



MENSTRUAL HYGIENE MANAGEMENT AMONG SCHOOLGIRLS: A COMMUNITY-BASED CROSS-SECTIONAL STUDY FROM NORTHERN INDIA.

Community Medicine

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ABSTRACT

Adolescence is a particular time since it signals the beginning of menarche, a significant milestone. Good hygiene habits during menstruation are key to a healthy life. Girls and women know little about menstrual-related infections. In certain locations, women can't afford or don't have access to sanitary products. Despite gains in water and sanitation, women's needs are ignored. Menstrual taboos undermine females' dignity, health, and education.

Methods And Materials: This cross-sectional study was carried out from 2018 to 2020 among schoolgirls from a district in the north Indian state. It includes 659 participants aged 11 to 19 years, who were chosen at random from 47 public and private schools that have been open for more than 5 years and were chosen by PPS sampling. Data was collected by trained female health workers with the help of a schedule after getting consent from parents/guardians. **Statistical Analysis Used:** Percentage, proportion, and the Chi-square test were used as statistical methods. The p-value, <0.05 was considered statistically significant. **Results:** Out of 659 students, 578 (87.7%) used sanitary pads, 10 (1.5%) used cloth, and 71 (10.8%) used both techniques. Most research participants, 633 (96.1%), changed their absorbents 4 times a day. Some 334 respondents (50.7%) used a dustbin to dispose of their menstrual absorbent. 138 participants (20.9%) threw it indiscriminately, 109 participants (16.5%) buried it, 73 participants (11.1%) burned it, and five (0.8%) disposed of it in a toilet. During their previous menstrual cycle, 80% of participants washed their genitalia fewer than four times a day. 492 (74.7%) of survey respondents used simple water to clean their genitalia. **Conclusions:** Student health depends on several factors, including school environment. Most teachers are locals and know the culture. Convincing them to modify health-related behaviours among students will set a communal example. The findings call for behaviour change communication efforts on menstrual health management and health consequences, as well as frequent reinforcement of school health education programmes.

KEYWORDS

Menstrual Hygiene, School Health, Menstrual Health, WaSH.

BACKGROUND:

Education for girls is a strategic development focus. Girls' education extends beyond simply enrolling them in school. It is equally important to ensure that girls study and feel protected in school. Better educated women may assist in lifting families, communities, and nations out of poverty. (1) Menstruation, a natural biological function, is connected with institutional constraints and superstitious beliefs. (2) Inadequate menstrual hygiene alternatives have lately been identified as a barrier to girls' education in low- and middle-income nations. Poor sanitation in schools and a lack of access to high-quality sanitary supplies have been linked to reduced enrolment, absenteeism, and dropout. Menstrual hygiene issues can have serious health effects, such as an increased risk of reproductive and urinary tract infections. (3) Female in India are less likely to properly dispose of their sanitary waste due, in part, to the lack of facilities and disposal systems as well as other societal stigmas associated with menstruation. (4)

Menstrual hygiene management (MHM) is defined by the JMP as "women and adolescent girls using a clean menstrual management material to absorb or collect menstrual blood, that can be changed in privacy as often as necessary for the duration of a menstrual period, using soap and water to wash the body as needed, and having access to facilities to dispose of used menstrual management materials." Gender inequality, discriminatory social norms, cultural taboos, poverty, and a lack of basic services frequently lead to unmet menstrual health and hygiene requirements for girls and women. During menstruation, adolescent females may endure shame, harassment, and social isolation. (5) Gender, religion, and culture are frequently used to establish menstrual rituals and beliefs. Menstruation is prohibited or stigmatised in many areas of the world, particularly in poor and middle-income Asian and African nations. Menstruation is connected with constraints, shame, and superstitious beliefs for many women and girls, rather than being regarded as a natural biological event marking a girl's transition into maturity. (2)

Management of menstrual hygiene is of the highest significance for children who are still in school. There is a paucity of data on the status of MHM among schools in the northern Indian district of Sonapat, which is located in the state of Haryana, according to the published research that is currently accessible. As a result, the current study was carried out to evaluate the status of MHM among female students attending rural and urban schools within the same district in the Indian state of Haryana. This was done in order to make recommendations on

the most effective course of action to take.

Subjects and Methods:

A community-based cross-sectional study was conducted from June 2018 to June 2020 among 659 school students from schools of district in northern India. The purpose of the study was to gain a better understanding of the current state of menstrual hygiene.

Sampling Method:

In order to recruit schools, a multi-stage random sampling approach was used, and two educational blocks in a district in Haryana were chosen at random to serve as samples. The Probability Proportional to Size (PPS) approach was used to choose forty-seven public and private schools from rural and urban locations, and one class from each sampled school was selected at random. The final sample size was determined by including all of the female students in the section of the class that was chosen at random.

Method of Recruitment:

In this study, the recruitment of schools was carried out after first receiving administrative consent from the District Education Officer of Sonapat. After the schools had been recruited, the investigator went to the schools that had been chosen to investigate. The Headmaster and Principal of the school were given an explanation of the goal of the research in order to receive their complete participation with it.

Tools For Collecting Data And Managing Collected Data:

The female health workers used a structured schedule proforma that had been pre-tested in order to record the menstrual hygiene practises of the school students. The 2019 version of Microsoft Excel was used for the data entry, coding, and tabulation processes.

Data Management And Statistical Analysis:

Microsoft Excel was used to enter the data for the statistical analysis, and the SPSS version 16 programme was utilised for the statistical analysis. The 2 test was utilised in the process of calculating percentages and proportions based on the category variable. It was determined to be statistically significant if the p-value was less than 0.05.

Ethical Considerations:

The Institutional Ethics Committee of Bhagat Phool Singh Government Medical College Khanpur Kalan, Haryana, granted the

study approval. The District Education Officer for Sonapat District granted approval for the researchers to conduct the study in the schools that were chosen for the investigation. Both the pupils and their parents or guardians were required to provide their informed permission in writing form. Both the participants' identities and the confidentiality of their data were protected at all times.

RESULTS:

In order to evaluate proper menstrual hygiene, there were a total of 659 eligible female students enrolled in this study. The ages ranged from 11 to 19 years old, with a mean age of 14.4 ± 2.3 years old.

Table 1: Demographic Profile Of Female Students Of Schools Under The Study Area.

Attributes		Govt N=287	Private N=372	Total N=659	p-value
Age	11-13	39(13.6)	114(30.6)	153(23.2)	0.00
	14-16	217(75.6)	239(64.3)	456(69.2)	
	17-19	31(10.8)	19(5.1)	50(7.6)	
Class	6-8	26(9)	121(32.5)	147(22.3)	0.00
	9-10	157(54.7)	198(53.2)	355(53.9)	
	11-12	104(36.2)	53(14.2)	157(23.8)	
Area	Rural	218(75.9)	224(60.2)	442(67.1)	0.00
	Urban	69(24)	148(39.8)	217(32.9)	
Religion	Hindu	277(96.5)	361(97)	638(96.8)	
	Muslim	9(3.1)	5(1.4)	14(2.1)	
	Sikh	1(<0)	5(1.4)	6(<1))	
	Other	0(0)	1(<1)	1(<1)	
Caste	SC/ST	61(21.3)	46(12.4)	107(16.2)	0.00
	OBC	62(21.6)	94(25.3)	156(23.7)	
	Other	164(57.1)	232(62.4)	396(60.1)	
Mother's Literacy	Literate	188(65.5)	324(87.1)	512(77.7)	0.00
	Illiterate	99(34.5)	48(12.9)	147(22.3)	

There were 442 (67%) pupils from rural schools, 217 (33%) from urban schools, 372 (56.4%) from private schools, and 287 (43.6%) from government schools. The majority of participants are from classes 9-10. The bulk of the participants in our study were Hindus from the general caste. The mothers of the majority of the participants were literate. (Table-1)

Table 2: Distribution Of Schools Under The Study Area According To The Type Of Menstrual Absorbent Used Among Female Students.

Attributes		Rural N=442	Urban N=217	Total N=659	p-value
Type of absorbent	Sanitary napkin	367(83)	211(97.2)	578 (87.7)	0.00
	Clothes	8(1.8)	2(0.9)	10(1.5)	
	Both	67(15.2)	4(1.9)	71(10.8)	
Absorbent change times	≥ 4 times a day	8(1.8)	18(8.3)	26(3.9)	0.00
	< 4 times a day	434(98.2)	199(91.7)	633(96.1)	

*Figures in parenthesis are percentages.

Out of total 659 participated students, 578 (87.7%) participants were using sanitary pads during menstruation and ten (1.5%) were using cloth while 71(10.8%) were using both the methods. In the rural area, 367(83%) girls were using sanitary pads and eight (1.8%) were using clothes while 67(15.2%) girls were using both methods. While in the urban area, 211(97.2%) girls were using sanitary pads and only two (0.9%) girls were using cloth while four (1.9%) girls were using both methods. Most of the study participants i.e. 633(96.1%) were changing their absorbent <4 times a day and only 26(3.9%) female students were changing their absorbent >4 times a day during menstruation. (Table-2)

Table 3: Distribution Of Schools Under The Study Area According To The Disposal Practices Of Menstrual Absorbent Among Girls.

The disposal method of menstrual absorbent	Rural N=442	Urban N=217	Total N=659	p-value
Dispose indiscriminately	122(27.6)	16(7.3)	138(20.9)	0.00
Dispose of in latrine	3(0.7)	2(0.9)	5(0.8)	
Bury in ground	98(22.2)	11(5.1)	109(16.5)	
Dispose of by Burning	72(16.3)	1(0.5)	73(11.1)	
Dispose of in a dustbin	147(33.2)	187(86.2)	334(50.7)	

*Figures in parenthesis are percentages.

Among all, 334 (50.7%) participants used a dustbin to dispose of their menstrual absorbent, 138 (20.9%) participants disposed of it indiscriminately, 109 (16.5%) disposed of it by burying it in-ground, 73(11.1%) burnt it and five (0.8%) disposed of it in a latrine. Among rural schools, 147(33.3%) participants disposed of their menstrual absorbent in a dustbin, while among urban schools, 187(86.2%) participants disposed of their menstrual absorbent in a dustbin. Among rural schools, 122(27.6%) participants disposed of it indiscriminately, 98(22.2%) disposed of it by burying in the ground, 72(16.3%) burnt it and three (0.7%) disposed of it in a latrine, and among urban schools, 16(7.4%) disposed of it indiscriminately, 11(5.1%) disposed of it by burying in the ground, one (0.5%) burnt it and two (0.9%) disposed of it in a latrine.

Table 4: Distribution Of Students Of Schools Under The Study Area According To The Genitalia Washing Practices During Menstruation.

Attributes		Rural N=442	Urban N=217	Total N=659	p-value
Cleaning of genitalia during the last menstrual cycle	≥ 4 times a day	94(21.3)	40(18.4)	134 (20.3)	0.39
	< 4 times a day	348(78.7)	177(81.6)	525 (79.7)	
The material used for genitalia cleaning	Soap and water	69(15.6)	98(45.2)	167(25.3)	0.00
	Only water	373(84.4)	119(54.8)	492(74.7)	

A majority (80%) of the participants cleaned their genitalia less than 4 times a day during their last menstrual cycle. Most of the study subjects, 492 (74.7%) were using only water for cleaning the genitalia. In the rural area, 348 (78.7%) participants cleaned their genitalia less than 4 times a day during their last menstrual cycle. In the urban area, 117 (81.6%) participants cleaned their genitalia less than 4 times a day during their last menstrual cycle. In the rural area, 373 (84.4%) participants were using only water for cleaning their genitalia while in the urban area, 119 (54.8%) participants were using only water for cleaning their genitalia.

Table 5: Distribution Of Schools Under The Study Area According To The Knowledge And Practices Regarding Menstruation Among Girls.

Attributes		Rural N=442	Urban N=217	Total N=659
Primary source of information regarding menstruation	Mother	312(70.6)	116(53.5)	428(64.9)
	Friend	57(12.9)	43(19.8)	100(15.2)
	Teacher	12(2.7)	2 (<2)	14(2)
	Other sources	61(13.8)	16(7.4)	77(11.7)
Is menstruation a normal physiological phenomenon	Yes	310(70.1)	189(87)	499 (75.7)
	No	132(29.9)	28(12.9)	160 (24.3)
Organ from which menstrual blood comes	Uterus	252(57)	116(53.5)	368 (55.8)
	Other than Uterus	64(14.5)	12(5.5)	76(11.6)
	Don't Know	126(28.5)	89(41)	215(32.6)
Restrict sour foods	Yes	42(9.5)	21 (9.7)	63(9.6)
Restrict religious activities	Yes	178(40.3)	36(16.6)	214(32.5)
Restrict shampooing hair	Yes	31(7)	07(3.2)	38(5.8)
Restrict wearing washed clean clothes	Yes	0(0)	0 (1)	1(<1)
Restrict entry in kitchen	Yes	05(1.1)	01 (<1)	06(<1)

*Figures in parenthesis are percentages

The respondents' major source of information on menstruation was their mother (64.9%), followed by friends (15.2%), other relatives

such as sister, aunt, etc. (4.8%), and teachers (2%). Regarding menstruation being a normal physiological process, 75.7% of respondents saw it as natural, however only 55.8% knew that the monthly blood was shed from the uterus. Regarding behaviour during menstruation, respondents indicated the following practices: Restrict religious activities (32.5%), Restrict sour foods (9.6%), Restrict washing hair (5.8%), Restrict wearing cleaned clean clothing (1%), and Restrict access into the kitchen (1%).

DISCUSSION:

Menstruation is a normal process, however it can be problematic if menstrual hygiene is not maintained. Risk factors include a lack of menstruation products (sanitary pads), insufficient restrooms or water, and improper waste disposal. If a girl misses four days of school every four weeks because of her period, she will lose 10-20% of her school days.(6)

During their periods, women are more susceptible to contracting infections than usual. This is especially true for illnesses that affect the urinary system and the perineum. Therefore, the hygiene practises that women engage in that are connected to their periods are of critical significance. The mean age of the 659 individuals who were eligible for the study was found to be 14.4 ± 1.3 years old, with ages ranging from 11 to 19 years old similarly Sapkota D et al(7) found the mean age of participants was 15.3 ± 1.3 years (Range 10 to 19 years). Among all, 442(67%) students were from rural schools and 217(33%) from urban schools; 372(56.4%) were from private schools and 287(43.6%) participants were from government schools.

In this study, 87.7% of the participants were using only sanitary pads. Similar finding was revealed by Miir G et al(6)(86.7%), but the usage of sanitary pad was found to be much lesser in study by Sapkota D et al(7)(54.1%) and Murye AF(8)(11.25%) than the present study. In the current study, sanitary pad usage was observed to be more among participants from urban schools (97.2%) than the rural schools (83%). In this study, 12.3% participants were using cloth as menstrual absorbent, which is much lesser than the findings of Sapkota D et al(7) (45.6%) and Sonowal P et al(9)(23.3%). Availability of sanitary pads through schools' sanitary pad vending machine or ASHA could be a reason that most of the participants were using more sanitary pads in our study area.

According to the Menstrual Hygiene Scheme guidelines, disposal bins are a good and affordable collection option. These must be placed within the toilet or very close by and must be ideally provided for each cubicle.(4) In this study, there were a total of 47 schools with female students, in which 18(38.3%) schools had dustbin with lid and 16(34%) schools had dustbin without lid in girls' toilet, while 13(27.7%) schools did not have a dustbin. This problem was found to be more prevalent among government schools (47.1%) than the private schools (16.7%). More problem was seen by Javeed S(10), who in his study found that only 5% of the schools had dustbin available in the toilets. Though dustbin was available in 72.3% schools but was used only by 50.7% of the students. This may be because of absence of lid on the dustbins.

In the present study, it was found that menstrual absorbent disposal was done in dustbin by 334(50.7%) students, which is much lesser than the findings of Solvig N et al(11)(94%) and much higher than the Sonowal P et al(9)(2.7%). Menstrual absorbent disposal practices were sanitary in 18(38.3%) schools which were more among participants (50%) from private schools than government schools (17.7%).

In this study, 26(3.9%) participants were changing their absorbent more than four times a day during menstruation which is much lesser than that found by Miir G et al(6), in Uganda (18.1%). In current study, 525(79.7%) of the participants cleaned their genitalia less than four times a day during their last menstrual cycle, and only 167(25.3%) were using soap and water for cleaning the genitalia. It was 45.2% among participants from urban schools and 15.6% among participants from the rural schools. This is much lesser than Solvig N et al(11) (54.2%), while Micheal J et al(12) got a similar finding (25.4%) as this study. The type of absorbent material used is of primary concern since reusable material could be a cause for infection if improperly cleaned and poorly stored.(13)

When respondents were asked where they acquired their information about menstruation, it is not unexpected that 64.89 percent said their

moms, which is consistent with Saudi Arabia 66.8%(3) in Iran 55%(14) and in India 54%(15) Also, 14 % received menstrual information from teachers, 15.2% from other sources including sister, aunt etc, a very low proportion <1% responds regarding knowledge from internet.

Due to the fact that they are menstruation, many young girls and women are prevented from participating in religious rituals and are subject to other restrictions in their everyday life..(16) A study by Joshy N(17) stated that girls are prohibited from attending school, the temple, or any other type of institution. However, in our research, only 32.5% of respondents offered information on restrictions placed on religious activities, and there was no information regarding restrictions placed on schools.

In addition, it is commonly considered that women who menstruate are unclean and unhygienic, and as a result, the food that they make or touch is at risk of becoming spoiled. There is also the theory that when a woman is menstruating, her body gives off a certain odour or ray that causes preserved food to become bad. Because of this, they are not permitted to come into contact with sour foods such as pickles. (16) In our research, only a small number of participants described their past experiences with access limitations to kitchens and food preparation areas. while 9.6 percent of those who participated in the survey stated that they are not permitted to come into contact with sour food. No scientific study, however, has demonstrated that menstruation is the reason for the deterioration of any food during the process of manufacturing it, provided that normal hygienic precautions are taken into account.(16)

CONCLUSION & RECOMMENDATIONS: -

Menstrual hygiene is essential since it reflects reproductive health and development. The menstrual hygiene of teenage females was found to be deficient in this study. This was owing to a lack of understanding and inaccurate beliefs about the menstrual cycle, which produced the problem. Educating girls about the physiological realities of menstruation, dispelling myths, and teaching them proper cleanliness will help them prevent reproductive tract infections. The degree of success in building outstanding health in children will be determined by a number of things, one of which is the education provided in schools. Teachers have a high level of personal acceptability, in addition to the acceptance of what they teach, with both their students and their students' parents, as well as with the community via their pupils. The bulk of teachers are native to the area and are well-versed in its customs, beliefs, and traditions. Convincing people to change unhealthy behaviours will set a good example for the rest of the community. The school should be a centre of excellence for promoting a healthy lifestyle and providing a healthy environment for all pupils. Menstrual hygiene, cycle patterns, and the associated issues should so be promoted in schools.

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