menstruation so as to enable them to lead a healthy reproductive life and prevent the risk of RTIs.
- Teachers should be empowered to function as primary source of information on menstruation including reproductive health as they are accessible to handle adolescent issues and facilitate referrals as the need arises.
- There should be proper sanitary facilities in the school i.e. dustbins and soaps that will encourage the school going girls to change their napkins at school. Provisions of pads on payment facility must be there.

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