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Original Research Article

A cross-sectional study to assess menstrual hygiene and school absenteeism related to menstruation among school going adolescent girls of Jalandhar district

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ABSTRACT

Background: In India, lack of awareness of safe menstrual hygiene practices is an important issue of adolescent health and is related to various adverse health outcomes. In addition, lack of proper washing facilities is a key factor leading to many adolescent girls missing school due to menstruation. Objectives of current study were to assess the knowledge of menstrual hygiene and its practices among school going adolescent females, associated socio-demographic factors and the prevalence of school absenteeism due to menstruation.
Methods: A community based cross sectional study was conducted in the school going adolescent girls of 16 to 19 years age to assess the menstrual hygiene practices and related school absenteeism. A total of 180 participants were evaluated using a self-designed, self-reported and pre-tested questionnaire.
Results: Less than half of the participants had prior knowledge of menstruation. Association of education of mother and prior knowledge was statistically significant. Most of the participants missed school due to menstruation. The association between excessive bleeding and absenteeism also showed statistically significant results.
Conclusions: The study displayed good results regarding menstrual hygiene practices. Majority of participants had access to sanitary pads and maximum of them followed proper methods of disposal. School absenteeism due to menstruation was seen in more than half of the study population and menstruation had a huge impact on their daily lives.

Keywords: Menstruation, Menstrual hygiene, School absenteeism

INTRODUCTION

Adolescence is the period of life between 10 and 19 years of age when an individual experiences physical growth and change along with emotional, psychological, social and mental change and growth. In females, puberty is marked by an important event known as menstruation. Menstruation and menstrual practices are still clouded by socio-cultural restrictions resulting in adolescent girls remaining ignorant of the facts and hygienic health practices, which sometimes result in adverse health outcomes. As per various research studies undertaken in India, more than half of girls of adolescence age lacked prior awareness regarding menstruation before menarche. The results necessitate the need for clean disposal for material used menstruation.[1] Poor menstrual hygiene has

various consequences ranging from urinary tract infections to reproductive tract infections which may further lead to complications such as pelvic inflammatory disease and lethal toxic shock syndrome.

Inadequate water and sanitation facilities is a major impediment to school attendance for girls during menstruation, compromising their ability to maintain proper hygiene and privacy.[2] In developing countries, majority of schools either do not have adequate toilets for girls or they are frequently unclean. According to the World Health Organization, the availability of adequate clean water and hygiene in schools is essential for nearly all the Millennium Development Goals, especially in the achievement of universal primary education, reduction of child mortality, and the promotion of gender equality.[3] Insanitary conditions and lack of private washing spaces in school affects menstruating girl students by creating unpleasant environment. World Bank (2005) showed that girls could miss up to 4 consecutive days of school every month because of their periods, meaning that they missed 10%–20% of school time, which seriously impacted on their achievement.[4] This absenteeism is attributed to poor management of menstrual hygiene due to lack of awareness, private washing and cleaning spaces and menstrual material such as sanitary pads. Since adolescent health is very important especially for future mothers and the fact that not much research work done on this subject, this study was planned.

Aim and objectives

Objectives of current study were to assess the knowledge of menstrual hygiene and its practices among school going adolescent females, to assess the prevalence of school absenteeism due to menstruation and to find out the associated socio- demographic factors regarding the same.

METHODS

Study setting

It was a community-based study conducted in the senior secondary schools of Jalandhar District. Data was collected in May 2022 by visiting the respective schools on working days. The study population consisted of school going adolescent girls in age group of 16-19 years (late adolescence). The study was initiated after it had been approved by the Research and Ethics Committee of the Institution.

Sample size

Using the formula:

$$n = Z2P(1-P)/\,d2$$

Where: n = sample size, Z = Z statistic for a level of confidence (1.96), P = expected prevalence or proportion, d = precision (0.10), at 95% confidence interval. Here for P, a value of 29% was chosen as per the study conducted by Anjali Mahajan titled as 'A descriptive study to assess the knowledge and practice regarding menstrual hygiene among adolescent girls of Government School of Shimla, Himachal Pradesh' (2017).[5] After calculating, sample size came out to be 79. Design effect of 2 was applied to n which turned out to be 158. Adding 10 percent for non-response rate, it resulted in 173. Therefore, minimum sample size required for this study was 173.

Inclusion criteria

Inclusion criteria for current study were; school going adolescent girls in age group of 16-19 (late adolescence) and patients willing to participate.

Exclusion criteria

Exclusion criteria for current study were; parents and participants who did not provide the consent and incomplete proforma submission.

Procedure

The community based cross sectional study took place in Jalandhar district (Punjab) in India. The study population was composed of school going adolescent girls of 16 to 19 years age (Late Adolescence) of classes 11th and 12th. The study was conducted in senior secondary schools of the district after obtaining approval from school principals and DEO-secondary Jalandhar. The study subjects were chosen through Multistage Random Sampling. For obtaining consent from parents/guardians, students were given consent forms after explaining the purpose of study. The students were allowed to participate in the study only after obtaining consents from both sides (parents and students). Those cases where either party did not provide consent were excluded from the study. A self-designed, self-reported and pre-tested questionnaire was be used to assess the knowledge of the participants on the topic of menstrual hygiene and school absenteeism. Questionnaire was translated into the local language. Written informed consent was taken from each participant. The students were briefed about the nature and purpose of the study and utmost anonymity and confidentiality was assured. The method of completing the questionnaire was explained to the students by the investigator. Majority of the questions were structured with 2-4 options. Students were asked to choose only one option unless specified otherwise. Open-ended questions were provided wherever description of answer was required which helped the students to express themselves in a better manner. No interpersonal discussions were allowed during questionnaire completion and in case students raised some queries, they were clarified. The completed questionnaires were collected and education regarding menstrual hygiene and practices was imparted to the participants. Data was handled by the investigator and analysed by compiling in excel sheet and appropriate

statistical tests were run. Frequencies, percentages and Chi Square tests were used along with other necessary statistical tests wherever required.

RESULTS

In our study, a total of 180 participants were evaluated. The mean age of the participants was 16.86±76 with the range of 16-19 years. Demographic profile of the participants is presented in (Table 1).

Table 1: Demographic profile of the participants (n=180).

Category	Sub-category	N	%
Age (years)	16	64	35.60
	17	79	43.90
	18	35	19.40
	19	2	1.10
Residence	Urban	71	39.40
	Rural	109	60.60
Class	11^{TH}	80	44.40
	12^{TH}	100	55.60
Education of father	Illiterate	14	7.80
	Primary	22	12.20
	Middle	27	15.00
	Secondary	66	36.70
	Senior secondary	45	25.00
	Graduate	4	2.20
	Post graduate	2	1.10
Education of mother	Illiterate	29	16.10
	Primary	28	15.60
	Middle	19	10.60
	Secondary	60	33.30
	Senior secondary	36	20.0
	Graduate	8	4.40
Occupation of father	Daily wagers	84	46.70
	Service	25	13.90
	Others	71	39.40
Occupation of mother	Housewife	134	74.40
	Working	46	25.60

Mean age of menarche in the study population was found to be 13.67±1.12 with the range of 11-16 years. Out of all participants, 47.20% had prior knowledge about menstruation with majority of them having their mothers as first informant followed by their sisters (Figure 1). Residence of the participants had no significant association with prior knowledge of menstruation. However, education of the mother showed impact on the prior knowledge of the participants (Table 2). Out of total 180 participants, 87.8% had knowledge about menstrual health practices and 87.2% had access to sanitary pads. Other than sanitary pad, the most common material used was cloth (11.7%) and second most common was cotton (1.1%). Those girls who did not use the sanitary pad claimed that not affordable, out of budget was the main reason for not using the pads along with others reasons of shame and little knowledge about the pads. Out of 21 participants using cloth, 20 of them cleaned it with soap. After cleaning, maximum (13 participants) dried it in the sun.

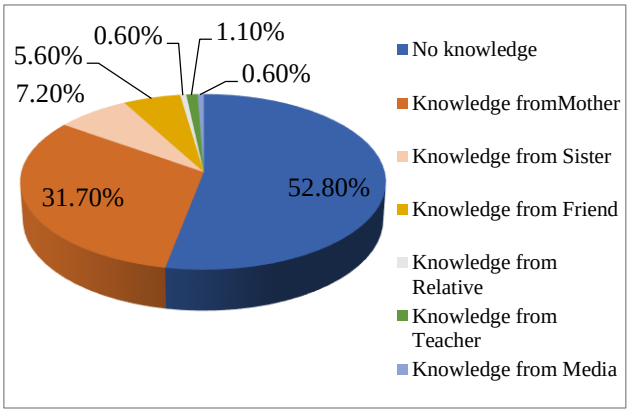

Figure 1: Description of the prior knowledge and first informant regarding menstruation in the participants.

All the participants followed the practice of cleaning their genitalia during menstruation. Majority of them cleaned it with both soap and water (64.4%) while 34.4% used only water. Majority of the participants disposed of the used material in dustbin (65.6%), followed by reuse (8.9%), 6.75% threw away the material while 3.3% used the newspaper for disposal. Method of disposal had statistically significant association with prior knowledge of menstrual hygiene practices (Table 3).

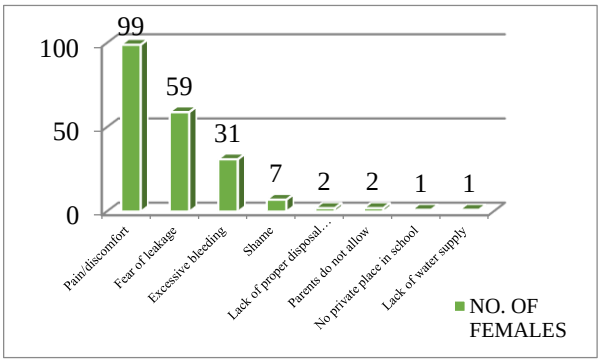

Figure 2: Reason for leave during menstruation.

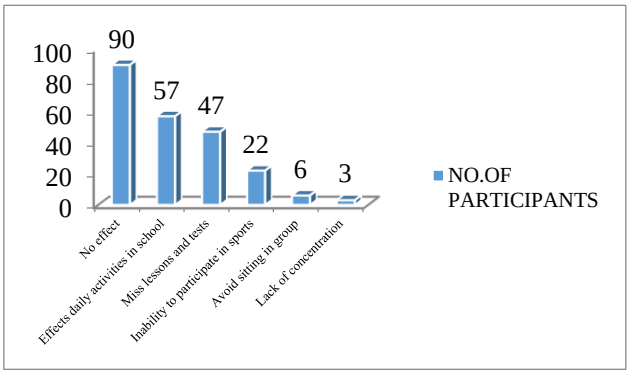

Figure 3: Effect of menstruation on school life.

Table 2: Education of mother with prior knowledge of menstruation.

Education of Mother	No prior knowledge	Prior knowledge	Total	P value
Illiterate	10	19	29	Chi-square = 13.33 (at df=5), p value =0.02**
Primary	8	20	28	
Middle	12	7	19	
Secondary	27	33	60	
Senior secondary	24	12	36	
Graduate	4	4	8	
Total	85	95	180	

Table 3: Knowledge of menstrual hygiene practices with method of disposal.

Menstrual hygiene practice knowledge	Burning	Dustbin	Newspaper	Reuse	Throwing away	Total
No knowledge	5	4	0	11	2	22
Knowledge	23	114	6	5	10	158
Total	28	118	6	16	12	180

Chi-square was found to be 58.12 at df=4 with statistically significant p value (0.00).

Table 4: School absenteeism with access to sanitary pads.

No. of days leave	1-2 days	3-5 days	More than 5 days	Total
No access	1	15	6	22
Access to sanitary pads	60	30	68	158
Total	61	45	74	180

Chi-square was 26.22 at df=2 with statistically significant p value (0.000).

Most of the girls had major complaint of menstrual cramps (82.8%) and abdomen and back ache (11.1%) during menstruation along with other complaints of leg ache, pain, vomiting and irregular cycles. During menstruation, 25% of participants definitely took leave from the school while 41.1% of participants took leave only sometimes. Out of the 120 participants taking leave, 51.7% took leave for 1-2 days per month, 12.8% took leave for 3-5 days every month while 2.2% remained out of school for more than 5 days every month. Main reason for the school absenteeism found in our study was pain/ discomfort followed by other reasons (Figure 2). Menstruation had huge effect on the life of females which is depicted in (Figure 3). Association of school absenteeism had statistically significant association with excessive bleeding in females (chi-square was 20.923 at df=2, p value=0.00**). Along with the excessive bleeding, access to sanitary pads also had impact on the school leaves during menstruation (Table 4). Association of school absenteeism with other environmental factors (such as private place in school, running water supply, proper disposal system, separate toilet facility etc) was found to be insignificant.

DISCUSSION

In our study, 180 adolescent females were evaluated. The mean age was found to be 16.86±76 with range of 16-19 years. The mean age of menarche was 13.67±1.12. In a study conducted by Subhash S Thakre in 2011, mean age of menarche was found to be 12.85±0.867.[6] 52.8% females had no prior knowledge of menstruation before menarche. Majority had their mother and sister being their first informant. Similar findings were found in other studies, where most of the females had no prior knowledge of menses, and most of them having their mother as first educator regarding the same.[6-9] However, a study conducted by Mahajan in 2017 proved that education status of the mother had significant impact on the menstrual hygiene and awareness among the adolescent females.[5] Similar results were found in our study indicating the importance of women education in the society. In our study, 87.2% females used the sanitary pads followed by cloth (11.7%) as the absorbent material during menses, whereas a study conducted by Subhash s Thakre showed higher percentage of cloth usage in rural females (62.33%) as compared to urban females (35.68%).[6] Maximum of the participants in present study disposed the used material in the dustbin or burnt it away, which was better than the improper practice of disposal in the pond or in the nearby garden found in the study conducted by Sudesha in 2012.[9] Majority of the participants in our study followed the good cleaning practices of genitalia cleaning which was found in other studies also.[6,7,11] 82.8% participants in present study complained of abdomen cramps being the major suffering during menses, which was similar to findings found in study conducted in Pune in 2013.[10] Other problems associated were pain in legs, dizziness, heavy bleeding, nausea and other body aches.[7] In our study, 51.7% females definitely took leave for 1-2 days during menstruation. However, higher number of school absenteeism was found in study conducted by Sivakami (65%) and study by Bodat (78%).[7,10] Abdominal cramps

were found to be the main reason of the school absenteeism along with reasons like shame, lack of proper disposal facility, lack of water supply, common entrance to the girls and boys washroom, fear of leakage, vomiting etc.[9-11] In our study, an unusual finding of more school absenteeism was found in participants who had access to sanitary pads, similar findings were found in study conducted by Bodat in 2013.[10]

Limitations

There is a limitation that the respondents might not have disclosed all answers due to the sensitive nature of the topic.

CONCLUSION

In our study, good results were found regarding menstrual hygiene practices, with education of mother being an important impact factor. Majority of participants had access to sanitary pads and maximum of them followed proper methods of disposal. School absenteeism due to menstruation was seen in more than half of the study population and menstruation had a huge impact on their daily lives.

Recommendations

Mass awareness about menstruation and safe menstrual practices is needed which should be focused not only on the pubertal and adolescent girls but on older women too so that they can guide the younger about safe menstrual hygiene practices. Free or low-cost sanitary pads should be made available in the communities and most importantly, at those sites which are accessible to adolescent girls. Also, the use of cloth during menstruation should be discouraged. Furthermore, efforts are needed to provide private washing and toilet facilities at places which lack them and further improvement is needed at places which already provide these facilities.

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