

**A COMPARATIVE STUDY TO EVALUATE MENSTRUAL HYGIENE AMONG RURAL AND URBAN ADOLESCENT GIRLS - A MIXED METHODOLOGY STUDY**SRISHTI KUKREJA<sup>1</sup>, SUBHASHREE DAS<sup>2</sup>, AAKASH VERMA<sup>3</sup>, MAYANK JAIN<sup>3</sup>

<sup>1</sup>Department of Community Medicine, RUHS College of Medical Sciences, Jaipur, Rajasthan, India. <sup>2</sup>Department of Obstetrics and Gynaecology, Jhalawar Medical College, Jhalawar, Rajasthan, India. <sup>3</sup>Department of Community Medicine, Jhalawar Medical College, Jhalawar, Rajasthan, India. Email: kukrejasrishti1@gmail.com

Received: 8 August 2022, Revised and Accepted: 20 September 2022

**ABSTRACT**

**Objective:** The objective of this study is to evaluate and compare menstrual hygiene management practice, sources of information, attitudes, and impact on social life due to menstruation in rural and urban adolescent girls.

**Methods:** A mixed methodology study was conducted in one rural and one urban school in Jhalawar district of Rajasthan. Quantitative data were collected from the girls using semi-structured, self-responding questionnaire and qualitative data were collected by focused group discussion. The quantitative data were collected and entered in MS Excel and analyzed using SPSS software version 23.

**Results:** In the urban area, 100% girls use sanitary napkins as absorbent while in the rural areas 90.5% use sanitary napkins while rest use new/old cloth as absorbent. In rural area, 17.5% had knowledge about menstruation before menarche compared to 57.8% in urban areas. Almost all (98.9%) girls in urban area had toilet facility at home with proper water supply while in rural areas 54% have no toilet facility. Many myths and taboos were prevalent in both rural and urban areas.

**Conclusion:** Free supply of sanitary napkins, access to water and toilet facility, increased awareness, and facility for disposal of sanitary napkins are important for girls to manage menstruation hygienically. Adolescents from urban area have better knowledge about menstruation and better menstrual hygiene practices than adolescents from rural area. Educational status of mother carries major impact on daughter's menstrual hygiene practices.

**Keywords:** Menstrual hygiene, Adolescent, Menstruation.

© 2022 The Authors. Published by Innovare Academic Sciences Pvt Ltd. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>) DOI: <http://dx.doi.org/10.22159/ajpcr.2022v15i12.46093>. Journal homepage: <https://innovareacademics.in/journals/index.php/ajpcr>

**INTRODUCTION**

Globally, approximately 52% of the female population are of reproductive age group. Menstruation is a natural part of the reproductive cycle, in which blood is lost through the vagina [1]. India's 113 million adolescent girls are particularly vulnerable at the onset of menarche [2].

Menstrual hygiene management is defined as "Women and adolescent girls are 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 for washing the body as required, and having access to safe and convenient facilities to dispose of used menstrual management materials [3]. Poor awareness of the physiology, unscientific attitude, myths, and misconceptions including the notion that menstruating women are "contaminated," "dirty," and "impure" adversely affect their health and social lives [4].

To ensure that adolescent girls and women have the necessary support and facilities, it is important that the wider society, communities, and families break the silence around menstruation.

The objective of this study is to evaluate and compare menstrual hygiene management practice, sources of information, attitudes, and impact on social life due to menstruation in rural and urban adolescent girls [2].

**METHODS**

A mixed methodology study was conducted in one rural and one urban school in Jhalawar district from August 2019 to February 2020.

Quantitative data were collected from the girls using semi-structured, self-responding questionnaire and qualitative data were collected by focused group discussion (FGD). Two FGDs were conducted one in rural and one in urban school to study the social impact of menstruation.

**Sampling**

Cluster sampling was done. From a list of all rural and urban senior secondary schools in Jhalawar two schools (one from rural and one from urban) were randomly selected. All school girls from class 8<sup>th</sup> to 12<sup>th</sup> were selected by complete enumeration (126 rural and 90 urban adolescent girls). The questionnaire was briefly explained to all students after distributing the questionnaire.

In FGDs, ten girls from each school were selected purposively for the discussion. There was a moderator and a recorder for both FGDs. Each FGD lasted for around 60 min. Open-ended guiding questions were asked to stimulate the participants for discussion. The questions were based on accessibility and availability of sanitary pads, beliefs and myths related to menstruation and problems faced during menstruation.

**Ethical approval**

Ethical approval was taken from the institutional ethical committee prior to data collection. Written permission was also taken from the school principal for conducting the study. Written consent was obtained from all the participants and written informed consent from their parents.

**Inclusion criteria**

All school girls from 8<sup>th</sup> to 12<sup>th</sup> class who had attained menarche and were willing to participate were included in the study.

### Exclusion criteria

All girls not willing to participate and those who had not attained menarche were excluded from the study.

The quantitative data were collected and entered in Microsoft Excel sheet and analyzed using SPSS software version 23. Chi-square test and descriptive statistics were used for data analysis.  $p < 0.05$  is considered as significant at appropriate degree of freedom with 5% level of significance. The FGD audio was recorded after seeking permission from the participants. The discussion was transcribed into English and classified in themes while nonverbal cues were recorded by a recorder.

### RESULTS

A total of 216 adolescent girls were recruited in the study, out of which 126 were from rural area and 90 from urban area. Mean age of menarche of rural adolescent girl was 14.5 years, as compared to 12.4 years for urban girls. Table 1 shows the menstrual hygiene practices among rural and urban girls. In the urban area, 100% girls use sanitary napkins as absorbent while in the rural areas 90.5% use sanitary napkins and rest use new/old cloth as absorbent. Mostly in rural areas sanitary napkin from the government supply in schools are used. In rural area 14.3% were not cleaning their external genitalia, 19.8% were using only water, while 65.1% were using soap and water. In the urban areas, all girls were cleaning their external genitalia. Maximum were using soap and water (35.6%) followed by only water (34.4%); while 30% were using antiseptic and water. Maximum girls in the rural area were disposing sanitary napkins by burning it (42.1%). Other girls were throwing it in routine waste (15.9%) and 38.9% were throwing after wrapping in newspaper; while 3.2% were using other methods like burying in soil. In urban area, 84.4% girls were throwing sanitary napkins in regular waste after wrapping in newspaper while 10% were burning it and 5.6% were throwing it in regular waste without wrapping. No other method was used by them to dispose sanitary napkins. Almost all (98.9%) girls in urban area had toilet facility at home with proper water supply. While in rural areas, 54% have no toilet facility. Only 29.4% have toilet facility with proper water supply and 16.7% had toilet facility but no water supply.

Table 2 shows knowledge of adolescent girls about menstruation. In rural area 17.5% had knowledge about menstruation before menarche, others (82.5%) had no idea about menstruation before menarche. In urban area, more than half of the girls had knowledge about menstruation before menarche (57.8%) while 42.2% had no knowledge. Source of this knowledge in both rural and urban area were mothers, followed by sister. In rural area, knowledge about menstruation is given by mother (73.8%), followed by sister (13.5%), teachers (7.1%), and friend (3.2%). Similarly in urban areas 85.6% girls got information about menstruation from their mothers. Sister and friends were source of information for 8.9% and 4.4%, respectively. Teachers' contribution to menstrual knowledge was 0% in urban areas. Almost all girls agreed that menstruation is normal physiological process (92.1% in rural areas and 93.3% in urban area). In rural area 4.8% girls thought it to be a disease. While in urban area no one thought that menstruation is disease but 6.7% felt that it was a curse.

Table 3 shows the educational status of mothers. Most of the mothers in rural area were illiterate (64%). While, in urban area no mother was illiterate and majority of them were graduates (42.2%). There is a significant difference in the educational status of mothers in the rural and urban area ( $p < 0.05$ ) which has a major impact on the knowledge and practice regarding menstrual hygiene among adolescent girls.

### Qualitative results

The results were organized in three major themes; "accessibility and availability of sanitary pads," "beliefs and myths related to menstruation," "problems faced during menstruation."

All girls in the urban areas have easy accessibility of sanitary napkins and are usually given to them by their mothers. In rural area, adolescent girls were dependent on school for sanitary napkins. If sanitary napkins

**Table 1: Menstrual hygiene practices among adolescent girls**

Variables	Rural number (%)	Urban number (%)	p-value
Material used as absorbant during menstruation			
Old cloth	5 (4)	0 (0)	0.011
New cloth	7 (5.6)	0 (0)	
Sanitary napkin	114 (90.5)	90 (100)	
Others	0 (0)	0 (0)	
Material used for cleaning external genitalia			
Only water	25 (19.8)	31 (34.4)	<0.0001
Soap and water	82 (65.1)	32 (35.6)	
Antiseptic and water	1 (0.8)	27 (30)	
None	18 (14.3)	0 (0)	
Method of disposal of sanitary napkins			
Burn IT	53 (42.1)	9 (10)	<0.0001
Throw IT in routine waste	20 (15.9)	5 (5.6)	
Throw IT in routine waste after wrapping it	49 (38.9)	76 (84.4)	
Other method	4 (3.2)	0 (0)	
Toilet facility at home			
Yes with proper water supply	37 (29.4)	89 (98.9)	<0.0001
Yes but with no water supply	21 (16.7)	1 (1.1)	
No	68 (54)	0 (0)	

**Table 2: Knowledge regarding menstruation among adolescent girls**

Variables	Rural number (%)	Urban number (%)	p-value
Knowledge about menstruation before menarche			
Yes	22 (17.5)	52 (57.8)	<0.0001
No	104 (82.5)	38 (42.2)	
Source of information			
Mother	93 (73.8)	77 (85.6)	0.061
Sister	17 (13.5)	8 (8.9)	
Friends	4 (3.2)	4 (4.4)	
Teachers	9 (7.1)	0 (0)	
Multimedia	0 (0)	0 (0)	
Others	3 (2.4)	1 (1.1)	
Perception about menstruation			
It's a physiological process	116 (92.1)	84 (93.3)	<0.0001
It's a disease	6 (4.8)	0 (0)	
It's a curse	0 (0)	6 (6.7)	
Others	4 (3.2)	0 (0)	

**Table 3: Educational status of mothers**

Educational status	Rural number (%)	Urban number (%)
Illiterate	80 (64)	0 (0)
Primary	21 (16.8)	7 (7.7)
Higher primary	11 (8.8)	14 (15.5)
Secondary	4 (3.2)	6 (6.6)
Senior secondary	9 (7.2)	22 (24.4)
Graduate	0 (0)	38 (42.2)
NA	0 (0)	3 (3.3)

$p < 0.01$

are not available in school, they are forced to use old cloth. A girl from rural area said "we cannot buy it, if we get it from school, we use sanitary napkins otherwise we have to use clothes."

Many myths are prevalent both in the urban and rural areas. Some of the common prevalent myths in the rural area are sleeping on floor during menstruation, not touching utensils and pickle jars during menstruation, not going to school and temples. In urban areas also girls said that they are not allowed to visit temple during menstruation, enter the kitchen, and touch pickle jars. One girl said that they have no such restrictions at their home. Although, almost all girls in urban areas attend school during menstruation. One girl said "Due to period cramps I am not able to attend the school" to which all girls agreed that on 1<sup>st</sup> day usually due to cramps they have to miss school. Most of them are not allowed to play outside during menstruation.

All girls in rural area face many problems due to lack of toilet facility in their areas. They have problems in washing and discarding the cloth/sanitary napkins. There is lack of privacy which makes it difficult for them to manage menstruation hygienically. One of the girls quoted "Sometimes I get period stain which makes me very embarrassed and so I miss school during menstruation." Most of them had no idea of menstruation before menarche which made them anxious when they had their first menstruation. One girl in the group knew because of her elder sister.

Girls in the urban area have proper sanitation facilities so they can maintain menstrual hygiene. They were also better prepared because they had knowledge about menstrual cycle before menarche although two girls did not have prior knowledge. The source of knowledge was mostly their mothers or sisters. No information about menstruation is given in school. One girl said "As boys are also present in the class we do not talk about periods and never ask about it."

## DISCUSSION

The use of sanitary napkins both in rural and urban areas was significantly more in our study as compared to other studies conducted where only 15% [5], 54% [6], and 56% [7] were using sanitary napkins, respectively. The difference is because of free supply of sanitary napkins in government schools. The knowledge about menstruation before menarche was high among urban girls (57.8%) than rural girls (17.5%) which may be because the education status of the mother, as they were the source of information for majority of them. Similarly 51.7% had no knowledge about menstruation before menarche according to a study conducted in Puducherry [8]; while 93% had knowledge about menstruation according to study conducted in three states of India [6]. The source of their knowledge was usually mothers. There is considerable scope for schools in imparting knowledge about menstruation and talking about it along with distribution of sanitary napkins. In urban areas, toilet facilities were present for almost everyone as compared to girls in the rural areas which makes difficult for them to maintain proper menstrual hygiene. Females in rural areas still face a problem of proper disposal of sanitary napkins. There are lots of myths related to menstruation in both rural and urban areas such as not going to any religious place, sleeping on floor, not entering the kitchen, and not playing outside. Menstruation is a normal physiological process but

still considered a taboo in the society. It is difficult to talk about it freely and without shame. Efforts have been made to break the silence but we still need to go a long way.

## Limitations of the study

More participants could have been included in the study. Only girls who were attending schools were included in the study. School drop outs or girls who never attended school were not included in the study.

## CONCLUSION

Free availability of sanitary napkins in school makes it easy for girls to use it, but the lack of water and toilet facility makes it difficult and embarrassing. Cultural, religious, and traditional beliefs lead to a range of restrictions being placed on girls during their menstrual period. The current need for good menstrual hygiene management is free supply of sanitary napkins, access to water and toilet facility, increased awareness, and facility for disposal of sanitary napkins.

## CONFLICT OF INTEREST

None declared.

## FUNDING

No funding sources.

## REFERENCES

1. Menstrual Hygiene Matters. WASH Matters. 2022. Available from: <https://washmatters.wateraid.org/publications/menstrual-hygiene-matters>
2. Ccras. 2022. Available from: <https://www.nic.in>
3. Unicef.org. 2022. Available from: <https://www.unicef.org/media/91346/file/UNICEF-Guide-menstrual-hygiene-materials-2019.pdf>
4. Sinha RN, Paul B. Menstrual hygiene management in India: The concerns. *Indian J Public Health* 2018;62:71-4. doi: 10.4103/ijph.IJPH\_135\_18, PMID 29923527
5. Anand E, Singh J, Unisa S. Menstrual hygiene practices and its association with reproductive tract infections and abnormal vaginal discharge among women in India. *Sex Reprod Healthc* 2015;6:249-54. doi: 10.1016/j.srhc.2015.06.001, PMID 26614609
6. Sivakami M, van Eijk AM, Thakur H, Kakade N, Patil C, Shinde S, *et al.* Effect of menstruation on girls and their schooling, and facilitators of menstrual hygiene management in schools: Surveys in government schools in three states in India, 2015. *J Glob Health* 2019;9:010408. doi: 10.7189/jogh.09.010408, PMID 30546869, PMCID PMC6286883
7. Yadav RN, Joshi S, Poudel R, Pandeya P. Knowledge, attitude, and practice on menstrual hygiene management among school adolescents. *J Nepal Health Res Counc* 2018;15:212-6. doi: 10.3126/jnhrc.v15i3.18842, PMID 29353891
8. Mathiyalagen P, Peramasamy B, Vasudevan K, Basu M, Cherian J, Sundar B. A descriptive cross-sectional study on menstrual hygiene and perceived reproductive morbidity among adolescent girls in a union territory, India. *J Fam Med Prim Care* 2017;6:360-5. doi: 10.4103/2249-4863.220031, PMID 29302548