

## Menstrual Hygiene: Knowledge and Practice among Adolescent School Girls In rural areas of West Bengal

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**Abstract:** Menstruation is generally considered as unclean in the Indian society. Isolation of the menstruating girls and restrictions being imposed on them in the family, have reinforced a negative attitude towards this phenomenon. There is a substantial lacuna in the knowledge about menstruation among adolescent girls. Although menstruation is a natural process, it is linked with several misconceptions and practices. Hygiene-related practices of women during menstruation are of considerable importance, as it has a health impact in terms of increased vulnerability to reproductive tract infections (RTI). Good hygienic practices such as the use of sanitary pads and adequate washing of the genital area are essential during menstruation. Menstrual hygiene and management will directly contribute to the Millennium Development Goal (MDG)-2 on universal education and MDG -3 on gender equality and women empowerment.

**Key Words:** Adolescent girls, menstrual hygiene, Millennium Development Goal

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### I. Introduction

Adolescence in girls has been recognized as a special period which signifies the transition from girlhood to womanhood. Menstruation is generally considered as unclean in the Indian society. Isolation of the menstruating girls and restrictions being imposed on them in the family, have reinforced a negative attitude towards this phenomenon.<sup>1</sup> Several studies have reported restrictions and belief in specified taboos at menarche and menstruation.<sup>2</sup> There is a substantial lacuna in the knowledge about menstruation among adolescent girls. Social prohibitions and the negative attitude of parents in discussing the related issues openly, have blocked the access of adolescent girls to the right kind of information, especially in the rural and tribal communities. Most of the adolescent girls had incomplete and inaccurate information about the menstrual physiology and hygiene. Good hygienic practices such as the use of sanitary pads and adequate washing of the genital area are essential during menstruation. Women and girls of the reproductive age need access to clean and soft, absorbent sanitary products which can in the long run, protect their health. Menstrual hygiene and management will directly contribute to (MDG)-2 on universal education, MDG-3 on gender equality and women empowerment.<sup>3</sup> However, the attention on this issue is far from sufficient and even the literature on gender mainstreaming in the sanitary section is silent on the issue of menstrual management.<sup>4</sup> A key priority for women and girls is to have the necessary knowledge, facilities and the cultural environment to manage menstruation hygienically and with dignity. The data about their level of knowledge and the practices which are followed by them with respect to menstruation are beneficial for planning a program for improving the awareness level with respect to their life processes and promoting their quality of life. Hence, the present cross sectional study was carried out with the objectives:

1. To assess the knowledge and the practices of menstrual hygiene among rural school going adolescent girls.
2. To assess the restrictions which were practised by adolescent school girls during menstruation.

### II. Methodology

An observational cross sectional study was performed between October-2012 to September-2013 among adolescent girls attending two girls' school in Tarakeswar Block, Hooghly District which is rural field practice area of Department of Community Medicine, Medical College, Kolkata. From 4 girls' schools in Tarakeswar Block, 2 schools were randomly selected. After taking Administrative approval from respective authorities and according to the schedule of the examination, only class VIII, IX, X was selected. All the students who were present on the day of survey were included. All girls of class VIII, IX & X of those two schools were interviewed by using pre-designed- pretested semi structured-schedule and examined. Students were included in the study after taking informed verbal consent. One day was fixed in each school to maintain uniformity of the questionnaire and to prevent percolation of information. Subsequently many other visits were made for examination of the girls of different classes. Total 464 students were interviewed. Due to incompleteness of response by 29 students, finally 435 schedules were used for analysis. Data was tabulated in

Microsoft Excel 2010 spread sheet & analysed by appropriate statistical methods in SPSS 16 software. Discrete data was analysed using Pearson's Chi-square test for normal distribution, values <0.05 were considered significant.

### III. Results

In the study it was found that all the participants were unmarried females and students of classes VIII, IX, X. Largest proportion of the students was in the age group 10-14 years i.e. 262(60.22%), while the least proportion was in the age group 18-19 years i.e. 6(1.39%). Mean age of the students was  $14.36 \pm 1.28$  years with a range from 13-18 years. 140(32.18%) students were in class VIII while 166(38.17%) and 129(29.65%) studied in class IX and X respectively. Most i.e. 351(80.68%) of the students belonged to Hindu religion while 84(19.32%) students belonged to Muslim community. More than 90% of the girls belonged to lower middle and poor socio-economic status i.e. Class IV & V of Prasad' Scale (40.45% and 51.72% respectively). Most (69.43%) of the students belonged to nuclear families. Most of girls (39.08%) had only one sibling while 29.19 % girls had no sibling. 107(24.59%) students' fathers had their own business and 93(21.37%) were in service. Largest proportion of students' mothers were found to be educated up to middle school i.e. 143(32.89%), followed by primary 111 (25.53%), secondary 102 (23.44%), higher secondary 52 (11.95%), graduate 18 (4.13%), while 9(2.06%) mothers were illiterate. All students had attained menarche. Mean age of menarche was  $11.51 \pm 1.02$  years and mean duration of menstruation was  $5.04 \pm 0.88$  days. For all participants, mean duration of menstrual cycle was  $28.65 \pm 1.01$  days. Among 189 girls, 127(67.19%) reported pain, 90(47.61%) reported headache and 74(39.15%) girls reported irritability as PMS. Pain abdomen was the most commonly associated symptom among 88.96% of students, followed by weakness (26.43%) and excessive bleeding (22.06%). Itching around genitalia (12.87%), headache (7.58%), nausea/vomiting (6.89%) and breast pain (4.36%) were the other associated symptoms. Regarding knowledge and perception regarding menstruation correct knowledge was found among 370(85.05%) girls, while 15.04% ascribed it to either disease or a curse of God. 315(72.41%) girls had knowledge on menstruation before menarche. Among them, 199(63.17%) girls reported that they had got knowledge on menstruation from their mother and 25.07% girls said that teacher was the informant. 178(40.94%) girls had the correct knowledge that uterus was the source of menstrual blood, while others marked urinary bladder(8.27%), vagina(45.74%) or abdomen(5.05%) to be the sources. 222(51.03%) girls knew that pregnancy is the cause of missed period and 20 (4.59%) girls did not know the cause. Regarding practice of the study population during menstruation 312 (71.72%) girls used sanitary napkins while 23(5.28%) girls used both sanitary napkin and cloth as absorbent. Among 23 students of upper middle socio economic status, 12(52.17%) were used sanitary napkins and 11(47.83%) were used other cloths while among 225 students of poor socio economic status, 75(33.34%) used sanitary napkins and 150 ((66.66%) students were used other cloths and the relationship found to be statistically significant ( $P < 0.01$ ). 393(90.36%) girls changed absorbent two to four times a day while 29(6.66%) students once changed their absorbents and 195 (44.85%) students changed their absorbents at night. It has been seen that 197 (45.28%) students changed their absorbents at school. Both schools had separate toilet with running water facilities. 93(40.54%) girls stated that they dried their absorbents inside the home without sunlight while 19(8.33%) girls dried absorbents outside home without sunlight. 52% students stored their absorbents in a bag in the bathroom. Dustbin was the most commonly used place of disposal of used absorbent (46.20%) but 27(6.19%) students threw used pad on the roadside. Among 408 students, 218(53.44%) students used soap and water for cleaning of genitalia during menstruation. Most (71.26%) of the participants refrained from religious activities, followed by absenteeism from school (17.93%) and playing (17.01%).

### IV. Discussion

In the present study, an effort has been made to find out the perception and practices during menstruation. There are Individual differences in the timing of menarche which is influenced by both heredity and environment i.e. physical and psychosocial components. Potential physical influences, such as weight, nutrition and exercise and potential psychosocial factors, such as family environment, child behavioural problems and stressful life events could play an important role. These factors may vary with different study settings. In the present study, all students had attained menarche. Mean age of menarche was  $11.51 \pm 1.024$  years and mean duration of menstruation was  $5.04 \pm 0.88$  days. Mean duration of menstrual cycle was  $28.65 \pm 1.01$  days for all participants. A striking range of variation exists in the mean ages of menarche and it is declining. Majority of girls achieved menarche between the age 12 and 14 years. The percentage distribution indicated that more number (69.43%) of girls from nuclear family attained menarche at earlier age as compare to joint families. The possible reason may be due to better nutrition, proper care and better education of mother. Rapid urbanisation may be another cause. It has been found that the girls having puberty earlier or later, the pattern of menstruation is similar. In the present study reveals that the mean interval between two regular cycles was 28.96 days and the mean duration of menstrual flow was 4.19 days. These results are in conformity with study by

Singh *et al.*<sup>5</sup> found the mean interval between two regular cycles was 29.3 days and duration of menstrual flow was 5 days. Menstruation is associated with health problems such as headache, body pain abdomen, and vomiting, fainting and menstrual problems such as menorrhagia, amenorrhea, dysmenorrhoea, premenstrual tension and leucorrhoea. In the present study, among 189 girls, 127(67.19%) reported pain, 90(47.61%) reported headache and 74(39.15%) girls reported irritability as pre- menstrual symptoms (PMS). Pain abdomen was the most commonly associated symptom among 88.96% of students, followed by weakness (26.43%) and excessive bleeding (22.06%). Itching around genitalia (12.87%), headache (7.58%), nausea/vomiting (6.89%) and breast pain (4.36%) were the other associated symptoms. Accordingly the results regarding pre-menstrual symptoms revealed that majority (67.19%) of girls reported about abdominal pain followed by headache (47.61%) and irritability (39.15%) prior to menstruation. The regional difference was observed in the above mention pattern of problems. Where in Dharwad, more number (42.85%) of girls reported abdominal pain followed by irritability and back ache (22.44 & 18.36% respectively). While, more number (32.60%) of Khurda girls were reported about irritability followed by abdominal pain (23.91%). This is may be because of lifestyle, food habit and stressful situation. Regarding problems during menstrual the results indicated that more (88.96%) number of girls reported about pain abdomen followed by weakness (26.43%) and excessive bleeding (22.06%). Further similar problems were reported by Dharwad and Khurda girls. Earlier studies conducted by, Pourselami *et al.*<sup>6</sup> Avasarala *et al.*<sup>7</sup>, Nair *et al.*<sup>8</sup> and Sharma *et al.*<sup>9</sup> also found that more number of adolescents reported about menstrual problem such as pain abdomen, fatigue, muscle stiffness, restlessness and irritability. The menstrual problem reported by girls in the study might be attributed to factors such as poor nutritional status, psychological stress, anxiety, fear, excessive menstrual flow, irregular or infrequent periods being overweight, and being underweight or mal nourished. About sanitary practices followed by girls during menstrual periods, regarding the type of sanitary parts used by girls in present study it was found that 71.72% girls used sanitary napkin and 28.28% were using cloths as absorbents.

<b>Author</b>	<b>Year of Publication</b>	<b>Place</b>	<b>Practice during Menstruation</b>
Dasgupta A, Sarkar M. <sup>10</sup>	2008	West Bengal Singur	11.25% girls used sanitary napkin 42.5% used old cloth, 6.25% new cloth
Sharma P <i>et al.</i> <sup>11</sup>	2008	Urban South India	68.9% girls used sanitary napkin 21.04% used old cloth
Thakre <i>et al.</i> <sup>12</sup>	2011	Maharashtra	30.82% girls used sanitary napkin 62.33% used old cloth and 6.85% used new cloth
Goel MK <i>et al.</i> <sup>13</sup>	2011	rural Maharashtra	15.67% girls used sanitary napkin 68.34% used old cloth
Ruchi Juyal. <i>et al.</i> <sup>14</sup>	2012	Uttarakhand	48.1 girls used sanitary napkin 30 % used new cloth
<b>Present Study</b>	<b>2013</b>	<b>Tarakeswar West Bengal</b>	<b>71.72% girls used sanitary napkin</b> <b>14.25% used old cloth</b> <b>8.75% used new cloth</b> <b>5.28% used both napkin &amp; cloth</b>

The number of girls using sanitary napkins was found to be much higher than studies in rural Maharashtra (15.67%) and urban South India (68.9%).<sup>11,13</sup> Difference in use of sanitary napkin is possibly due to number of factors like availability, accessibility, cost, exposure to media, customs, storage and disposal issues. Regarding disposal of pads, majority (46.20%) of girls disposed them in dustbin but 6.19% girls threw used pad on the roadside. Most of the girls (90.36%) practiced changing their pads 2-4 times a day and 44.85% girls changed their pads at night which compares well with the study in South India.<sup>15</sup> Practice of changing absorbent while in school was practiced by 45.28% students. This observation was similar to that by Begum *et al.*<sup>15</sup> Soap and water were used as cleaning agents by 53.44 % girls which was similar to the findings by Mudey *et al.* in Wardha District but differed much from the study of Dasgupta and Sarkar.<sup>10,16</sup> Taboos and superstitions regarding menstruation are prevalent in rural areas, as maximum restriction (71.26%) was found on religious activities. Similar finding was reported on study done by Dasgupta A. *et al.*<sup>10</sup> and Goel MK *et al.*<sup>13</sup> in rural Bengal and rural Maharashtra. Such similar findings in different study settings reflect the negative attitude to menstruation.

## V. Conclusion

This study has highlighted the need of adolescent girls to have accurate and adequate information about menstruation and its appropriate management. Formal as well as informal channels of communication such as

mothers, sisters and friends, need to be emphasized for the delivery of such information. In view of the vital role of the mothers, it is very important that the mother be armed with the correct and appropriate information on reproductive health, so that she can give this knowledge to her growing girl child. It is also essential for the teachers, who may not have the necessary skills to impart reproductive health education, including menstrual hygiene to their students. There is a strong need to address issues like the restrictions which are imposed on or practiced by the adolescent school girls. The reproductive health implications of menstruation and its management, and its effect on the quality of life which permeates school and other social activities are many for the adolescent school girls. These invariably call for all the stakeholders-family, school community, civil society, and service providers to entrench correct menstrual perceptions and to enable proper hygiene practices amongst this segment of the population). Awareness regarding the need for information on healthy menstrual practices is very important. It is essential to design a mechanism to address and for the access of healthy menstrual practices.

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### VII. Tables and Charts

Figure 1: Pie diagram showing distribution of the study population according to type of absorbents used (n=435)

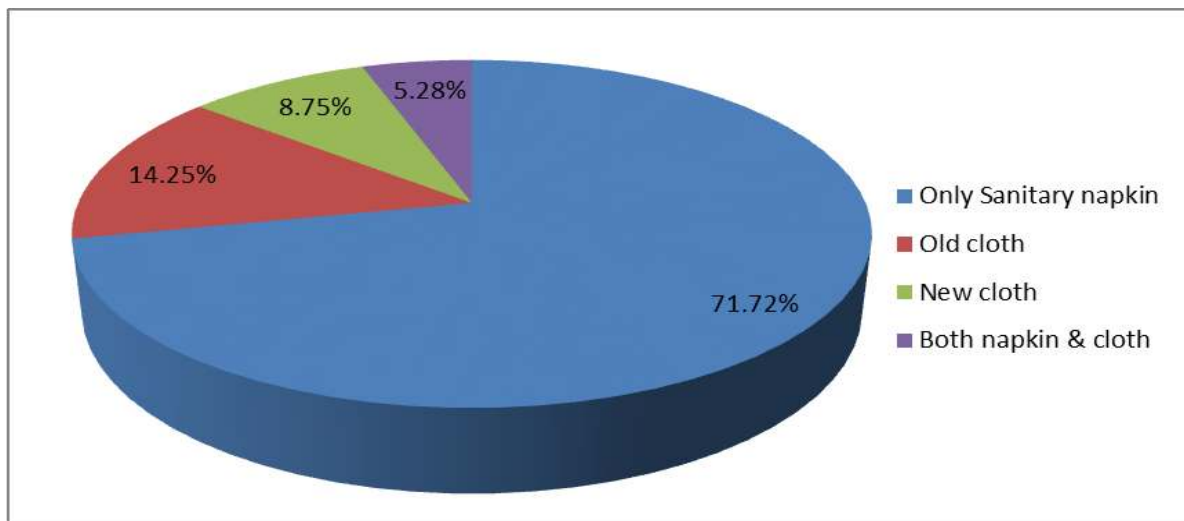


Table1: Socio demographic profile of the study population (n=435)

Socio demographic profile		Number		Percentage	
Religion	Hindu	351	84	19.32	80.68
Family	Nuclear	133	302	30.57	69.43
Sibling	Present	127	308	29.19	70.81
Socio Economic Status	Upper Middle(5118-8529)	23		5.31	
	Middle(2559-5117)	176		40.45	
	Poor (853-2558)	225	11	51.72	
	BPL(<853)			2.52	
Occupation of Father	Farmer	55	48	12.64	11.07
	Business	107	93	24.59	21.37
	Self-employed	41	91	9.42	20.91
	Others				
Education of Mother	Illiterate	9	111	2.06	25.53
	Middle	143	102	32.89	23.44
	Secondary	52	18	11.95	4.13
	Higher Secondary				
	Graduate				

Table2: Knowledge and perception of the study population regarding menstruation (n=435)

Variables		Number	Percentage	
Cause of Menstruation	Disease	61	14.04	
Curse of God		4	0.91	
Normal		370	85.05	
Source of Knowledge	Mother			63.17
		199		
Friends		108	43.28	
School Teacher		79	25.07	
Other Relatives		32	10.15	
TV/Radio/Magazine		31	9.84	
Doctors		16	5.07	
Source of Menstrual	Blood		178	40.94
Uterus				
Vagina		199	45.74	
Bladder		36	8.27	
Abdomen		22	5.05	
Causes of Missed Period				
Anaemia		65	14.94	
Hormonal problem		73	16.78	
Pregnancy		222	51.03	
Fever		104	23.90	
Stress		89	20.45	
Don't know		20	4.59	

Table3: Practice of the study population during menstruation (n=435)

Variables	Number	Percentage
Absorbents Changed (Number of Times/day)		6.66
1	29	
2-4	393	90.36
5-6	13	2.98
Change absorbents in school		
Yes	197	45.28
No	238	54.72
Absorbents Dried		
Inside home with sunlight	82	35.56
Inside home without sunlight	93	40.54
Outside home with sunlight	36	15.57
Outside home without sunlight	19	8.33
Disposal of absorbent	Domestic	
refuse	114	26.25
Burning	2	0.45
Roadside	27	6.19
Dustbin	201	46.20
Burial	91	20.91

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