



ISSN: 0975-833X

RESEARCH ARTICLE

**DETERMINANTS OF MENSTRUAL HYGIENE PRACTICES AMONG ADOLESCENTS
GIRLS : A CROSS SECTIONAL STUDY FROM NORTH INDIA**

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ARTICLE INFO

Article History:

Received 15th June, 2015

Received in revised form

15th July, 2015

Accepted 20th August, 2015

Published online 16th September, 2015

Key words:

Adolescent Girl,
Menstrual cycle,
Menarche,
Source of information,
Practice of menstrual Hygiene.

ABSTRACT

Background: Menstruation is normal physiological phenomenon occurring in woman. Adolescence is a phase of growth when large number of physical and psychological changes occur. Menarche is a significant milestone in the transitory developmental journey of an adolescent. Poor personal hygiene and defective menstrual management practices give rise to repeated reproductive tract infections (RTIs), which are otherwise preventable. Menstrual practices are still shrouded by taboos and socio-cultural restrictions. Thus adolescent girls remain ignorant of the scientific facts and hygiene practices which sometimes result into adverse health consequences. This study was undertaken with the following objectives. (1). To access menstrual hygiene and practices of urban adolescent girls. (2). To find out menstrual disorders experienced by adolescent girls.

Materials and Methods: A community-based cross-sectional study was conducted in UHTC, a field practice area under the Dept of Community Medicine Subharti Medical College, Meerut, from August to September 2014. A structured questionnaire was used to collect data from the sampled respondents. The collected data was entered in Microsoft excel sheet and appropriate statistical tests were applied by using SPSS 21 version.

Results: The total numbers of girls were 375. Maximum number of girls being >13 years 312(83.2%) age group. Fathers and mothers of the respondents had almost equal level of education i.e. intermediate passed (37.3%) and (34.6 %) respectively, maximum (66.6%) were from middle socioeconomic status. The mean age of menarche of the respondents has been observed as 12.5 years. Mother (63%) was found to be the main source of information for girls. (91.2%) girls use only napkin (readymade sanitary pads) during menses while, (1.3%) girls use only cloths. 364 (97.1%) Bath during menses, 294(78.4%) washed of their genital, 305(81.33%) wearing stained clothes, (76.8%) taboo during menses and 51(13.6%) avoid their school.

Conclusion: Knowledge was better but taking into account the health implications and prevailing socio-cultural and economic factors, there is need for a continuous, school education programme. The girls should be educated about the process and significance of menstruation, use of proper pads and its proper disposal. There is a need for improving access to sanitary pads and advanced provision of it.

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Citation: Amit Mohan Varshney, Neha Shukla, Arvind Kr Shukla, Sartaj Ahmad, Bhawna Pant and Pawan Parashar, 2015. "Determinants of menstrual hygiene practices among adolescents girls : A cross sectional study from North India", *International Journal of Current Research*, 7, (9), 20093-20096.

INTRODUCTION

Menstruation is a normal physiological process indicating beginning of reproductive life but sometimes it is considered as unclean phenomenon in the Indian society. Insufficient, incorrect information regarding menstruation is often a cause of unnecessary restrictions in the daily normal activities of the menstruating girls creating various psychological issues.

Besides, the lack of knowledge and awareness also lead to some poor personal hygienic practices during menstruation leading to many reproductive tract infections. (Thakre et al., 2011) Adolescence is a period of rapid transition in life from "childhood" to "adulthood." Menarche is a significant milestone in the transitory developmental journey of an adolescent. A normal menstrual cycle is an important determinant of reproductive development during adolescence. An adolescent girl should be made aware of the phenomenon of menstruation at least a little ahead of its occurrence, so as to enable her to accept it as a normal developmental process and

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manage it appropriately. Poor personal hygiene and defective menstrual management practices give rise to repeated reproductive tract infections (RTIs), which are otherwise preventable. (Studies on Adolescent girls) Adolescence is shrouded in myths and misconceptions about sexual health and sexuality. (Gupta, 2003)

In Indian culture, talking about sex is taboo. Consequently, little information is provided to adolescents about sexual health. Young and growing children have poor knowledge and lack of awareness about physical and Physiological changes associated with the onset and presence of adolescence. They learn about sexuality and secondary sex characteristics primarily from their peer groups or other inappropriate sources. Most girls are not informed about menarche and how to manage menstrual bleeding, and adolescents also lack knowledge about reproductive health issues Therefore the need for creating awareness and increasing access to the requisite sanitary infrastructure related to menstrual hygiene is important. This study was undertaken with objectives.

1. To access menstrual hygiene and practices of urban adolescent girls.
2. To find out menstrual disorders experienced by adolescent girls.

MATERIALS AND METHODS

A cross sectional study was carried out in 375 adolescent girls students studying in 9th to 12th standards of two higher secondary schools in Meerut city between August to September 2014. Considering 64% knowledge regarding menstruation as reported by A Dasgupta A and Sarkar M, allowable error 5% and applying $4pq/d^2$, sample size come up 375. Two government higher secondary schools have been randomly selected from a list of government schools in Meerut city. After taking the ethical approval from ethical committee and permission from the higher authority of higher secondary schools of Meerut city, 375 girls students of age 12-19 yrs have been included after taking their consent to participate in the study. A predesigned, pretested, structured questionnaire was applied to gather information. The questionnaire was prepared in English and then translated to Hindi. It was again back translated into English and was compared with the original questionnaire to find out and correct any major differences. However the responses of the interviewees were entered on the English version of the questionnaire. The instrument was designed taking into consideration the face validity, content validity, and the consensus validity.

Informed consent had been taken from the study participants and those who did not give consent were excluded from the study. Purpose of study was explained to the girl students. During the study privacy was maintained. Data for socio-demographic characteristics was collected in a proforma. Data regarding menstrual hygiene and practices were collected in predesigned and pretested questionnaire. This questionnaire relating to awareness about menstruation, hygiene, practices and restrictions practiced during menstruation, source of information regarding menstruation and history of any menstrual abnormality. The collected data was entered in

Microsoft excel and appropriate statistical tests were applied by using SPSS 21 version.

RESULTS AND DISCUSSION

In this study 375 adolescent girls from of classe 7th to 10th standard of the two government higher secondary schools who attained menarche were included for the study. Age of menstruating girls ranged from <13 to >13 years. Maximum number of girls were of age being >13 years 312(83.2%) age group. The mean age of girls was 12.5 years. Fathers and mothers of the respondents had almost equal level of education i.e. intermediate passed 140(37.3%) and 130 (34.6 %) respectively. Among all these girls, 75 (20.%) were from lower socioeconomic status, 250 (66.6%) were from middle socioeconomic status and 50(13.3%) were from higher socioeconomic status.

Table 1. Socio demographic profile of Participants

S. No	Variable	No. of Participants (%)
1	Age	≤13yrs 63(16.8%) ≥13yrs 312(83.2%)
	Mean Age=12.5yrs	
	Primary 15(4%)	
	Metric 19(5.06%)	
2	Education of Mother	High school 90(24%) Intermediate 130(34.6%) Graduate 100(26.6%) Post graduate 21(5.6%)
	Primary 1(.26%)	
	Metric 4(1.06%)	
	High school 26(6.9%)	
3	Education of Father	Intermediate 140(37.3%) Graduate 162(43.2%) Post graduate 42(11.2%)
4	Socioeconomic status	Low 75(20%) Middle 250(66.6%) High 50(13.3%)

Table 2. Distribution of age at menarche

S. No	Age at menarche(yrs)	No. of Participants (%)
1	10	9(2.4%)
2	11	21(5.6%)
3	12	119(31.7%)
4	13	170(45.3%)
5	14	49(13.1%)
6	15	6(1.6%)
7	16	1(0.3%)
Total		375(100%)

Table 3. Distribution of source of information regarding menstrual cycle

S. No	Source of information	No. of Participants (%)
1	Mother	201(63%)
2	Teacher	65(20.37%)
3	Relatives	36(11.28%)
4	others	17(5.32%)
Total		319(100%)

In this study age of menarche of girls ranged from 10 to 16 years and maximum numbers of girls 119 (31.7%) were 12 years of age and 170(45.3%) were 13 years of age. In a study conducted by A Dasgupta *et al.* (2008) age of menstruating girls ranged from 14-17 years with maximum number of girls between 14 and 15 years. (Dasgupta and Sarkar, 2008) Deo

et al. (2005) reported that the age of menstruating girls ranged from 12-17 years with maximum number of girls between 13 and 15 years of age. (Deo and Ghattergi Ch (2005)

Table 4. Distribution of using material & dispose it during menstrual cycle

S. No	Material used	No. of Participants (%)
1	Napkins	342(91.2%)
2	Cloth	5(1.3%)
3	Both	28(7.5%)
Total		375(100%)
	Practice of disposing	
1	Throw in dustbin	374(99.7%)
2	Burning	1(0.3%)
Total		375(100%)

Table 5. Practices during menstrual cycle

Practice	No. of Participants
Bath during menses	
Yes	364(97.1%)
No	11(2.9%)
Washing of genital	
Yes	294(78.4%)
No	81(21.6%)
Wearing stained clothes	
Yes	305(81.33%)
No	70(18.66%)
Follow taboo during menses	
Yes	288(76.8%)
No	87(23.2%)
Skip school	
Yes	51(13.6%)
No	324(86.4%)
Total	375(100%)

In this present study the mean age of menarche of the respondents has been observed as 12.5 years whereas the study conducted by Adinma *et al.* (2008) found that mean age at menarche was 14.2 years with range of 10-17 years. (Adinma and Adinma, 2008) A study done by Khanna *et al.* (2005), mean age at menarche was found to be 13.2. and Sandhya Rani *et al.* (2005) reported in their study, the mean age at menarche was 13.1 years (Sandhya Rani, 2005).

In the present study, mother was found to be the main source of information regarding menstrual cycle for 201(63%) girls followed by teachers 65 (20.37%), Relatives 36 (11.28%) and 17 (5.32%) said they received information from other sources like friends, print media, television etc. Around 66(20.30%) said they had no prior information regarding menstruation. In a study conducted by Parvathy Nair *et al.* (2007), 41 per cent of the girls received information about menstruation from their mothers. (Nair Parvathy *et al.*, 2007) Similarly Paul Dinesh *et al.* (2006) Mother was main source of information. (Paul Dinesh and Gopalkrishnan Shanta, 2006) In a study conducted among 664 schools girls aged 14 to 18 in Mansoura, Egypt by EL- Gilany *et al.* (2005) mass media were the main source of information about menstrual hygiene, followed by mothers. (El-Gilany and Badawi, 2005)

In the present study, 342 (91.2%) girls use only napkin (readymade sanitary pads) during menses while, 05 (1.3%) girls use only cloths. Although 28(7.5%) girls use both as napkin (readymade sanitary pads) and cloths. In the study conducted by Dipali Nemade *et al.* (2009), 31(15.74%) girls used only cloths while 80 (40.61%) girls used only sanitary pads during menses. (Dipali Nemade *et al.*, 2009) In a study conducted by Adinma E among Nigerian school girls amongst materials used as menstrual absorbent, toilet tissue paper was

most commonly used (41.31%) followed by sanitary pads (32.7%), cloths (14.4%) and multiple materials (10.7%) was used by the girls. (Adinma and Adinma, 2008) A study conducted by Khanna *et al.* (2005) reported that three-fourths of the girls used old cloth during their periods and only one-fifth reported using readymade sanitary pads. (Khanna *et al.*, 2005)

Regarding hygienic practices during menstruation 364 (97.1%) had daily bath in this study. Others 11 (2.9%) felt bathing should be restricted in the first two days of menstruation as bathing increases the menstrual flow. Cleaning of external genital with soap and water was present only in 294(78.4%) of respondents. It was seen that religious taboos and restriction on touching of food was maximum in 288(76.8%).

It was because that menstrual practices are still shrouded by taboos and socio-cultural restrictions. Thus adolescent girls remain ignorant of the scientific facts and hygiene practices which sometimes result into adverse health consequences. Poor personal hygiene and defective menstrual management practices give rise to repeated reproductive tract infections (RTIs), which are otherwise preventable. A study done by Bhawna Pant *et al.* (2008) revealed that prevalence of RTI was 45.4%, 41% and 25% in women having poor, fair and good personal hygiene respectively. (Bhawna Pant *et al.*, 2008) Poor menstrual hygiene causes great impact in increased vulnerability to reproductive tract infections (RTI). Currently millions of women sufferers from RTI and infection is transmitted to the offspring. Women having knowledge regarding menstrual hygiene are less vulnerable to RTI and its consequences. Therefore, increased knowledge about menstruation from adolescent period help in decreased suffering of millions of women. (Dasgupta and Sarkar, 2008) Menstrual hygiene depends upon the educational, socioeconomic, and cultural statuses of family. School curriculum also have some role in menstrual health. (Dhingra *et al.*, 2009)

In this study 305(81.33%) wearing stained clothes and 51(13.6%) skip their school was seen among respondents. Health education should be developed to empower young women with sufficient knowledge so that they shift to appropriate health-taking behaviours. Educating young girls about the routine practice of taking a bath with warm water in the early days of menstrual period, would not only lead to the development of positive mental and social behaviours, but could also be effective in reducing hygiene problems in the community.

Conclusion

This study was conducted to ascertain menstrual hygiene among adolescent girls. The study revealed that menstrual hygiene was far from satisfactory among a large proportion of the adolescents. Lack of appropriate and sufficient information about menstrual hygiene can be attributed to cultural and religious beliefs and taboos. Thus, the above findings reinforce the need to encourage safe and hygienic practices among the adolescent girls and bring them out of traditional beliefs, misconceptions and restrictions regarding menstruation. Use of sanitary napkins was to be enhanced by social marketing.

Universalized use of sanitary pads or absorbent material needs to be advocated to every adolescent girl by making the easy availability through social marketing.

Adoption of high quality menstrual hygiene will play an important role in prevention of RTI and Cancer of cervix among the women population. Therefore promoting positive attitudes towards management of menstruation and related problems among the adolescent girls is the need of the hour. The girls should be educated about the process and significance of menstruation, use of proper pads and its proper disposal. There is a need for improving access to sanitary pads and advanced provision of it. Knowledge was better but taking into account the health implications and prevailing socio-cultural and economic factors, there is need for a continuous, school education programme. Incorrect restrictions, myths and beliefs associated with menstruation can be removed by the help of teachers and parents.

Before bringing any change in the menstrual practices, the adolescent girls should be educated about the issues and facts of menstruation, physiological implications regarding significance of menstruation and development of secondary sexual characteristics and above all, about proper hygiene practices with selections of disposable sanitary absorbent material. This can be promoted and achieved through information, education and communication (IEC) activities like television educational program, compulsory sex education curriculum in schools and knowledgeable interactions of sociologists, health personnel, teachers and parents with adolescent girls.

All mothers irrespective of their educational level should be counseled to break their inhibitions regarding discussing with their daughters about menstrual process much before the age of menarche. Thus the above results of the study reinforce the need to encourage safe and hygienic practices among the adolescent girls and bring them out of misconceptions, restrictions traditional taboos and myths regarding menstruation to further improve and promote the menstrual hygiene practices.

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