

## Importance of Provision of Water Sanitation and Hygiene (WASH) Necessities to Adolescent Girls during Menstruation

Palkin Bhatia<sup>1</sup>, Archana Chaudhary<sup>2</sup>, Suresh Kumari Pundir<sup>3</sup>, Bhupinder Kaur Anand<sup>4\*</sup>,  
Manvinder Pal Singh Marwah<sup>5</sup>, Swamy HM<sup>6</sup>

<sup>1</sup> MBBS 3rd Year (Part-2) Student, Faculty of Medicine and Health Sciences, SGT University, Gurugram, Haryana, India

<sup>2</sup> Associate Professor, Department of Environmental Sciences, SGT University, Gurugram, Haryana, India

<sup>3</sup> Assistant Professor, Department of Anatomy, Al-Falah School of Medical Science & Research Centre, Dhauj, Faridabad, Haryana, India

<sup>4</sup> Professor and Head, Department of Community Medicine, Al-Falah School of Medical Science & Research Centre, Dhauj, Faridabad, Haryana, India

<sup>5</sup> Senior Medical Officer & Senior Advisor (Aerospace Med), Air Force Station Chandigarh, India

<sup>6</sup> PhD Agricultural Economics, ICAR- NIVEDI, CCH HAU Hisar, Haryana, India

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### Abstract

**Background:** Water sanitation and hygiene (WASH) is an important component of Menstrual Hygiene Management (MHM) and is one of the basic necessities as mentioned in the definition of MHM given by World Health Organization (WHO). Unfortunately, many girls throughout the world are facing the dearth of even the most basic things such as toilets including girls in India. WASH facilities are an essential part of MHM at home as well as school. This cross-sectional study focuses on assessing the various Menstrual Hygiene Management (MHM) practices adopted by girls; availability of basic necessities like Water sanitation and hygiene (WASH) facilities at school and home; accessibility towards safe and clean sanitary product amongst menstruating as well as non-menstruating school going adolescent girls. **Material & Methods:** The adolescent girls being the respondents wrote the answered the framed questions on the questionnaires which were given to them after obtaining written informed consent. The data analysis was done using SPSS 21.0 software and Chi-squared test and at some places Fisher exact test have been applied. **Results:** Since 91 out of 115 responded, data analysis has been done accordingly for this number of girls. The mean age of girls is 13.75  $\pm$  1.62 years but the age group was 10 — 17 years and majority of girls attained menarche in 13- 14 years of age. 57(80%) menstruating girls used pads as the sanitary product ; almost all had toilets and water at schools and home but many (45%) did not have soaps at school ; 87.5% girls had the required privacy. MHM measures adopted by girls were satisfactory as 98.4% menstruating girls took bath daily during periods, 84.3% cleansed external genitalia once daily, and 93.7% changed their undergarments daily. **Conclusion:** The study reveals a strong correlation of present ages of girls with the knowledge regarding cleansing of genitalia; correlation of attending of schools with number of times sanitary product is changed; correlation of things used as sanitary product with taking bath daily and with cleansing of external genitalia.

**Keywords:** Adolescent Girls, Water, Sanitation and Hygiene (WASH), Menstrual Hygiene Management (MHM).

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### Background

Every month millions of adolescent girls around the world face a miserable cycle of pain, discomfort, shame, anxiety, and isolation when their menstrual period arrives.[1] The pain caused due to menstruation may not be as disturbing as it is for her to survive in a restrictive manner, facing taboos and myths, not abling to accomplish her goals and duties, receiving a refrained behavior of others towards her, lack of privacy and the required materialistic necessities during this period.

The increasing number of infections like UTI (Urinary Tract Infections), RTI (Reproductive Tract Infections), PID (Pelvic Inflammatory Diseases), CA Cervix and CA Vagina, anemic females and the lack of nutrition during menses out of taboo practicing, all have brought the attention of various health associations and ministries round the world and India and led to the making of various schemes and programs.

It was realized out of humane that menstruation is a natural phenomenon and menstrual hygiene is fundamental to the dignity and wellbeing of women and girls and an important part of the basic hygiene, sanitation and reproductive health services to which every woman and girl has a right. This led to the inclusion of Menstrual Hygiene Management (MHM) in the various national and international schemes and programs.

The statement which basically defines MHM:

“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

\*Correspondence

Dr. Bhupinder Kaur Anand

Professor and Head, Department of Community Medicine, Al-Falah School of Medical Science & Research Centre, Dhauj, Faridabad, Haryana, India.

E-mail: [drbhupinder07@gmail.com](mailto:drbhupinder07@gmail.com)

required, and having access to safe and convenient facilities to dispose of used menstrual management materials".[2]

The girls have the necessary knowledge of sanitary material, but it can be said that out of negligence or carelessness they compromise with health and do not properly practice the MHM. They still use rags instead of buying sanitary napkins, not changing the absorbent material at appropriate time, no bathing at the time of menses and last but not the least no proper disposal of the used sanitary material in the eco-friendly manner.

Water sanitation and hygiene (WASH) is an essential part of MHM. In India, there are nearly 63 million adolescent girls who are living in homes without toilets, appropriate facilities and community support to manage their menstruation privately and in a safe and dignified manner. A recent survey revealed that in 14,724 government schools only 53% had a separate and usable girls' toilet. According to a report by Water Aid, titled "Out Of Order; The State of the Worlds Toilets 2017", 355 million women and girls lack access to a toilet in India.[3] Menstruation though a natural phenomenon holds many stigmas in relation to it throughout the world including India. But not paying due attention towards this issue won't solve this problem and would be considered as a violation of several human rights. Keeping this in mind many reverent associations like World Health Organization (WHO) and UNICEF round the world and Ministry of India have worked for the above cause and launched many schemes. Still Menstrual Hygiene Management (MHM) has been under-researched by the Water sanitation and hygiene (WASH), health and education sectors [4]. There is a need to gather more information on MHM via researches to increase the knowledge and awareness regarding this topic, improve WASH in schools, assess the level of restrictions associated with menstruation, to improve disposal methods and last but not the least to create more equal, safe and healthy environments for our future women community.

Menstrual hygiene is of utmost importance which can prevent various infections amongst girls. Appropriate MHM is lacking in most parts of India and world but is improving since the availability of durable and hygienic sanitary product like pads is increasing.[3-6]

WASH facilities are an essential part of MHM at home as well as school. Clean separate washrooms with available soap, water and privacy are a must during menstruation. Though the provision of these

facilities at schools and at homes has improved with time but this needs to be widespread. [3,4,7] This is an under searched topic and needs to be improved since it can fairly reduce school dropout rates.

### Materials and methods

A cross sectional study was undertaken among 115 school going adolescent girls in one government and two private co-educational schools of village Khera Khurumpur which comes under the field practice area of SGT Medical College, Gurugram.

The study was conducted after obtaining ethical clearance from the Institutional Ethical Committee of SGT Medical College, Gurugram. The study took two months from July to August 2019 for data collection, analysis and report making.

The schoolgirls were introduced to the topic of MHM and were thoroughly explained about the purpose and pattern of this study and how this report will help Menstrual Hygiene Management (MHM) in India to become better. The girls were also given patient information sheet to understand the purposes, harms and objectives of this study. A pre-tested, pre-designed and structured questionnaire which was distributed amongst the adolescent girls after obtaining their written informed consent which included questions related to the topics concerning awareness about menstruation, the sources of information regarding menstruation, the hygienic practices during menstruation, the restricted activities observed during menstruation and methods of disposal. Each and every question was explained to the girls and asked to write the response to each question mentioned in the questionnaire. The girls were acknowledged with the importance of adopting healthy MHM measures and school authorities were also sensitized regarding the provision of appropriate water sanitation and hygiene (WASH) facilities to girls.

The completed questionnaires were compiled accordingly out of which 24 girls did not respond. The data was entered into Microsoft excel and analyzed using SPSS statistics version 21.0 software. Categorical data was expressed in proportion and percentages, quantitative data was expressed in mean and standard deviation.

The Chi-square test has been used to evaluate whether there is an association between the rows and columns (Categorical Variables) in a contingency table.

### Results

The study was conducted among 115 school going adolescent girls from government and private schools of village Khera Khurumpur, district Gurugram. Only 91(79%) responded and considered.

Table — 1 shows that the demographic characteristics of girls and their parents. The mean age of girls is  $13.75 \pm 1.62$  years but the age group was 10 — 17 years. All the girls belonged to Hindu religion.

Majority of fathers are skilled workers and mothers are homemakers. Maximum qualification of both fathers and mothers has come out to be higher secondary.

57(80%) menstruating girls used pads as the sanitary product and majority changed their sanitary product twice a day. 98.4% menstruating girls took bath daily during periods. 84.3% girls cleansed their genitalia once daily and 93.7% changed their undergarments daily.

Though all the girls had toilets at their schools and homes and had soap and water at homes but 45% had only water and no soap at school.

95.3% of the menstruating girls attended school daily during periods.

The table 5 shows a strong correlation of present ages of girls with cleansing of genitalia and no. of times sanitary product is changed.

The table 6 shows a strong correlation of attending of schools with number of times sanitary product is changed and things used as sanitary product.

The table 7 shows a strong correlation of things used as sanitary product with disposal of sanitary product, with taking bath daily and with cleansing of external genitalia.

Table 1: Demographic Profile of the respondents (n=91)

Demographic Characteristics	Frequency (%)
<b>1. Present age in years</b>	
10-11	3 (3.30)
12-13	44 (48.35)
14-15	28 (30.77)
16-17	16 (17.58)
Total	91 (100.00)
<b>2. Educational qualification of Father</b>	
Illiterate	4 (4.40)
Primary (1 <sup>st</sup> to 5 <sup>th</sup> )	6 (6.59)
Middle (6 <sup>th</sup> to 8 <sup>th</sup> )	9 (9.89)
Secondary (9 <sup>th</sup> to 10 <sup>th</sup> )	25 (27.47)
Higher secondary (11 <sup>th</sup> to 12 <sup>th</sup> )	37 (40.66)
Graduate	9 (9.89)
Post graduate	1 (1.10)
Total	91 (100.00)
<b>3. Educational qualification of Mother</b>	
Illiterate	5 (5.49)
Primary (1 <sup>st</sup> to 5 <sup>th</sup> )	11 (12.09)
Middle (6 <sup>th</sup> to 8 <sup>th</sup> )	14 (15.38)
Secondary (9 <sup>th</sup> to 10 <sup>th</sup> )	26 (28.57)
Higher secondary (11 <sup>th</sup> to 12 <sup>th</sup> )	31 (34.07)
Graduate	4 (4.40)
Post graduate	0 (0.00)
Total	91 (100.00)

Note: Parenthesis (%) indicates percentage share

Table 2: Menstrual Hygiene Management (MHM) measures adopted by the menstruating girls. (n=64)

Menstrual Hygiene Measures observed amongst the menstruating adolescent girls	
<b>1. Things used as sanitary product</b>	<b>Frequency (%)</b>
Pad	57 (89.06)
Both pad and cloth	7 (10.94)
Total	64 (100.00)
<b>2. No. of times sanitary product is changed</b>	
Once	8 (12.50)
Twice	26 (40.63)
Thrice	17 (26.56)
Four times	12 (18.75)
Five times	1 (1.56)
Total	64 (100.00)
<b>3. Bathing on daily basis</b>	
Yes	63 (98.44)
No	1 (1.56)
Total	64 (100.00)
<b>4. Cleansing of external genitalia</b>	
Yes	54 (84.38)
No	10 (15.63)
Total	64 (100.00)
<b>5. Changing of Undergarments on daily basis</b>	
Yes	60 (93.75)
No	4 (6.25)
Total	64 (100.00)

Note: Parenthesis (%) indicates percentage share

Table 3: Provision of WASH facilities to the girls in both schools and homes.

WASH Facilities	Place	Yes	No
<b>1. TOILETS</b>	(i) At Home	91	0
	(ii) At School	91	0
<b>2. SOAP and WATER</b>	(i) At Home	91	0
	(ii) At School	50 (55%)	41 (45%)

Note: Parenthesis (%) indicates percentage share

Table 4: Number of girls attending school during periods (n=64)

Response	Frequency (%)
Yes	61 (95.3)
No	3 (4.69)
Total	64 (100.00)

Note: Parenthesis (%) indicates percentage share

Table 5: Correlation between age of girls and WASH parameters

Parameters	Response	Present Age				Total	Statistical values
		10 - 11	12 -13	14 -15	16 -17		
Number of times sanitary product is changed (n=64)	Once	0 (0.00)	2 (3.13)	5 (7.81)	1 (1.56)	8 (12.50)	p = 0.083
	Twice	0 (0.00)	13 (20.0)	8 (12.50)	5 (7.81)	26 (40.63)	
	Thrice	0 (0.00)	3 (4.69)	10 (15.6)	4 (6.25)	17 (26.5)	
	Four times	0 (0.00)	4 (6.25)	2 (3.13)	6 (9.38)	12 (18.75)	
	Five times	0 (0.00)	1 (1.56)	0 (0.00)	0 (0.00)	1 (1.56)	
Cleansing of external genitalia (n=64)	Yes	0 (0.00)	14 (21.8)	24 (37.5)	16 (25)	54 (84.37)	p < 0.05 (significant)
	No	0 (0.00)	9 (17.06)	1 (1.56)	0 (0.00)	10 (15.62)	

Note: Parenthesis (%) indicates percentage share

Table 6: Correlation between school attendance during periods and WASH parameters

Parameters answered only by menstruating females	Responses	Attending of school during periods		Statistical values
		Yes	No	
Things used as sanitary product	Pad	54 (84.38)	3 (4.69)	p = 1.00
	Both pad and cloth	7 (10.94)	0 (0.00)	
Number of times sanitary product is used	Once	8 (12.50)	0 (0.00)	p < 0.05 (highly significant)
	Twice	25 (39.06)	1 (1.56)	
	Thrice	17 (26.56)	0 (0.00)	
	Four times	11 (17.19)	1 (1.56)	
	Five times	0 (0.00)	1 (1.56)	

Note: Parenthesis(%) indicates percentage share

Table 7: Correlation between type of sanitary product and WASH parameters

Parameters	Responses	Things used as sanitary product			Statistical values
		Not using anything	Pad	Both pad and cloth	
Bathing on daily basis	Yes	0 (0.00)	56 (61.54)	7 (7.69)	p < 0.05 (highly significant)
	No	0 (0.00)	1 (1.10)	0 (0.00)	
	Non menstruating	27 (29.67)	0 (0.00)	0 (0.00)	
Cleansing of external genitalia	Yes	0 (0.00)	48 (52.75)	6 (6.59)	p < 0.05 (highly significant)
	No	0 (0.00)	9 (9.89)	1 (1.10)	
	Non menstruating	27 (29.67)	0 (0.000)	0 (0.00)	

Note: Parenthesis(%) indicates percentage share

## Discussion and conclusion

The present cross-sectional study on Menstrual Hygiene Management (MHM) was conducted in the field practice area of SGT University, Gurugram including girls from both private and government schools of village Khera Khurumpur. The mean age was found to be 12-13 years, it is consistent with the findings of other studies.[7]

This study reveals that majority of the menstruating girls bath daily during menstruation. Similar findings are reported by other studies.[7-9] This shows that menstrual hygiene is adequate in the research area and that no bathing during menstruation is no more considered a taboo.

Majority (84.3%) of menstruating girls in this study cleansed external genitalia once daily during menstruation. These findings were similar to other studies [3,7,9] and highly contrasting with [5] where only 15% cleansed daily. Maybe these regional variations are there because of variation in the levels of knowledge regarding MHM.

It has been observed in the present study that majority (89%) of the menstruating girls used pads and rest 11% used both cloth and pad. These findings were coherent with some other studies. [7,3,8,9] This may be due to improving of socio-economic background as well as

the easy availability of pads these days. Some studies also reported contrasting findings where majority used cloth or cotton.[5,6] This can be due to the lack of good socio-economic status of the families or lack of resources.

Many of the menstruating girls in this study changed their sanitary product two times a day and very less changed five to six times a day. Similar findings were reported by other studies [3,9] and some reported contrastingly.[4] This must be depending on the sanitary product being used and its durability.

It was observed in the present study that all the girls had toilets, water and soap at their home and all schools had toilets and water but 45% had no soap. The findings nearly approximated with the other studies.[4,6,7] This is the major point which contributes to the school dropout rate which is fortunately very low in the present study since 95.3% of the menstruating girls attended school regularly during periods which maybe because of the adequate provision of the above water sanitation and hygiene (WASH) facilities as well as using of an appropriate and durable sanitary product.

Water and sanitation (WASH) facilities are though satisfactory but provision of soap at some schools is absent. Gleefully the

menstruating girls attend school regularly which is not affecting their education and learning. Also, Menstrual Hygiene Management (MHM) measures amongst the adolescent girls are acceptable.

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