
PUBLIC HEALTH RESEARCH

Assessment of Knowledge and Practices about Menstrual Health among Adolescent Girls of an Urban Slum in Mumbai

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ABSTRACT

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Introduction	Adolescence is a critical period of life marked by biological, social and psychological changes for an individual.
Objective	The objective of the study was to assess the knowledge and practices of adolescent girls pertaining to menstruation in an urban slum.
Methods	A cross-sectional descriptive study of three months duration (January 2011 to March 2011) was conducted in an urban slum of Mumbai. All adolescent girls from 10-19 years of age, who had attained menarche, attending general out-patient department and STI clinic, were included. The total sample size of the study was 241. After taking the informed consent of the study respondents, participants were interviewed using a semi-structured questionnaire. The questionnaire comprised of eliciting information pertaining to the socio-demographic profile and reproductive health i.e. hygiene during menstrual periods, awareness about HIV/AIDS of the participants. Special care was taken to maintain privacy and confidentiality. Data entry and statistical analysis were done using SPSS version 17. Frequency distributions were calculated for all the variables and chi-square test was used to study the association between socio-demographic parameters and knowledge and practices about menstruation.
Results	It was observed that 79(32.8%) subjects had unsatisfactory menstrual hygienic practices. Even though 66% of adolescent girls were aware about the different modes of transmission of HIV, only 19% knew about safe sexual practices. Education status and late adolescent age group (15-19 years) had a statistically significantly association with adolescent girls knowledge about menstruation. Good/fair knowledge and education status was found to be significantly associated with good practices during menstruation.
Conclusions	Study findings have revealed that education status of the adolescent girls was the most important determinant for having good menstrual knowledge. Also significant association was observed between education level and healthy menstrual practices. Thus steps should be taken to improve the literacy status of the adolescent girls for bringing about further improvements in the menstrual hygiene related knowledge and practices.
Keywords	Adolescents - Menstruation - Reproductive health - Menstrual hygiene.

INTRODUCTION

Adolescence is a critical period of life marked by biological, social and psychological changes for an individual. It is a period of major transition during which adolescents learn to become adults. A large number of adolescents (10-19 years) are out of school, get married early, work in vulnerable situations, are sexually active, and are exposed to peer-pressure¹. It is difficult to define which factors influence adolescent risk-taking and health-seeking behavior, since multiple categories of factors are operating at individual, family, community and societal level².

Physiological and psychological aspects of menstruation have been found to be associated with health and wellbeing of women; hence it is an important issue concerning morbidity and mortality of female population³. Women and girls of reproductive age should adhere to good hygienic practices such as the use of sanitary pads and adequate washing of the genital area during menstruation, which in the long run protect their health⁴. Adolescents have to be knowledgeable about their health problems including sexual and reproductive health problems. Burden of reproductive tract infections (RTI) in developing countries is of grave public health concern⁵. The proportion of this burden which can be attributed to poor menstrual hygiene is unknown but poor personal hygiene and unsafe sanitary conditions have been identified as the major potential risks that ultimately result in gynecological problems³. Repeated use of dirty/improperly dried cloth napkins leads to urinary tract infections/genital tract infections such as bacterial vaginosis and vulvovaginal candidiasis⁶. In a review of Districts Health Survey (DHS) across 11 nations (Cambodia, Indonesia, Marshall Islands, Nauru, Papua New Guinea, Philippines, Samoa, Solomon Islands, Timor-Leste, Tuvalu and Vietnam), it was observed that adolescent women have lower use of contraception, poorer knowledge of family planning and less access to information and services than adult women⁷. Multiple variables such as ignorance⁸, and low level of education among mothers of adolescent girls^{9,10}, absence of menstruation/sex education related topics in the curriculum³, feeling of awkwardness among the teachers, etc³ have been identified. Interaction between these parameters can have a significant impact on menstrual hygiene related knowledge and practices^{3,9,11}.

Thus, the current study was to assess the knowledge and practices of adolescent girls pertaining to menstruation in an urban slum. The study was conducted in such settings because, till date very few studies have been performed in urban slum pockets with same objectives. In addition, plus in an urban area a major proportion of the population is constituted by migrant people, of

which a majority of them lacks either awareness about healthy practices or does not have a health-seeking behavior. Furthermore, slums are usually inhabited by the very poor/illiterate or socially disadvantaged population who have many socio-cultural prejudices and barriers that interferes with the utilization of health care services. Based on the findings of this study, appropriate interventions will be planned for the improvement of the health of the beneficiaries.

METHODOLOGY

A cross sectional descriptive study of three months duration (January 2011 to March 2011) was conducted in an urban slum area of Mumbai to gain an insight into the knowledge and practices of adolescent girls related to menstrual hygiene and assess their awareness about various aspects of reproductive health. Mumbai is a metropolitan city with a population of almost 12.6 million, and is regarded as the financial capital of India. Almost 70% of the residents living in Mumbai stay in slum pockets and it again ranks first with regard to slum population in the entire nation.

Inclusion criteria

All adolescent girls in the age group of 10-19 years who had attained menarche and were willing to participate in the study were included. The study population comprised of healthy girls, diseased girls, disabled girls and immigrant girls (who have stayed in the slum area for a minimum period of six months).

Exclusion criteria

Adolescent girls who refused to give informed consent were excluded from the study.

Data collection instrument

The data collection tool was a semi-structured questionnaire which was validated to the local settings after doing a pilot test among 34 adolescent girls. Based on the responses obtained, questionnaire was appropriately modified. After taking the informed consent of study respondents, participants were interviewed using the pre-tested semi-structured questionnaire. The questionnaire comprised of eliciting information pertaining to the socio-demographic profile and menstrual health related knowledge (for example. awareness about menstruation before menarche; source of information; cause of menstruation; organ from which blood comes; and absorbent ideally to be used during menstruation) and practices (viz. material used during menstruation; satisfactory/unsatisfactory cleaning of genitalia; material used for cleaning of external genitalia; storage of absorbent; any imposed restrictions during menstruation; and method of disposal).

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Operational definitions

Menstrual hygiene was categorized as satisfactory (cleaning of the external genitalia is ≥ 2 /day with soap and water) and unsatisfactory (cleaning of the external genitalia is 0-1/day with only water or ≥ 2 /day with only water)⁽³⁾.

Assessment

The subjects' knowledge and practices were scored using an arbitrary scoring system. Each correct response under knowledge attracted one point, whereas any wrong or don't know answer attracted no mark. Practices of menstrual hygiene were scored on the basis of use of sanitary pad during their last menstruation (two points), use of new cloth pieces or cotton (one point) and those using old cloth pieces or any other method (zero point). Correct responses for the other questions under practice were given one point each and the wrong answers were given no mark. Overall, total score of eight points was designed for assessing the knowledge and five points for assessing the practice of the study participants. For the final assessment of knowledge of the participants, adolescent girls were categorized as having poor knowledge (0-3 points); fair knowledge (4-6 points) and good knowledge (> 6 points). Also for the assessment of the practices, the adolescent girls who recorded 3-5 points and 0-2 points were categorized as having good and bad practices respectively.

Ethical consideration

Ethical clearance was obtained from the Institutional Ethics Committee prior to initiation of the study. Written informed consent was obtained from the study participants before obtaining any information from them. Utmost care was taken to maintain privacy and confidentiality.

Statistical analysis

Data entry and statistical analysis were done using SPSS version 17. Frequency distributions were calculated for all the variables and chi-square test was used to study the association between socio-demographic parameters and knowledge and practices about menstruation.

RESULTS

The present study was carried among 241 adolescent girls who attend the outpatient department during the study period. 100% was the response rate, i.e. none of the adolescent girls refused to participate in the study. The majority of the study respondents 133 (55.2%) was from 15-19 years age group. About 149 (61.8%) were Muslim by religion while 137 (56.8%) of the adolescent girls were having secondary standard or above level of education status.

Table 1 Socio-demographic factors influencing respondents' knowledge regarding menstruation

Socio-demographic parameters			Knowledge			p value*
			Good	Fair	Poor	
Age group (years)	10 – 14	24(22.2%)	67(62%)	17(15.8%)	0.001	
	15 – 19	74(55.6%)	45(33.8%)	14(10.6%)		
Religion	Hindu	37(40.2%)	47(51.1%)	8(8.7%)	0.25	
	Muslim	61(40.9%)	65(43.6%)	23(15.4%)		
Education	Illiterate	4(21%)	5(26.3%)	10(52.7%)	0.001	
	Primary	28(32.9%)	40(47.1%)	17(20%)		
	Secondary & above	66(48.2%)	67(48.9%)	4(2.9%)		
Marital status	Married	36(46.7%)	29(37.7%)	12(15.6%)	0.16	
	Single	62(37.8%)	83(50.6%)	19(11.6%)		

*using chi-square test

Table 1 reveals the association between socio-demographic parameters and knowledge of adolescent girls regarding menstruation. Education status and late adolescent age group (15-19 years)

were found to be significantly associated with knowledge of the subjects regarding menstruation.

Table 2 Socio-demographic factors influencing respondents' practices regarding menstruation

Socio-demographic parameters		Practice		p value*
		Good	Bad	
Knowledge	Good/Fair	191(91%)	19(9%)	0.001
	Poor	11(35.5%)	20(64.5%)	
Age group (years)	10 – 14	86(79.6%)	22(20.4%)	0.11
	15 – 19	116(87.2%)	17(12.8%)	
Religion	Hindu	79(85.9%)	13(14.1%)	0.49
	Muslim	123(82.6%)	26(17.4%)	
	Illiterate	5(35.7%)	14(64.3%)	
Education	Primary	67(78.8%)	18(21.2%)	0.001
	Secondary & above	130(94.9%)	7(5.1%)	
Marital status	Married	63(81.8%)	14(18.2%)	0.56
	Single	139(84.8%)	25(15.2%)	

*using chi-square test

Table 2 depicts the association between socio-demographic parameters and menstrual practice of the adolescent girls. Educational status of study respondents was found to be directly proportional to their menstrual practices.

In the current study, only 49 (20.3%) of the participants were aware about menstruation before menarche, the main source of information being mother in 27 (55.1%) subjects. These included restrictions during menstruation at religious occasions in 217 (90%) of the subjects and for doing household work in 72 (29.9%) subjects; use of new cloth pieces during menstruation in 26 (10.8%) subjects and re-use of old cloth pieces in 74 (30.7%) subjects. Among all the adolescent girls who participated in the study, only 104 (43.2%) subjects were using sanitary pads during menstruation. Apparently, poverty, high cost of disposable sanitary pads and to some extent ignorance dissuaded them from using sanitary absorbents available in the market. It was also observed that 79 (32.8%) subjects had unsatisfactory menstrual hygienic practices.

DISCUSSION

In the current study, despite 174 (72%) adolescent girls were aware about the use of sanitary pads, only 104 (59.8%) were actually using the same. This was probably because of the expensive nature of sanitary pads and the ritual of using cloth by the mother / other sisters. In a similar study done in West Bengal it was observed that 78 (48.75%) girls knew the use of sanitary pad during menstruation but only 18 (11.25%) girls used sanitary pads during menstruation³. In a study done in Nigeria unsanitary menstrual absorbents were used by 55.7% of the respondents¹². Findings of a study done in Wardha revealed that the majority (46.67%) of the girls were using cloth instead of sanitary pads during their menstrual period¹³.

The current study findings revealed that knowledge about menstrual health was much better in girls from 15-19 year age group, educated up to

secondary school and above, & those who were single. In a community-based study, knowledge about menstrual health was poor in girls between 20-29 year age group and those who were illiterate¹⁴. Similar to the present study, findings were obtained in a qualitative study with regard to knowledge about menstrual hygiene and application of the knowledge into practice¹⁵.

The majority of the subjects i.e. 167 (69.3%) were aware that poor hygiene predisposes to infection but still cleaning of external genitalia was found to be unsatisfactory in 79 (32.8%) subjects. Similar results were obtained in many other studies conducted across the globe^{14,16}. This clearly indicates the wide knowledge-application gap which has persisted in most of the countries despite the multiple awareness campaign which is in place. In other words, it means that the efforts of the policy makers/healthcare workers are not reaching where it should reach for maximizing the outcome.

In a study conducted in metropolitan city of India, it was shown that almost three-fourth of the adolescent girls were restrained from participating in daily household activities¹⁷. During menstruation multiple types of social exclusion have been reported such as exclusion from daily routine tasks like cooking, attending religious ceremonies, or sleeping in one's own home or bed^{15,18,19}. This was in contrast to present study findings where about 30% subjects faced such restriction. The variable type of restrictions or extent of restrictions observed is probably because of the different socio-cultural practices prevalent in the study settings. Further literacy status of the mothers of the adolescent girls has also contributed significantly to the observed results.

The study had some limitations as it was a center based study, and thus findings of the study cannot be generalized to the entire community. Further, though special care was taken to maintain privacy but this being a sensitive issue, the study

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respondents may have not come with complete truth.

CONCLUSIONS

To conclude, 49 (20.3%) of the study participants were aware about menstruation before menarche. Despite 174 (72%) adolescent girls were aware about the use of sanitary pads, only 104 (59.8%) were actually using the same revealing the unmet needs. Findings of study have revealed that education status of the adolescent girls was the most important determinant for having good menstrual knowledge. Also significant association was observed between education level and healthy menstrual practices. Thus steps should be taken to improve the literacy status of the adolescent girls for bringing about further improvements in the menstrual hygiene related knowledge and practices.

RECOMMENDATIONS

Menstrual health being an important part of life cycle of women's health, so specific message and health care services must reach the adolescent girls. In an effort to improve menstrual health, the concept of menstrual hygiene should be incorporated into the school curriculum as it gives a unique opportunity to discuss menstrual health related issues with adolescent girls at the right time.

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