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Effects of Socio-Economic Conditions on Usage of Hygienic Method of Menstrual Protection among Young Women in EAG States of India

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Abstract

Management of Menstrual Hygiene is a problem for young women in India especially in EAG states. Along with basic sanitation facilities, young girls and women require clean and soft, absorbent sanitary products for long run and their health protection. The present paper examines the prevalence of usage of hygienic method of menstrual protection among young women in EAG states of India with different socio-economic characteristics, using fourth round of National Family Health Survey (NFHS-4), conducted in 2015-16. The study found that, about 44 percent of the young women were using hygienic method during menstruation. Disparity between urban and rural is perceptible, more than one-third of rural women (37 percent) used hygienic method as compared to 69 percent of women in urban areas. Among the EAG states, the range of use of hygienic methods varied from 30 percent in Bihar to 70 percent in Uttarakhand. The usage of hygienic methods among women belonging to richest category of wealth index was almost eight times higher than women belonging to poorest category (OR= 7.7). The prevalence of menstrual protection was significantly higher among women belonging to scheduled caste category compared to women from scheduled tribes. The likelihood of using menstrual hygienic methods was more than two times higher (OR=2.19) among those who were accessing media almost every day compared to those who didn't access media at all. The usage of hygiene methods was higher among women who have flush toilet facility at their home as compared to women who do not have toilets at their home. Majority of the young women could not purchase napkins to use during menstruation due to economical constraints. Hence, locally made sanitary napkins may be provided at cheaper rate, educate the young women about the importance of maintaining hygiene and usage of hygienic method during menstruation.

Key Words: Menstrual Hygiene, Young women, Socio-Economic Characteristics, EAG states

JEL Classification: I15, I29

Paper Classification: Research Paper

Introduction

In a girl's life, the onset of menstruation is a milestone event and the beginning of reproductive life. Menstruation is a normal physiological process that takes place at approximately 28-days interval between the menarche (onset of menstruation) and the menopause (cessation of menstruation) except during the time of pregnancy.

Menstruation is generally considered as unclean, dirty or impure phenomena in our Indian society (Anand et al., 2015; Paria et al., 2014; Kumar and Srivastava, 2011; Dhingra et al., 2009), which is often clouded by various myths and misconceptions. Women undergoing the monthly cycle are subjected to restrictions of participating in household and religious activities (Chakravarty, 2016; Paria et al., 2014) like cooking, touching pickles, entering a kitchen, having a meal together, wearing certain clothes, touching men or having sexual intercourse (Juyal et al., 2013; Dasgupta and Sarkar, 2008) and are not permitted to enter a temple (Thakur et al., 2014; Juyal et al., 2013; Kumar and Srivastava, 2011). Although nowadays the situation has been changing among educated and urban resident women, most parts of rural India uphold such practices (Anand et al., 2015).

Social prohibitions and strong bondage with the taboos and traditional beliefs during menstruation and hesitation of parents to discuss the related issues openly to their daughters has prevented the access to get the correct knowledge regarding menstrual hygiene practices (Hema Priya et al., 2017). Better understanding of the good menstrual hygiene is crucial for the education, health and dignity of girls and women (Mathiyalagen et al., 2017).

Menstrual hygiene is defined as the principle of maintaining cleanliness of the body during menstrual flow. It requires basic facilities such as appropriate clothes, soakage material, water, soap, and toilet facilities with privacy. Poor personal hygiene and defective menstrual management practices may lead to problems such as itching or rashes in the perineal region, bad odor (Kumar et al., 2017) and give rise to repeated reproductive tract infections, which are otherwise preventable (Barman et al., 2017). Unaddressed menstrual hygiene is also said to hamper the achievement of some of the sustainable development goals as it is closely associated with gender equality and female empowerment through its direct influence on women's reproductive health, education and work participation.

Management of Menstrual Hygiene is a problem for young women in low and middle-income countries including India, particularly when attending school. Lack of proper water, sanitation and hygiene (WASH) facilities in schools, insufficient knowledge on puberty and lack of hygienic menstrual absorbents cause girls menstruation as shameful and uncomfortable (Van Ejik et al., 2016). Along with basic sanitation facilities, young girls and women require clean and soft, menstrual absorbents for long run and their health protection. Sanitary pads, tampons and menstrual cups are the available commercial products for women's hygiene during menstruation (Geethu et. al., 2016). A large study in India conducted by A C Neilson in 2010 concluded that only 12 percent of India's 355 million menstruating women use sanitary pads. Over 88 percent of women depend on different alternatives like un-sanitized cloth or rugs, ashes and husk sand (Goyal, 2016). The percentage usage of cloth and sanitary napkins varies from place to place within India based on many factors such as awareness, finance, availability and social norms (Farid, 2016).

According to Census 2011, women in the age group of 15-24 years constitute about 19 percent of the total female population of India. Hence, the monthly menstrual need of such a huge population has to be given proper attention. By recognizing the importance of promotion of menstrual hygiene, in June 2011, Government of India launched a new scheme to make sanitary pads available in rural areas at a subsidized cost. Even though many initiatives were taken, by Government of India, a major section of the adolescent girls still do not have prior awareness about the menstrual cycle and its hygiene practices which lead to poor menstrual hygiene. A few micro level studies that focused on menstrual practices among school going adolescent girls have

reported the use of sanitary pads between 20 to 35 percent in rural India (Sarkar et al., 2017; Kansal et al., 2016; Patil, 2014).

A study done by Anand et al. in 2015, which focused on usage of hygienic method during menstruation in all over India by using secondary data of third round of District Level Household Survey (DLHS-3) reported that only 37 percent of young unmarried women used hygienic method of menstrual protection. There is a need to carry out more studies on usage of hygienic method during menstruation by using nationally representative data. Hence, in this study the data of fourth round of National Family Health Survey (NFHS-4) has been used to examine the prevalence of usage of hygienic method during menstruation among young women in EAG states of India.

Objectives

The main aim of the present study is to examine the prevalence of usage of hygienic method of menstrual protection among young women in EAG states of India.

The specific objectives of this study are-

- To examine the levels and differentials of prevalence of usage of hygienic method of menstrual protection among young women with different background characteristics.
- To find out the determinants of prevalence of usage of hygienic method of menstrual protection among young women.

Data and Methodology

Data from the fourth round of National Family Health Survey (NFHS-4) India, conducted in 2015-16 is used for this study. The survey presents the data on population, health, and nutrition at National, State and District level. A total of 601,509 household interviews were completed in all states and union territories of India, out of which 291,373 households were from Empowered Action Group (EAG) states of India. As the young women in the age group of 15-24 years are considered in the analysis, hence the sample consists of 119,295 young women in the age group of 15-24 years who have ever menstruated in EAG states of India.

Dependent Variable

It is very important for women to use a hygienic method during menstruation for their health and personal hygiene. In NFHS-4, a multiple response question was asked to young women in age-group of 15-24 years, regarding what method or methods they used for menstrual protection. The responses include- whether they used cloth, locally prepared napkins, sanitary napkins, tampons, nothing and others. In the present paper, all these methods were grouped into two categories, of hygienic and unhygienic methods. Hygienic method includes those women who use locally prepared napkins, sanitary napkins, or tampons during their menstrual period. All other methods used such as cloth, any other method and those women who used nothing were considered as unhygienic method (IIPS, 2017).

Independent Variables

The independent variables used in this study are age of the respondents in the two categories (15-19 and 20-24), place of residence (rural, urban), educational status of respondent includes no education, primary (1-5 years of schooling), secondary (6-9 years of schooling) and higher (10 and above), religion of the respondent (Hindu, Muslim, Christian, Sikh and others), caste of the respondent (Scheduled Caste, Scheduled Tribe, No caste/ tribe and others who don't know their caste/ tribe), wealth quintile (Poorest, Poorer, Middle, Rich, Richest), type of toilet (flush, pit/ dry, no facility/ open space and others), working status in last 12 months (yes, no), access to media which includes reading newspaper, listening radio and watching television (not at all, less than once a week, atleast once a week and almost every day), usually go to cinema/theatre atleast once in a month (yes, no) and EAG States (Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttar Pradesh, Uttarakhand).

Methodology

For the first objective, to examine the levels and differentials of prevalence of usage of hygienic methods of menstrual protection among young women with various background characteristics, bivariate analysis has been used. To fulfill the second objective, i.e. to find out the determinants of prevalence of usage of hygienic methods, binary logistic regression has been performed in which the individual effect of various background characteristics on menstrual hygiene practices are measured. The 95 percent confidence interval (CI) for the odds ratio is also presented to ascertain the precision of the estimates. The data has been analyzed using IBM SPSS Statistics V20.

Background Information of Respondents

Information on the use of various methods of menstrual protection was collected from young women in the age group of 15 to 24 years. Table 1 provides the percentage distribution of those respondents (119295) by background characteristics in EAG states of India. Little more than half (53 percent) of the respondents were in the age group of 15-19 years and the remaining 47 percent of them were in the age group of 20-24 years. A majority of the respondents (77 percent) were residing in rural areas. More than 60 percent of the respondents had completed their secondary education and 13 percent of them had completed high school and above whereas 15 percent of them were illiterate. The socio-economic characteristics of the respondents reveal that about 84 percent of the respondents adhere to Hinduism and about 15 percent to Islam. Majority of respondents belong to Scheduled caste (92 percent) and around 8 percent belong to Scheduled Tribe. More than one-fourth of respondents (29 percent) were from poorest category of wealth quintile and the other one-fourth (24 percent) were from second wealth quintile. The proportion of respondents in remaining three wealth quintile categories range from 12 to 19 percent.

Table 1: Socio-demographic Profile of the young women (15-24 years) of EAG States in India, NFHS-IV, 2015-16

Background Characteristics	Percentage	Number
Age-group (in years)		
15-19	52.8	62935
20-24	47.2	56360
Place of residence		
Rural	77.2	92068
Urban	22.8	27227
Education		
No education	15.2	18156
Primary	10.8	12891
Secondary	61.2	72999
High school & above	12.8	15249
Religion		
Hindu	83.7	99858
Muslim	14.8	17680
Christian	0.5	598
Sikh	0.3	370
Others	0.7	789
Caste		
Scheduled Caste	91.6	109296
Scheduled Tribe	7.5	9002
No Caste/Tribe	0.7	892
Don't Know	0.1	105
Wealth Quintile		
Poorest	29.0	34631
Poorer	24.4	29111
Middle	18.9	22527
Richer	15.0	17917
Richest	12.7	15109
Type of Toilet		
flush	38.2	45630
pit/dry	3.6	4273
no facility/ open space	52.0	62073
others	6.1	7319
Work in last 12 months		
Yes	21.0	3961
No	79.0	14941
Access to Media		
Not at all	24.5	29188
Less than once a week	11.5	13724
At least once a week	14.0	16670
Almost everyday	50.1	59713
Usually go to cinema/theatre		
No	95.5	113963
Yes	4.5	5332
Percentage distribution		
Bihar	18.4	21923

Chhattisgarh	5.1	6056
Jharkhand	5.5	6611
Madhya Pradesh	13.6	16204
Odisha	7.0	8391
Rajasthan	11.9	14251
Uttar Pradesh	36.6	43653
Uttarakhand	1.8	2207
Total	100.0	119295

The usage of hygienic or unhygienic methods during menstruation also depends upon the type of toilet facilities available at the residence or school or work place. Table 1 shows that more than half of the respondents (52 percent) did not have toilet facility or used open space and 38 percent of respondents had flush toilets at their home. More than three-fourths of respondents (79 percent) did not work in the last 12 months, which indicates that many of them would be still studying and hence are not employed. Half of the respondents had access to media communication (reading newspaper, watching television or listening radio) almost every day whereas one-fourth of the respondents had no access to media communication at all. Only 5 percent of respondents usually go to cinema/theatre at least once in a month. More than one-third of women (37 percent) were from Uttar Pradesh, 18 percent from Bihar and only 2 percent from Uttarakhand. The proportion of respondents from other EAG states varies from 5 to 15 percent.

Results

Levels and Differentials in use of hygienic method of menstrual protection

The percentage distribution of use of hygienic method by various background characteristics has been shown in Table 2. Overall, less than half of women (44 percent) used hygienic method during menstruation whereas remaining 56 percent used cloths or other unhygienic method of menstrual protection. The usage of hygienic methods during menstruation was almost same among women in both age groups of 15-19 years (43.5 percent) and 20-24 years (45.4 percent). The urban-rural disparity is perceptible, little more than one-third of rural women (37 percent) used hygienic method as compared to 69 percent of women in urban areas. As the educational level improved, the usage of hygienic methods among women had also increased. Only 15 percent of women having no education used hygienic methods to prevent their bloodstains during menstruation. On the other hand, about 80 percent of women with education high school and above used hygienic methods. The usage of hygienic method of menstrual protection was almost same among Hindu women (44 percent) and Muslim women (43 percent) whereas it was highest among the Sikh women (75 percent) followed by Christian women (53 percent). The usage of hygienic method among women from Scheduled Tribe (30 percent) was lesser in comparison to women from Scheduled Caste (46 percent) and women with no caste/tribe (50 percent). The economic status of women seems to be a dominant factor in the prevalence of usage of hygienic method. Usage of hygienic methods was more than five times higher among the young women in the richest wealth quintile (86 percent) compared to the young women belonging to the poorest wealth quintile (18 percent).

Table 2: Usage of hygienic methods for menstrual protection by various background characteristics among young women in EAG States of India, NFHS-IV, 2015-16

Background Characteristics	Percent	Number	p-value
Age-group (in years)			
15-19	43.5	27358	0.000
20-24	45.4	25603	
Place of residence			
Rural	37.1	34150	0.000
Urban	69.1	18810	
Education			
No education	15.6	2840	0.000
Primary	24.5	3158	
Secondary	47.8	34902	
High school & above	79.1	12061	
Religion			
Hindu	44.4	44368	0.000
Muslim	42.9	7584	
Christian	52.7	315	
Sikh	75.1	278	
Others	52.7	416	
Caste			
Scheduled Caste	45.6	49808	0.000
Scheduled Tribe	29.5	2657	
No Caste/Tribe	50.2	448	
Don't Know	44.8	47	
Wealth Quintile			
Poorest	18.3	6352	0.000
Poorer	34.2	9969	
Middle	50.9	11469	
Richer	68.1	12203	
Richest	85.8	12968	
Type of Toilet			
flush	64.9	29601	0.000
pit/dry	51.8	2212	
no facility/ open space	28.4	17636	
others	48.0	3511	
Work in last 12 months			
Yes	34.5	1367	0.000
No	47.8	7137	
Access to Media			
Not at all	17.7	5159	0.000
Less than once a week	32.7	4490	
At least once a week	39.9	6658	
Almost everyday	61.4	36653	
Usually go to cinema/theatre			
No	43.1	49143	0.000
Yes	71.6	3817	
EAG States			
Bihar	31.0	6794	0.000
Chhattisgarh	47.1	2850	

Jharkhand	49.6	3279	
Madhya Pradesh	37.6	6094	
Odisha	47.4	3976	
Rajasthan	55.2	7869	
Uttar Pradesh	47.1	20557	
Uttarakhand	69.9	1542	
Total	44.4	52961	

Toilet facility at home is very essential for women to ensure privacy in changing sanitary pads. It has been shown in the Table that only 28 percent of women use hygiene methods who do not have toilet facility at their home as compared to 65 percent of women who have flush toilets at their home. It is curious to note that women who worked in the last 12 months were less likely to use hygienic method as compared to those women who did not work. The usage of menstrual hygienic methods was three times higher among young women who have access to media almost every day (watch television or reading newspaper or listening radio) compared to those who have no access to these medium of communication. Similarly, use of hygienic methods was comparatively higher among those women who usually go to cinema/ theatre at least once in a month compared to those who don't go. State-wise differentials show that the range of use of hygienic methods varied from 30 percent in Bihar to 70 percent in Uttarakhand.

Odds ratios for usage of hygienic method of menstrual protection

The results of the binary logistic regression have been presented in Table 3, which shows that most of the predictor variables fitted in the model are statistically significant. However, the value of odds ratio for educational status and wealth status is high, which indicates that these two factors are the most important and associated with the usage of hygienic menstrual absorbents. Women who are educated up to high school or above are seven times more likely to use hygienic method during menstruation as compared to uneducated women (OR= 7.2). Compared to women belonging to Hindu religion, the usage of hygienic method was less among Muslim women (OR=0.89). The usage of hygienic menstrual absorbents increases sharply with the wealth status.

Women belonging to richest category of wealth index were almost eight times more likely to use sanitary methods as compared to women belonging to poorest category (OR= 7.7). Menstrual Protection was significantly higher among women from scheduled caste category compared to women from scheduled tribes. Access to media is another significant factor contributing to the usage of menstrual hygiene. The likelihood of using menstrual hygiene methods was more than two times higher (OR=2.19) among those who were accessing media almost every day compared to those who didn't access media at all. As compared to women from Bihar, the prevalence of hygienic method was comparatively higher among women in Jharkhand (OR= 2.03) followed by Uttarakhand (OR=2.01) and Odisha (OR=1.6) whereas the prevalence was 25 percent lesser in Madhya Pradesh compared to Bihar.

Table 3: Odds Ratios for use of hygienic methods for menstrual protection by background characteristics among young women in EAG States of India

Background Characteristics	Odds Ratio	Confidence Interval
Age-group (in years)		
15-19		
20-24	0.949	0.882-1.021
Place of residence		
Rural		
Urban	1.311***	1.192-1.441
Education		
No education		
Primary	1.527***	1.303-1.788
Secondary	2.944***	2.596-3.340
High school & above	7.219***	6.138-8.490
Religion		
Hindu		
Muslim	0.889*	0.802-0.986
Christian	1.530	0.957-2.448
Sikh	2.125	0.793-5.692
Others	2.354***	1.517-3.652
Caste		
Scheduled Caste		
Scheduled Tribe	0.798**	0.690-0.923
No Caste/Tribe	0.912	0.598-1.389
Wealth Quintile		
Poorest		
Poorer	1.459***	1.317-1.616
Middle	2.167***	1.926-2.438
Richer	3.189***	2.759-3.686
Richest	7.739***	6.441-9.298
Type of Toilet		
flush		
pit/dry	1.052	0.878-1.259
no facility/ open space	0.777***	0.706-0.856
others	1.037	0.896-1.201
Work in last 12 months		
Yes		
No	1.244**	1.140-1.357
Access to Media		
Not at all		
Less than once a week	1.402***	1.234-1.592
At least once a week	1.714***	1.517-1.937
Almost everyday	2.197***	1.973-2.447
Usually go to cinema/theatre		
No		
Yes	1.312**	1.089-1.580
EAG States		
Bihar		
Chhattisgarh	1.129	0.947-1.347
Jharkhand	2.025***	1.708-2.402

Madhya Pradesh	0.748***	0.656-0.853
Odisha	1.618***	1.392-1.880
Rajasthan	1.479***	1.294-1.692
Uttar Pradesh	1.275***	1.151-1.413
Uttarakhand	2.019***	1.527-2.669

*Note: *** Significant at p<0.001, ** Significant at p<0.01, * Significant at p<0.05*

Discussion

Managing menstruation in a hygienic way involves not only access to basic sanitation facilities, soap and water but also to so-called menstrual absorbents. The type of menstrual absorbent used is of primary concern, as reuse of the material could be a cause for infection if it is not cleaned and stored properly. A hygienic menstrual absorbent helps young girls and women of reproductive age to manage menstruation effectively, safely and comfortably. The present study found that the usage of hygienic method of menstrual protection among young women (15-24 years) was low. Similar kind of result was seen in the study conducted by Anand et al. (2015) and found that only one-third of the studied population used hygienic method. About 44 percent of the young women were using hygienic methods during menstruation in EAG states of India.

The study observed that the line of division between rural and urban becomes stark. The use of hygienic method during menstruation among young women was 69 percent in urban area and 37 percent in rural area and this difference was found to be statistically significant (p< 0.000). Similar findings were reported by Anand et al. (2015) that the use of hygienic method among unmarried women was higher in urban area (52 percent) compared to rural area (25 percent). Another study by Paria et al. (2014) shows that the use of sanitary pad among girls in urban area (64 percent) was higher than girls in rural area (45 percent). In the study by Thakre et al. (2011), the use of sanitary pads was 60.6 percent in urban girls and 30.8 percent in rural girls. The possible reason may be that many rural women do not have toilet facility and defecate in the open so they do not use undergarments, and sanitary napkins cannot be used without underwear's. There are cultural barriers also like the women avoid buying sanitary napkins from shops with male shopkeepers due to shame. Since, traditionally women have been using cloths and unhygienic rags as alternatives and these are inexpensive, they convince their daughters and daughter-in-law to do the same. Since disposing of the pads needs to handle sensitively to avoid further complicated unhygienic conditions, rural women find it comfortable to stick to using cloths that are washable (Chakravarty, 2016).

There is also a huge gap in utilization of sanitary pads among literate and illiterate women and among women belonging to poorest and richest wealth quintile. This study shows that where about 86 percent of women in richest wealth quintile had used hygienic methods, only 18 percent of women in lowest wealth quintile used the same. Similar kind of findings was observed by Anand et al. (2015) and Kamath et al. (2013).

Type of toilet facility is very essential for women to ensure privacy in changing sanitary pads during menstruation. It has been revealed from this study that about two-third of young women (65 percent) who had flush type toilets at their home, used hygienic methods as compared to 28 percent of women who don't have toilet facility at their home or defecate in the open space. A study by Anand et al. (2015) also shows the similar results. Exposure to mass media (reading newspaper, listening radio, watching television) also plays a significant role in increasing awareness regarding availability and use of sanitary napkins. This study observed that the usage of hygienic methods during menstruation is significantly higher among those women who have

exposure to any mass media almost every day as compared to those who did not access at all. Patil (2014) shows in her study that level of menstrual hygiene increases with an increase in time spent on watching television or listening to radio. The state-wise differential shows that the use of hygienic menstrual absorbents was low in Bihar and Madhya Pradesh as compared to Rajasthan and Uttarakhand.

In the present study, the major determinants, which affect the usage of hygienic method of menstrual protection, have found to be rural-urban residence, educational status, wealth status, type of toilet and exposure to mass media. Apparently, accessibility, affordability and lack of awareness are the primary reasons for the use of unhygienic menstrual absorbents among rural women. Thakre et al. (2011) observed that the reasons for not using sanitary pads were lack of knowledge (30.25 percent), high costs (30.85 percent), unavailability and shyness. Other study conducted by Barman et al. (2017) observed the financial reason (57.4 percent) and difficulty to dispose (19.1 percent) as the reason for not using sanitary pads. Mahajan et al. (2017) in their study also found some barriers to use of sanitary napkins which were- lack of awareness, limited availability of the product at economical prices, non-availability in the rural and interior areas, no space for cleaning/changing, absence of toilets, shyness to buy napkins from shops, lack of disposal facilities and financial constraints.

Conclusion

Menstruation and its hygiene are neglected areas among reproductive health issues. Young women require enough and accurate knowledge about management of menstruation hygienically.

The study concludes that women in the richest quintile, with higher education, living in urban areas with higher awareness and attitude are more likely to use hygiene methods. The usage of hygiene methods was high among women who have flush toilet facility at their home as compared to women who do not have toilets at their home. The usage of menstrual hygienic methods were three times higher among young women who have access to media almost every day (watch television or read newspaper or listen to radio) compared to those who have no access to these medium of communication. Among the EAG states, Bihar and Madhya Pradesh required more attention due to low usage of menstrual hygiene methods.

Most of the young women were not able to purchase napkins due to economical constraints for use during menstruation. Hence, initiatives are required to make sanitary napkins available at cheaper rate in all places. Educate the young women about the importance of maintaining hygiene and usage of hygienic method during menstruation to prevent the risk of reproductive tract infection. Ensuring menstrual hygiene for young women should be at the top developmental agenda which calls for urgent and intensive action from all relevant stakeholders to change the scenario of menstrual hygiene in EAG states.

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