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Assessment of Knowledge and Practice of Menstrual Hygiene Management among Adolescent School Girls in Ahmedabad City

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ABSTRACT

Background: Menstrual hygiene is inadequately acknowledged and has not received proper attention. Unhygienic menstrual practices can affect the health of the girls and there is an increased vulnerability to reproductive tract infections. The study was conducted to assess the knowledge and practice of menstrual hygiene among adolescent school girls in Ahmedabad city.

Methods: A cross-sectional study was conducted among 430 adolescent girls from four schools in the Ahmedabad city. Data were collected during September to November 2016 using a pre-tested structured questionnaire in the local language (Gujarati).

Results: Mean age at menarche was 13.4±1.04 and range between 11-16yrs. In this study, 46.9% and 48.1% of girls had good knowledge and practice of menstrual hygiene respectively. For 54.8% girls, the main sources of information about menstrual hygiene were Mother. Only 8.1% of girls knew about the source of blood during menses. 56.2% of girls used a sanitary pad. Only 7.0% changed pads or clothes more than three times a day.

Conclusions: Based on this study were to conclude that less than half of girls had good knowledge and practices regarding menstruation. This situation can be tackled by giving health education to girls and creating awareness among parents.

Keywords: Menstruation, Menstrual hygiene, Adolescent School girls

INTRODUCTION

The World Health Organization (WHO) has defined adolescence as the age group of 10-19 years. Menarche may be the most important developmental event in the life of adolescent girl.[1] Adolescent girls form a group exposed to the possibility of being unsafe not only with respect to their social status but also in relation to their health. Menstruation is often seen as filthy and impure event in our society.[2] Menstrual hygiene is an issue seldom talked about and has never received due attention.[3]

Inadequate menstrual hygienic practices can harmfully affect the health and can lead to reproductive tract infections, chronic pelvic pain, dysmenorrhea and even infertility.[4] Often, due to ignorance nature of the society regarding menstruation, adolescent girls do not have the proper knowledge of physiology of menstruation even after attainment of menarche.[5] Menstruation although in natural physiological process often associated with misconceptions and the way a girl gets to know about it can lead to a good or bad perception regarding menstruation.[2]

It has been reported that prevalence of reproductive tract infection was more with poor personal and lower with good personal hygiene.[6-8] Repeated use of unclean napkins or the improperly dried cloth napkins can lead to vaginal infections.[9] Unhygienic practice during menstruation renders women vulnerable to reproductive tract infection

and can be transmitted from pregnant mother to their offspring.[2] Increased knowledge about menstruation from childhood may increase safe practices and may help in eliminating the suffering of millions of women.[10] Therefore, the objective of this study was to assess the knowledge and practice of menstrual hygiene among adolescent school girls in Ahmedabad city.

METHODS

This was a cross-sectional study done in four selected High Schools of Asarwa ward in Ahmedabad city. The data was collected during the period from September to November 2016.

The sample size was determined using a formula $4pq/l^2$ [Prevalence of knowledge about menstruation = 51.36%[11], allowable error=10%] so, the minimum sample size came to be 379. However, among 430 adolescent girls were selected to accommodate refusals or non-response.

The study tool used was a pre-designed, pretested, structured and self-administered questionnaire which was developed and translated into the local language (Gujarati). The questionnaire included socio-demographic profile, knowledge and attitudes regarding the process of menstruation, practices during menstrual cycles and menstrual history. The study population included all the girls studying in 9th, 10th, 11th and 12th standards. After taking permission from the school authority, the class teachers of the respective classes were explained the objectives of the study. The students have explained the purpose of the study and were briefed about the questionnaire. They were also informed about the confidentiality of the information collected so as to get as more reliable answers from them. After obtaining an informed consent, the questionnaires were administered to them. After completing the data collection, we gave education about good Menstrual Hygiene Practice and the girls were allowed to inquire any clarifications.

Student's menstrual knowledge score was calculated out of the 7 knowledge specific questions (Table-2) and practice of menstrual hygiene score was calculated out of the 7 practice specific questions (Table 3). Each correct response earned one point, whereas any wrong or don't know response attracted no mark and thus the sum score of knowledge was calculated (7 points). Accordingly, the mean score (4.8 ± 1.67) was used to decide the cut-offs of the rank. Good knowledge of menstruation and practice of menstrual hygiene was given to those respondents who scored 5-7 points and poor knowledge of menstruation and practice of menstrual hygiene was given to those respondents who scored 0-4 points.[4]

Statistics: Data were analyzed and presented in suitable tables and Chi-square was applied to test significance where ever necessary. Data were collected and entered in Microsoft Office Excel 2016, and Epi Info 7 was used for statistical analysis for applying a Chi-square test.

RESULTS

Socio-demographic profile

A total of 430 girls were included in the study. In our study 241(56.05%) girls were from the age group 13 - 15 years, followed by 189(43.95%) from the age group of 16- 18 years. Mean age at menarche was 13.4±1.04. Majority 175(40.69%) of girls belonged to 9th standard followed by 121(28.13%) in 10th standard. 165(38.37%) of mothers had primary education and 210(48.83%) of fathers had secondary education. 173(40.23%) of them belong to socio-economic class-IV. (Table - 1)

Table 1- Socio-demographic characteristics of adolescents school girls (n=430)

Variables	Girls (%)
Age at interview	
13-15yrs	241(56.05)
16- 18yrs	189(43.95)
Age at menarche	
8-11yrs	11(2.55)
12-15yrs	390(90.69)
>16yrs	10(2.32)
Education status of respondents	
Grade 9	175(40.69)
Grade 10	121(28.13)
Grade 11	91(21.16)
Grade 12	12(2.79)
Mother's education	
Illiterate	100(23.25)
Primary	165(38.37)
Secondary	141(32.79)
Graduate	24(5.58)
Father's education	
Illiterate	20(4.65)
Primary	133(30.93)
Secondary	210(48.83)
Graduate	67(15.58)
Per capita income*	
I	17(3.95)
II	40(9.30)
III	133(30.93)
IV	173(40.23)
V	67(15.58)

*modified Prasad classification may-2016

Knowledge about menstruation and its hygiene

According to the data obtained from the participants, menstruation as a physiological process was known by 371(86.27%) girls.

Table 2: Summary index of knowledge about menstrual hygiene and practices during menstruation

Summary index	Girls (%)
Knowledge	
Good	202 (46.9)
Poor	228 (53.0)
Practice	
Good	198 (48.1)
Poor	213 (51.8)

Table 3: Factors affecting level of knowledge about menstrual hygiene among adolescent school girls

Characteristic	Knowledge		aOR (95%CI)
	Good (%)	Poor (%)	
Mother's education			
Primary & below	110 (25.5)	155 (36.0)	1
Secondary & above	92 (21.3)	73 (16.9)	1.34 (0.89-2.09)
Father's education			
Primary & below	54 (12.5)	99 (23.0)	1
Secondary & above	148 (34.4)	129 (30.0)	1.65 (1.04-2.59)*
Grade in school			
10 and below	125 (29.0)	171 (39.7)	1
Above 10	77 (17.9)	57 (13.2)	1.72 (1.12-2.64)*
Income			
I	11 (2.5)	6 (1.3)	2.66 (0.84-8.45)
II	25 (6.5)	12 (2.7)	3.81 (1.60-9.04)*
III	63 (14.6)	70 (16.2)	1.48 (0.79-2.77)
IV	77 (17.9)	96 (22.3)	1.30 (0.71-2.38)
V	23 (5.3)	44 (10.2)	1

Key = *statistically significant (p-value <0.05); 1= Reference category; aOR(95%CI)= Adjusted Odds Ratio (95% Confidence Interval)

Table 4: Factors affecting menstrual hygienic practice among adolescent school girls

Characteristic	Practice		aOR (95%CI)
	Good (%)	Poor (%)	
Mother's education			
Primary & below	99(24.0)	152(36.9)	1
Secondary & above	99 (24.0)	61 (14.8)	2.21 (1.41-3.47)*
Father's education			
Primary & below	57 (13.8)	89 (21.6)	1
Secondary & above	141 (34.3)	124 (30.1)	1.15 (0.72-1.82)
Grade in school			
10 and below	123 (29.9)	154 (37.4)	1
Above 10	75 (18.2)	59 (14.3)	1.44 (0.93-2.23)
Income			
I	9 (2.1)	7 (1.7)	2.10 (0.65-6.73)
II	22 (5.3)	17 (4.1)	2.56 (1.10-5.98)*
III	64 (15.5)	61 (14.8)	2.18 (1.14-4.17)*
IV	83 (20.1)	81 (19.7)	2.09 (1.12-3.90)*
V	20 (4.8)	47 (11.4)	1

Key = *statistically significant (p-value <0.05); 1= Reference category; aOR(95%CI)= Adjusted Odds Ratio (95% Confidence Interval)

210(48.83%) girls knew that the cause of menstruation was hormonal. Out of 430 girls, 154(35.81%) didn't have the clue about the origin of the menstrual blood and 149(34.65%) of the girls said the origin of the menstrual blood as a vagina. Only 35(8.13%) girls knew the origin of the menstrual blood was from the uterus. Majority 264(61.39%) of girls heard about menstruation after attaining menarche and 414 (96.27 %) of the girls knew about menstrual hygiene. 268(62.32%) girls had the knowledge of a normal menstrual cycle. Majority 372(86.51%) girls knew about poor menstrual hygiene can predispose to infection. 202 (46.97%) of the adolescent girls had good knowledge about menstruation and its hygiene based on scoring. (Table - 2)

In our study for most of the girls 236(54.8%) source of information, about menarche, were their mothers, followed by other sources such as sisters, friends, teachers, textbook, from their relatives and media. 23(5.3%) girls didn't know about menarche.

In multivariable logistic regression analysis, educational status of fathers, grade in school and socioeconomic class were found to be important predictors of knowledge about menstruation and its hygiene. In this study, adolescent girls whose father had education of secondary and above were 1.65 times more likely had good knowledge about menstruation and its hygiene than their counterparts [AOR=1.65, 95% CI: 1.04-2.59]. Girls from grade above 10 were nearly two times more likely to have good knowledge about menstruation and its hygiene when compared to girls from grade 10 and below [AOR=1.72, 95% CI: 1.12-2.64]. Girls' belonged to socioeconomic class II were more likely to have good knowledge about menstruation and its hygiene [AOR=3.81, 95% CI: 1.60-9.04]. (Table – 3)

Hygienic practices during menstruation

As to the data obtained, more than half of 231(56.20 %) girls were using commercially made sanitary pads as absorbent material during menstruation. Only 29(7.05%) girls were changing pads or clothes more than three times and above during menstruation. Out of 411 girls who were using clothes 158(38.44 %)girls were washing clothes with soap and water and only 129(31.38 %)girls dried their washed clothes in sunlight. 376(91.48%) of the girls used dustbin for disposing of pads. Almost 407(99.02%) girls took a bath daily with soap during menstruation. 400(97.32%) girls were clean external genitalia with water and soap during menstruation. 198(48.17 %) of the adolescent girls had a good practice in menstrual hygiene based on scoring (Table-2).

In this study, girls whose mother had education of secondary and above were more likely to have good practice of menstrual hygiene [AOR= 2.21,

95%: 1.41-3.47]. Girls' from socioeconomic class II, III and IV were two times more likely to have good practice of menstrual hygiene compared class V. (Table – 4)

DISCUSSION

Menstruation is a normal physiological process in the female. Poor menstrual hygiene is often associated with adverse health-related events such as reproductive tract infection, urinary tract infection and many more. Adolescence is a period of psychological instability, so they should have sufficient knowledge regarding menstruation, menstrual cycle, and menstrual hygiene before menarche.[12] However, they lack knowledge due to lack of proper health education in school. Often, in India culture, this topic is regarded as taboo, which prevents its open discussion.[1]

This study has tried to assess the knowledge and practice regarding menstrual hygiene among high school girls in urban Ahmedabad. The present study shows a majority of girls interviewed belonged to the age group 13-15 years in a similar study done in West Bengal (56.05%). The age of menstruating girls ranges from 13 to 19 years, maximum (57%) number of girls being between 15-19years.[13] In our study menarche was started over the mean age of 13.4 years which was similar to the findings of a study done in Karnataka Shanbhag D et al.[1] Since it has been observed that the age at attaining menarche has shown decreasing trend in India[1]. There is an immediate necessity for early initiation and sensitization of young girls as early as 10-11yeras of age.

In this study, for the majority of the girl's source of information about menstruation was given from family members especially mother followed by sisters (54.8%). In a study conducted by Ray and Dasgupta[13], friends and relatives (41.2%) were a major source of information. Teachers and textbook played a very little role in providing knowledge. This situation is quite distressing because more than half of the mothers in our study are either illiterate or primary and below the level of education.

In the present study, only 38.06% has prior knowledge of menstruation before attaining menarche which was lower to the findings of Dasgupta et al[2], this it was 62.7% in rural Gujarat. It is desirable that teacher or health care professional to be the first source of information for correct knowledge regarding menstruation. It was observed in this study that 86.27% girls believed menstruation to be a physiological process and 48.83% said the cause of menstruation to hormonal. In a similar study conducted in West Bengal by Ray and Dasgupta, 87% believed menstruation to be physiological and 60% said it was hormonal.[13] It was sad to observe that only 8.13% know the source of menstrual bleeding was a uterus, while others girls either had wrong knowledge about it or didn't know about the source. Only 62.32% girls knew about the duration of the normal menstrual cycle. About 86.51% girls knew about the fact that poor menstrual hygiene predisposes to infection. Overall, only 46.97% girls had good knowledge about menstrual hygiene. Our study showed higher level of knowledge regarding menstrual hygiene among girls with father who had higher education. Girls who belonged to higher academic standard in school and those who belonged to higher socioeconomic class had better knowledge regarding menstrual hygiene. Families with higher education of parents and higher social economic class may discuss about various aspects of health including menstrual hygiene.

In this study it was observed that 56.20% used sanitary pad, this was also higher to the findings of the study done in Karnataka which showed 44.1%[1] but this, when compared to another study done in Kolkata, showed girls were ignorant about the use of sanitary pads as the level of use was only 13.2%[13] So in this study the use of sanitary pad was higher which can be due to the influence of television which has increased their awareness regarding the use of sanitary pads. In the present study, a large proportion of 97.32% of girls used soap and water to clean their private parts, this was similar to Dasgupta and Sarkar study that 97.5%[2] but in contrast, a study done by Shanbhag D et al, observed this was only 56.8%.[1] Only 7% of girls changed pads or clothes more than three times a day which was unhygienic. These practices often expose this girl to the risk of RTIs as a study conducted by Khanna et al it was observed the prevalence of RTIs was more than 3 times higher among girls with poor menstrual hygiene.[14] Our study showed girls with mothers having higher education had better menstrual hygiene practices. Possible explanation could be that educated mothers had better knowledge about menstrual hygiene and can provide their daughters with various materials for management of hygiene during mensuration. Findings of our study showed better social economic status lead to good menstrual hygienic practices during mensuration this means affordability was important factor to buy various materials for maintenance of sanitation.

CONCLUSION

Most of the girls came to know about menstruation only after menarche, which should be much before menarche by providing health education and dis-

cussion. Teacher can play crucial role in health education by providing scientific and accurate knowledge to students regarding menstruation. Educational sessions on menstrual hygiene at school can increase knowledge and promote the healthy menstrual practices. Steps should be taken to increase awareness among parents about the need to support their children at school with sanitary menstrual materials and additional hygienic products.

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DECLARATIONS

Ethical approval: Permission was obtained from School authority.

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