

A Study on Menstrual Hygiene and Practices Among Adolescent Girls in Urban Area

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Abstract: Background: Good menstrual hygiene is crucial for health, education and dignity of adolescent girls. The objective of this study was to assess the awareness and practice regarding menstrual hygiene among adolescent girls.

Materials and Method: Cross sectional study done for a period of 3 months at Sree Balaji Medical College, Chennai among 250 adolescent girls. **Results:** Among 73.2% were between 12-14 years of age. 95.2% used sanitary napkins during menstruation. There was significant association between ($p=0.031$) mothers education and menstrual hygiene practices, There was no correlation($p=0.371$) between Knowledge and practice scores, There was significant association between cultural restrictions and health problem during menstruation, There was significant association ($p<0.001$) between pad changing and health problem during mensuration. **Conclusion:** Majority of respondents had adequate knowledge and adequate practice on menstrual hygiene.

Key words: Menstrual hygiene, Knowledge, Practice, Adolescent girls

INTRODUCTION

A natural biological process, menstruation is frequently seen as a transitional stage between adolescent and motherhood [1, 2, 3, 4]. Millions of teenage girls around the world are yet denied the opportunity to manage their menstrual cycle in a respectable and healthful way [2]. The United Nations International Children's Emergency Fund (UNICEF) and the World Health Organisation (WHO) have given Menstrual Hygiene Management (MHM) special attention in order to promote a healthy and respectable menstrual cycle [1, 2, 5].

Teenage women frequently lack Menstrual Hygiene Management experience [6,7,8]. Due to social restrictions on talking about these topics, they don't know enough about their bodies, particularly the reproductive system and how it functions [6]. Additionally, they don't have the extra cash to purchase sanitary menstruation supplies [9]. Their physical, mental, and emotional well-being, as well as their social growth and school achievement, may suffer significantly if they are unable to maintain proper menstrual hygiene [2]. As a result, governments in low- and middle-income nations, such as India, have serious public health concerns about managing teenage women's menstrual health and cleanliness [5, 10].

A lack of understanding regarding the scientific process of menstruation has led to a number of psychological and religious barriers surrounding menstruation. Many females who live in slum regions don't know what the menstrual cycle entails. Despite being a normal occurrence, menstruation is associated with a number of cultural beliefs and customs that can occasionally have a negative impact on one's health.[11]

Menstrual hygiene is an unavoidable aspect of a woman's life. Menstruation's physiology, pathology, and psychology have all been linked to women's health and well-being; as a result, it is a significant topic when it comes to the morbidity and mortality rate among women.[12] A woman is thought to be particularly susceptible to acquiring numerous sexually transmitted infections, urinary tract infections, reproductive tract infections and skin infections at this time. The unique medical needs and demands of women during their monthly periods or menstrual cycles are addressed by menstrual hygiene.[13] Increased awareness of menstruation from an early age may therefore promote safe behaviours and lessen the agony endured by millions of women.[11]

In healthcare, managing menstrual hygiene need to be a top priority. "Women and adolescent girls using a clean menstrual management material to absorb blood that can be changed in privacy as often as necessary for the duration of the menstruation period, using soap and water for washing the body as required, and having access to facilities to dispose of used menstrual management materials" is how the UN defines adequate menstrual hygiene management.[14] Girls and women encounter significant obstacles in attaining proper menstruation control, especially in developing nations.[15]

Mothers have a beneficial effect and have a big influence on kids' minds. However, the topic of menstruation hygiene is rarely covered in the curriculum. The Millennium Development Goals also mention it. Therefore, it is crucial to research existing habits regarding menstrual hygiene in order to design future treatments appropriately and to comprehend the significance and repercussions of such practices among adolescent girls.[16]

This study is done to evaluate menstrual hygiene and practices among adolescent girls in urban area.

METHODOLOGY

This is a cross sectional study study in Urban area of Sree Balaji Medical college Medical College for the period of 3 months among 250 adolescent girls.

Sample size

N=250

$Z_{1-\alpha/2}=1.96$: This corresponds to a significance level $\alpha=0.05$

$Z_{1-\beta}$: This corresponds to a power of 80%

$\rho=0.05$: A typical low intraclass correlation coefficient.

σ^2 : Assuming the variance of the outcome measure is 1.

$d=0.5$: A medium effect size.

m: Assuming 5 clusters.

Inclusion criteria

Adolescent girls who had attained menarche attending adolescent clinic.

Age between 11-19 years

Exclusion criteria

Adolescent girls who had not attained menarche

Data collection

Data was collected with the help of pre-designed, semi-structured, closed ended questionnaire by a face-face interview. Questionnaire includes information regarding menstruation, hygiene practices during menstruation and restrictions practiced. At the end of the study health education regarding menstruation and healthy practices were imparted to the study participants through lectures, one to one interaction done wherever it is needed and their queries were answered.

Statistical analysis

Data entry was done using Microsoft Excel and SPSS version 25.0 is used for analysis.

Ethical issue

Ethical approval is obtained from the institutional review board (IRB) to ensure compliance with ethical guidelines and safeguard participants' rights. Informed consent was obtained from all participants, emphasising the voluntary nature of their participation and the right to withdraw at any stage without repercussions. Confidentiality measures was implemented to protect participants' privacy, and all data were anonymized during analysis and reporting.

RESULTS

Table 1 shows, 73.2% of study participants in this study were between 12- 14 years of age and the remaining between 15- 17 years, and 90% of the study participants were Hindus. Most of the participants were students of 10th grade. (83.2%). About 96% of study participants mothers were literates, and Majority (56%) had secondary school education. 68.8% of the participants had elder sister. Table 2 shows that 96% of the participants attended school during menstruation. An 91% of them had health problems. While 68% experienced back pain, 76.9% experienced low back ache and 3.1% experienced fainting attacks. Most common complication of poor menstrual hygiene was foul smell in 62%, back ache in 35% and vulval itch in 54.4%. about 95.2% used sanitary pads during menstruation. About 90.8% know about

correct meaning of menstruation and 80.8% knew that the age of menarche is 11-14 years. About 90% knew the normal flow of menstruation is between 3-7 days and normal cycle is between 21- 35 days among 84% of the participants.

About 98% were aware to maintain hygiene to avoid discomfort and 86.8% wrapped the pads and disposed them. 93.6% knew that if the hygiene is not maintained it leads to infection, bad odour and discomfort. 80.8% said they used water and soap to clean private parts.

Table 3 shows that 62% of the participants had foul smelling discharge. 35.6% had back pain and 11.6% had burning micturition as complication. . About 66% of them changed pads every 3-4 hours. And cleaned > 2times a day In 80.8%. 80.4% practiced washing the vulva front to back. The participants practiced washing hands before changing pad among 91.2%, after changing in 99. 2%, soap was used among 98.8% while 49.2% took bath during menstruation.

This study shows, 83.6% had adequate knowledge about menstruation and 86% had good practices.

It was noted that there was significant association between mothers education level of practices in this study. It was noted that 52% had adequate knowledge about menstrual hygiene while 61.2% had good practices. This study shows that there is a significant association ($p=0.013$) for cultural restrictions and health problems during mensuration. And also association between frequency of pad changing and health problems during menstruation in this study. ($p<0.001$).

DISCUSSION

Adolescent women's educational attainment was one of the most important indicators of their exclusive usage of sanitary practices. Higher educated teenage women were more likely to use sanitary practices than uneducated women [17]. Education gives women more financial freedom, the ability to make their own decisions, a better understanding of the advantages of hygienic habits, and an awareness of the dangers of unsanitary menstrual practices [18]. This result is consistent with earlier studies on this topic [19,20]. The exclusive use of sanitary practices by adolescent women in rural India was also found to be predicted by religion. Compared to Hindu teenage women, Muslim adolescent women used it less exclusively. The same conclusion has been reached by numerous earlier investigations on this topic [5, 21, 22,23,24].

In this study, 90% of the study participants were Hindu, and 73.2% of the participants were between the ages of 12 and 14 with the remaining participants being between the ages of 15 and 17. The majority of the participants were tenth graders. (83.2%). The majority (56%) of moms who participated in the survey had completed secondary school, and almost 96% of them were literate. 96% of the participants went to school while they were menstruating, according to Table 2.

In India, whether or not teenage girls exclusively followed hygienic practices was also influenced by household wealth, which is a stand-in for the family's income. The exclusive use of sanitary practices by women rose along with household prosperity. This result is in line with past research that has demonstrated that wealthy women are more likely to exclusively utilise hygienic practices than their less fortunate counterparts [25, 26, 27]. In numerous earlier research, poverty has also been linked to unhygienic menstruation practices [25, 27]. In India, a pack of ten sanitary napkins now costs between 30 and 40 Indian rupees (0.39 and 0.52 USD), which is quite costly and out of reach for the majority of rural households [28]. One of the reasons impoverished women may turn to unhygienic measures is because they cannot afford them.

The most frequent side effects of inadequate menstrual hygiene were vulval itching (54.4%), back pain (35%), and foul odour (62%). 95.2% of women used sanitary pads when they were menstruating. Approximately 90.8% of people are aware of the proper meaning of menstruation, and 80.8% are aware that menarche occurs between the ages of 11 and 14. About 90% of participants were aware that a typical menstrual cycle lasts between 21 and 35 days, and a normal menstrual flow lasts between 3 and 7 days.

Mass media helps disseminate appropriate information about innovations to the masses and helps it diffuse and spread [5, 26]. It appears to be true with regard to menstrual hygiene practices as well. Mothers aside, mass media are often the primary sources of information about menstrual hygiene among

adolescent girls. It broadens their knowledge of the variety of low-cost, subsidized, or free menstrual hygiene methods available and the health advantages of using them [5, 27].

The prevalence of exclusive use of hygienic methods during menstruation varied greatly across India's regions, states and districts. Adolescent women of southern and western regions were more likely to use hygienic methods exclusively than the country's eastern and central regions. These results are consistent with prior research on the subject [16, 26, 27]. One probable explanation for the higher rates of hygienic practices in the southern region is the availability of toilet facilities and separate enclosed spaces for disposing of sanitary napkins in the schoolyard, as found in previous studies [23, 26]. Furthermore, most southern states have a highly functional public healthcare system that has adopted numerous measures, including subsidized sanitary napkin distribution projects, to enhance women's menstrual health [27].

In our study, 91% had health issues. 3.1% of people had fainting episodes, 76.9% had low back discomfort, and 68% had back pain. According to Table 3, 62% of individuals had discharge that smelt bad. 11.6% experienced burning micturition as a consequence, while 35.6% experienced back pain. In this study, it was found that mothers' educational attainment and their practices were significantly correlated. In this study, it was shown that 61.2% of participants had good practices and 52% had sufficient awareness regarding menstrual hygiene.

Various free or subsidised sanitary napkin distribution programs have been put in place by the state governments of Tamil Nadu, Kerala, Karnataka, Andhra Pradesh, and Telangana. Through a program named Pudhu Yugam (New Era), the Tamil Nadu government started giving away 20 free sanitary napkins to teenage girls living in rural areas of the state in 2011 [29]. Furthermore, in certain regions of these states, schools have installed sanitary napkin selling machines in partnership with neighbourhood non-governmental organisations (NGOs), which provide locally made napkins at a discounted rate [19]. The Karnataka state government recently introduced the Shuchi scheme to guarantee that girls aged 10 to 19 always have access to sanitary goods [30]. Likewise, the Andhra Pradesh state government has chosen to provide 10 sanitary pads [31].

Unsanitary environmental conditions were noted in a rural community-based investigation. The main causes of inadequate environmental sanitation are ignorance, poverty, and illiteracy. Negative health effects are also a result of unsanitary surroundings. A shortage of water has a significant impact on cleanliness. Girls who use public restrooms are most likely to have privacy concerns. As a result, these females' disregard for hygiene is perceived as a way to save face. It was discovered that girls who used private restrooms were more hygienic than those who used public restrooms in a study by Yasmin et al. [3].

Approximately 66% of them switched pads every three to four hours. Additionally, they cleaned twice a day. 80.8% of them did 2-3 times a day. Washing the vulva from front to back was practiced by 80.4%. 91.2% of the subjects performed hand cleaning prior to changing their pads, 99.2% did so after changing, 98.8% used soap, and 49.2% took a bath during their periods.

According to this study, 86% had good practices and 83.6% knew enough about menstruation.

In this study it was noted that there was significant association between mothers education level of practices in this study. It was noted that 52% had adequate knowledge about menstrual hygiene while 61.2% had good practices. This study shows that there is a significant association ($p=0.013$) for cultural restrictions and health problems during ,menstruation. And also association between frequency of pad changing and health problems during menstruation in this study. ($p<0.001$).

CONCLUSION

It is crucial to maintain good menstrual hygiene. It is well recognised that a number of factors influence menstruation habits. Educating people about the importance of menstrual health information is important. In order to address and facilitate access to good menstruation habits, a method must be designed.

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Tables:

Table 1: Respondents socio-demographic characteristics n=250

Variables	Frequency (n) n = 250	Percentage (%)
Age (in completed years)		
12-14 years	183	73.2
15-17 years	5	2
Religion		
Hindu	225	90
Non-hindu	25	10
Grade		
9th	42	16.8
10th	208	83.2
Family type		
Nuclear	198	79.2
Joint	52	20.8
Elder sister		
Present	78	31.2
Not present	172	68.8
Mother's educational status		
Literate	221	88.4
Illiterate	29	11.6
Educational level of mother (n=240)		
Basic	48	19.2
Secondary	140	56
Bachelor	50	20
Master	12	4.8
Mother's occupation		
Housewife	155	62
Working women	95	38
Monthly family income		
Enough for a month	127	50.8
Extra savings	123	49.2

Table 2: Respondents information regarding menstruation and menstrual hygiene

Variables	Frequency (n)	Percentage (%)
Age (in completed years)		
12-14 years	123	49.2
15-17 years	127	50.8
Attend School during menstruation		
Yes	240	96

No	10	4
Cultural Restriction during menstruation		
Yes	138	55.2
No	112	44.8
Health problem during menstruation		
Yes	225	90
No	25	10
Type of health problem (n=225)		
Backache	153	68
Lower abdominal pain	173	76.9
Leg cramps	37	16.4
Fainting attacks	7	3.1
Nausea	22	9.8
Vomiting	15	6.7
Complications of poor menstrual hygiene		
Foul smelling discharge	155	62
Back pain	89	35.6
Burning micturition	29	11.6
Vulva itching	136	54.4
Type of pad used		
Sanitary pad	238	95.2
Sanitary pad and cloth pad	12	4.8

Table 3: Respondents knowledge regarding menstruation and menstrual hygiene

Variables	Frequency	
	n	%
Correct meaning of menstruation		
a. A natural process where the body sheds the uterine lining	227	90.8
b. A way for the body to remove waste	13	5.2
c. A disease that needs treatment	10	4
Normal age of menarche		
a. 8-10 years	27	10.8
b. 11-14 years	202	80.8
c. 15-18 years	21	8.4
Normal flow days in menstruation		
a. 1-2 days	20	8

b. 3-7 dyas	225	90
c. More than 10 days	5	2
Normal menstrual cycle usually last		
a. 15-20 days	25	10
b. 21-35 days	210	84
c. More than 40 days	15	6
Which of the following is reusable?		
a. Disposable Pads	19	7.6
b. Tampons	27	10.8
c. Menstrual cups	185	74
d. None of the above	19	7.6
Importance of maintaining menstrual hygiene		
a. To prevent infections and discomfort	245	98
b. To stop periods from happening	6	2.4
c. To Avoid bad luck	5	2
Correct way to dispose of used sanitary pads		
a. Flush them down the toilet	28	11.2
b. Wrap them and throw them in a bin	217	86.8
c. Lean them in open air	5	2
What can happen if menstrual hygiene is not maintained properly?		
a. It can cause infections, bad odor, and discomfort	234	93.6
b. It will make periods stop	8	3.2
c. It does not affect health	8	3.2
Which of the following is the best way to clean the genital area during menstruation?		
a. Only with water	18	7.2
b. With water and mild soap (Correct)	217	86.8
c. By not washing at all	15	6

Table 4: Respondents practice regarding menstruation and menstrual hygiene

Variables	Frequency (n=250)	
	n	%
How frequently you change a pad?		
a. Every 3-4 hours	165	66
b. Every 5-6 hours	50	20
c. Only when it feels full	35	14
Should sanitary pads be stored separately?		
a. Yes	248	99.2
b. No	2	0.8
Is it necessary to wash genitalia between pad changes?		
a. Yes	246	98.4
b. No	4	1.6
How many times should you clean genitalia daily during menstruation?		
a. Once	22	8.8
b. More than 2 times	202	80.8

c. Only when bathing	26	10.4
Correct way to clean genitalia?		0
a. From back to front	45	18
b. From front to back	201	80.4
c. Any direction	4	1.6
Should you wash hands before changing a pad?		
a. Yes	228	91.2
b. No	22	8.8
Should you wash hands after changing a pad?		
a. Yes	248	99.2
b. No	2	0.8
Should soap be used for hand washing during menstruation?		
a. Yes	247	98.8
b. No	3	1.2
Take bath daily during menstruation		
a. Yes	123	49.2
b. No	127	50.8
Do you discuss your period and menstrual hygiene with anyone		
a. Yes, openly	95	38
b. Sometimes	120	48
c. No, I feel embarrassed/Uncomfortables	35	14

Table 5: Respondents level of knowledge and practice on menstrual hygiene

Variables	Frequency (n = 250)	Percentage (%)
Level of knowledge		
Adequate knowledge	209	83.6
Inadequate knowledge	41	16.4
Level of practice		
Good practice	215	86
Poor practice	35	14

Table 6: Association between level of practice and mothers education

Mother's Education Status	Level of Practice		p-value
	Good n (%) N=215	Poor n (%) N=35	
Literate	193 (87.3)	28 (12.7)	0.041
Illiterate	22 (75.9)	7 (24.1)	

Table 7: Correlation between knowledge score and practice score

Variables	Correlation (r)	p-value
Knowledge score Vs Practice score	0.090	0.372

Table 8: Association between Cultural Restrictions and Health Problems during Menstruation

Cultural Restriction	Health Problem		p-value
	Present n (%)	Absent n (%)	
Yes	130 (94.2%)	8 (5.8%)	0.013
No	95 (84.8%)	17 (15.2%)	

Table 9: Association between Pad Change Frequency and Health Problems during Menstruation

Pad Change Frequency	Health Problem		p-value
	Present n (%)	Absent n (%)	
Every 3-4 hours	90 (54.5)	75 (45.5)	<0.001
Less frequent	65 (76.5)	20 (23.5)	