

## Role of mass media in creating awareness about menstrual hygiene among adolescent girls in West Bengal, India

**Priyanka Sarkar**  
State Aided College Teacher (SACT)  
Dept. of Journalism & Mass Communication  
Gobardanga Hindu College (Under WBSU), West Bengal, India  
e-mail: [psarkar.jmc@gmail.com](mailto:psarkar.jmc@gmail.com)

### Abstract

In South Asian region mainly low and middle-income countries, there is a widespread lack of information on the preparation and management of menstruation among adolescent girls. Poor menstrual hygiene causes infections in the reproductive tract, a misery that many women suffer. Media can influence by spreading health and hygiene-related awareness as it has a wide reach among people. The present study aimed to understand the importance of mass media for creating awareness about menstrual health & hygiene among adolescent girls. 683 adolescent girls aged 12-18 years, who had experienced menarche for at least one year or more, participated from six districts of West Bengal, India. Data on demographic, socio-economic variables, awareness and perception regarding menstruation, hygienic practices during menstruation, attitude regarding menstrual health, and attitude and usage of menstrual materials were collected. The mean age of participants was  $15.41 \pm 2.04$  years, whereas the mean age of menarche was  $12.59 \pm 0.47$  years. 69.11% of studied participants' source of information on menstruation was their mother followed by media (24.31%). Again, 63.25% of the studied participants used sanitary napkins followed by homemade clothes (36.16%). Newspaper reading, television watching, and internet usage within the last three months are significantly ( $P < 0.0001$ ) associated with menstrual material uses among studied participants. Media (Television, Newspaper, social media, etc.) is a powerful tool to bring changes in knowledge, attitude, beliefs, and practices for hygiene behaviours among Indian adolescent girls.

**Key words:** Mass media, menstrual health & hygiene, Indian adolescent girls.

## Introduction

Menstrual Hygiene Management (MHM) in adolescent girls is a serious public health problem in India [1]. In South Asia, there is a huge lack of information about MHM among adolescent girls. In this region, adolescent girls are disadvantaged when it comes to managing their menstrual hygiene. For adolescents, MHM is limited by several socio-cultural factors in addition to limited education about menstrual hygiene [2].

Media is the most convenient medium to raise awareness among adolescent girls in India. The first step is to raise awareness about hygiene, and promote affordable and accessible menstrual products with proper disposal methods [2]. In India, especially in rural areas, there is a lack of accurate information on MHM among adolescent girls. Reproductive tract infections due to poor menstrual hygiene are responsible for cervical cancer, the most common cause of cancer among women in India [3][4].

In India, several studies have been initiated on menstrual hygiene issues among adolescent girls in both rural and urban areas. In 2011, Thakre et al. found only 36.95% of adolescent girls in the Nagpur district were aware of menstruation before menarche. The study showed that the mean age at menarche was  $12.85 \pm 0.86$  years. 49.35% of study participants used sanitary pads. External genitalia cleanliness was satisfactory in 33.85% girls [5]. In 2016, a systematic review and meta-analysis concluded from 138 studies involving more than 97 thousand adolescent girls, that commercial pad use was more common among urban girls than their rural counterparts. Inappropriate disposal was also common among study participants [6]. Aggarwal et al. in 2021 revealed that the practices of menstrual hygiene among adolescent girls in rural areas are influenced by taboos. The study found that none of the participating adolescent girls from rural Maharashtra had proper knowledge on MHM. They used homemade sanitary pads and were at risk of reproductive tract infections [7]. In 2022, Singh et al. found only 42% of adolescent girls use exclusive hygienic methods during menstruation in rural India [8]. A study from South 24 Parganas district of West Bengal, India revealed that only 37.52% of girls were aware of menstruation before menarche. 36% of urban and 54.88% of rural girls use homemade sanitary pads and reuse the same later [9]. Dhingra et al. in 2009 found the level of personal hygiene and management of menstruation was quite unsatisfactory among tribal (Gujjar) adolescent girls in the Jammu district. 98% of the study participants believe that regular bathing should not be done during the menstrual cycle [10].

Several studies revealed that mass media can play a crucial role in creating awareness about menstrual hygiene among adolescent girls. Mass media can reach large numbers of people quickly and easily, making it an effective means of disseminating information about menstrual hygiene. It can also be used to reach people in remote areas who may not have access to other sources of information. Mass media can solve this problem by raising awareness about the importance of menstrual hygiene and providing information about affordable and healthy menstrual products. This can encourage girls to talk about menstruation with their friends, family, and teachers, which can help to break the stigma associated with menstruation [11].

The present study aims to understand the importance of mass media in creating awareness about menstrual health & hygiene among adolescent girls in West Bengal, India.

### **Material & Methods**

This cross-sectional study was carried out among 683 adolescent girls aged 12 to 18 years, who had experienced menarche for at least one year or more. The participants were selected through a simple random technique from four higher secondary schools, six villages, and four municipal areas under six districts of West Bengal, India from March 2022 to May 2023. The participants of these districts belonged to multi-religious and multi-ethnic communities. The inclusion criteria for the present study were, (a) age should be between 12 and 18 years and (b) experienced menarche for at least one year or more.

The interviews and focus group discussions explored participants' knowledge, attitude, and practices in managing menstrual hygiene. The data on ethnic and demographic profiles, birth records, socio-economic status viz. age of the participants, education level, age at menarche, parents' educational levels and occupational types and monthly household income, the number of family members, etc. were collected. Besides this, data on awareness and perception regarding menstruation, hygienic practices during menstruation, attitude regarding menstrual health, usage, and attitude towards menstrual materials were collected from each participant using a pre-tested schedule.

Statistical software MedCalc 20 was used to carry out statistical analysis. To assess the significance of various media tools in creating awareness about MHM, descriptive and Chi-square analyses were conducted. A p-value of <0.0001 was considered as significant.

## Results

In this study, 683 adolescent girls, aged 12 to 18 years participated. Table 1 shows the basic socio-demographic and economic characteristics of the studied participants. The mean age of the participants was  $15.41 \pm 2.04$  years, while the mean age at menarche was  $12.59 \pm 0.47$  years. The majorities of the studied participants were Hindu (74.52%) by religion, higher caste (44.22%), and lived in rural areas (50.81%). This table also shows the participants' mothers' education level, family size, and monthly family income in Indian Rupees (INR).

**Table 1: Socio-demographic and economic characteristics of study participants (n=683)**

Variables		Mean $\pm$ SD
Age of participants (Years)		15.41 $\pm$ 2.04
Age of menarche (Years)		12.59 $\pm$ 0.47
		<b>Number (%)</b>
Religion		
	Hindu	509 (74.52)
	Muslim	137 (20.05)
	Christian	13 (1.91)
	Others	24 (3.52)
Caste		
	Higher Caste	302 (44.22)
	Scheduled Caste	159 (23.28)
	Scheduled Tribe	20 (2.92)
	Other Backward Class	202 (29.58)
Area of residence		
	Rural	347 (50.81)
	Sub-Urban	214 (31.33)
	Urban	122 (17.86)
Mothers' educational level		
	Uneducated	51(7.47)
	Up to Primary	199 (29.14)
	Up to Secondary	118 (17.27)
	Higher Secondary	136 (19.91)
	Graduate	158 (23.14)
	Post-Graduate	21 (3.07)
Monthly family income (INR)		
	<10K	103 (15.09)
	10K-20K	397 (58.12)
	20K-30K	118 (17.27)
	>30K	65 (9.52)
Number of family members		
	<5	482 (70.57)
	5-8	187 (27.38)
	>8	14 (2.05)
SD-Standard Deviation		

Table 2 shows the awareness of menstruation among the studied participants. 85.79% and 83.3% of the studied participants had correct information about the cause of the menstruation and source of menstrual blood, respectively. But the majority of the studied participants (58.27%) were not informed of menstruation before their menarche. Sources of knowledge about menstruation for 69.11% of the studied participants were their mothers, followed by the media (24.31%), and their friends or classmates (1.9%).

**Table 2: Awareness regarding menstruation among study participants**

Parameters		Number (%)
Cause of the menstruation		
	Physiological cause	586 (85.79)
	Disease	21(3.08)
	Unnatural	2 (0.29)
	Do not know	74(10.84)
Origin of the menstruation blood		
	Uterus	569(83.30)
	Stomach	4(0.59)
	Bladder	13(1.90)
	Do not know	97(14.21)
Aware of the period before menarche		
	Yes	285(41.73)
	No	398(58.27)
Source of information on menstruation		
	Mother	472(69.11)
	Elder Sister	11(1.60)
	Friend/Classmate	13 (1.90)
	School Teacher	6(0.88)
	Doctor/Health Worker	12(1.76)
	Media	166(24.31)
	Significant Others	3 (0.44)

Table 3 shows the hygienic practices during menstruation among the studied participants. The sanitary napkin was used by 63.25% of the studied participants followed by homemade cloths (36.16%). Most of the participants (67.05%) disposed of their used sanitary pads twice a day. Again, 83.75% of the studied participants had no idea about the menstrual cup, a modern product. In addition, the table shows that 75.26% of the participants cleaned their external genitalia with water only. Most of the participants (94.87%) bathed daily during menstruation.

**Table 3: Hygienic practices during menstruation among study participants**

Parameters		Number (%)
Use of sanitary pad		
	Homemade cloths	247 (36.16)
	Sanitary napkins	432 (63.25)
	Reusable pads	4 (0.59)
Disposal of sanitary pad		
	Once daily	97 (14.21)
	Twice daily	458 (67.05)
	Thrice daily	102 (14.93)
	More than thrice	26 (3.81)
Use of Menstrual cups		
	Yes	8 (1.17)
	No	103 (15.08)
	Do not know	572 (83.75)
Cleaning of external genitalia		
	Water only	514 (75.26)
	Water and soap	27 (3.95)
	Washing lotion	126 (18.45)
	Unsatisfactory	16 (2.34)
Bath during menstruation		
	Daily	648 (94.87)
	First day	33 (4.84)
	Not take any time	2 (0.29)

Table 4 shows the usage of menstrual materials among the studied participants. Most of the participants read newspapers (58.13%), watch television (88.29%) and spend time on the Internet (43.78%) daily. Besides, the table shows that 59.59% of the studied participants have not read any written material about menstruation. 96.19% of studied participants were aware of feminine hygiene practices through media (electronic and print) advertisements while 84.62% were influenced by advertisements when purchasing menstrual hygiene products. 73.35% of the studied participants believed in media advertisements about feminine hygiene practices whereas 66.76% preferred to use branded sanitizing products for cleaning purposes during menstruation.

**Table 4: Usage of menstrual materials among study participants**

Parameters		Number (%)
Reading Newspaper		
	No	117 (17.13)
	Yes (Daily)	397 (58.13)
	Yes (Sometimes)	169 (24.74)
Watching television		
	No	68 (9.95)
	Yes (Daily)	603 (88.29)
	Yes (Sometimes)	12 (1.76)
Internet use (via Computer and Smart Phone)		
	No	238 (34.84)
	Yes (Daily)	299 (43.78)
	Yes (Sometimes)	146 (21.38)
Read written materials on menstruation		
	Yes	276 (40.41)
	No	407 (59.59)
Seen movies based on menstrual hygiene		
	Yes	102 (14.93)
	No	581 (85.07)
Aware of MHM through media (Electronic and Print) advertising		
	Yes	657 (96.19)
	No	26 (3.81)
Affected by advertisements when buying hygiene products		
	Yes	578 (84.62)
	No	105 (15.38)
Believe in media (Electronic and Print) advertisements about MHM		
	Yes	501 (73.35)
	No	182 (26.65)
Know online apps that offer instant solutions to MHM related issues		
	Yes	16 (2.34)
	No	667 (97.66)
Prefer to use branded sanitization products		
	Yes	456 (66.76)
	No	227 (33.24)

Table 5 shows the association between usage and attitudes regarding menstrual materials among the studied participants. The majority (63.84%) of the studied participants used modern menstrual materials. Newspaper reading, television viewing, and internet use within the past three months were significantly ( $P < 0.0001$ ) associated with menstrual materials use (traditional and modern) among study participants.

**Table 5: Association between usage and attitude regarding menstrual materials among study participants**

Parameters	n (%) of menstrual material used		Chi-squared	Contingency coefficient
	Traditional 247 (36.16)	Modern 436 (63.84)		
Reading newspaper				
Reads	165 (66.81)	401 (91.97)	70.26*	0.31
Never Reads	82 (33.19)	35 (8.03)		
Watching televisions				
Watches	191 (77.33)	424 (97.25)	69.68*	0.30
Never Watches	56 (22.67)	12 (2.75)		
Internet use (within last 3 months)				
Used	69 (27.94)	376 (86.24)	235.73*	0.51
Did not use	178 (72.06)	60 (13.76)		

\*p Value <0.0001

## Discussion

This present cross-sectional study aimed to understand the importance of mass media in creating awareness about menstrual health & hygiene among adolescent girls in West Bengal, India. A total of 683 adolescent girls aged 12 to 18 years were engaged in this present study. The mean age at menarche of studied participants was  $12.59 \pm 0.47$  years which are similar to Thakre et al. study findings [5]. Knowledge, attitude, and practices regarding menstrual health and hygiene differ by place of residence. The mother's education level is also very influential on participants' knowledge of menstrual health as the mother is the main source of information for adolescent girls. Participants from higher-income households are more aware than those from lower-income households.

In this present study, most of the studied participants had accurate information about the cause of the menstruation and source of menstrual blood, which significantly involved spending time on the Internet through their computers and smart-phones, reading newspapers, and watching television daily. Additionally, newspaper reading, television viewing, and Internet use in the past three months were significantly associated with traditional and modern menstrual material use among study participants. In this study, 41.73% of participants were aware of menstruation before their menarche, which also shows similar study findings by Paria et al. study conducted in 2014 in the South 24 Parganas district of West Bengal [9]. 36.16% participants of the present



study used homemade cloths as sanitary pads which showed similar results compared to other studies. 83.75% of the study participants had no idea about the menstrual cup, showing that the menstrual cup is still not popular in many areas of West Bengal. The majority of the studied participants (94.87%) bathed daily during menstruation which shows good hygienic practices and is also inconsistent with the study findings of Dhingra et al. study conducted in 2009 among tribal (Gujjar) adolescent girls in Jammu district [10].

## Conclusion

Increasing awareness of menstrual hygiene is crucial for promoting women's health and breaking the stigma surrounding menstruation. The present study and several other studies revealed that awareness regarding MHM was more in urban India. More adolescents from urban areas were using sanitary napkins as compared to their rural counterparts. Community workshops, seminars, and peer education programs should organize to aware adolescents of menstrual hygiene, the menstrual cycle, reproductive health, and the importance of using clean and hygienic sanitary products. Peer-to-peer discussions can be more effective in breaking down barriers and addressing myths and misconceptions. Health clinics should be set up where adolescent girls can seek advice, ask questions, and receive guidance on MHM. Affordable menstrual products, and clean sanitation facilities, including toilets with proper water and waste management system should accessible to all to avoid infections.

Mass media should also emphasize health information about menstrual hygiene. Various media platforms, including television, print media, and social media, should utilize to run awareness campaigns on menstrual hygiene to create informative and engaging content that dispels myths, educate family members, and encourages open conversations about menstruation. Men in our society also need to learn about menstruation and related hygiene practices to better understand the natural biological processes of women and focus on important issues.

Therefore, sustained efforts are needed to bring about lasting change in menstrual hygiene awareness. Policymakers and stakeholders should address the issue holistically by considering the cultural, social, and economic factors that influence menstrual hygiene practices.

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