Original Research Article

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A cross-sectional study on menstrual hygiene practices among school going adolescent girls (10-19 years) of Government Girls Inter College, Saifai, Etawah

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ABSTRACT

Background: Menstrual hygiene is a key concern of adolescent health. Females spend around six to seven years of their lives menstruating. Still the menstrual hygiene management (MHM) is mostly neglected. Menstrual hygiene is a taboo; even females are uncomfortable discussing and educating their daughters about this topic. To understand the problem faced by females during menstruation specially in their adolescent age this study was conducted. This study was done to find out knowledge about menstrual hygiene, to study hygiene related practices among school going adolescent girls of Government Girls Inter College (GGIC), Saifai, Etawah.

Methods: School based cross-sectional study was undertaken among the adolescent school going girls of GGIC, who were purposively selected. All girls of between the age group of 10 19 years who have attained menarche were selected and the sample size came out to be 212.

Results: The mean age of attainment of menarche was 13.17 years with majority of girls having no idea about menstruation before menarche (76.4%). 48.6% girls used only sanitary pads as the absorbent material. It was concluded that there is significant association between the absorbent material used and the socio-economic status of the family (p=0.03173).

Conclusions: There is a need of accurate and adequate information about menstruation and its effective management. The restrictions which are imposed on girls during menstruation should be understood and dealt in a proper way. Thus this study was conducted.

Keywords: Adolescence, Menstruation, Hygiene

INTRODUCTION

As described by World Health Organization (WHO) adolescence is the transitional phase of growth and development between childhood to adulthood (10-19 years). In attainment of full maturity, there are many variations from physical, psychological, emotional and physiological. There are many problems faced during this potentially turbulent period by adolescents. When there is imbalance between growth and hormones, a child can present with being short or tall, menstrual irregularities,

obesity and acne.² Menstruation is one such condition where, every girl go through physical and psychological changes and they have to cope up with this natural process. For a female to live healthy, productive and dignified lives, it is essential that they are able to manage menstrual hygiene effectively. During menstruation, access to clean water, sanitation and hygiene services, including water for washing clothes, having some private area to change clothes or sanitary pads, facilities for hygienic disposal of used clothes and pads, and a proper health education regarding management of menstrual

hygiene is an important part.³ Poor personal hygiene and unsafe sanitary conditions can lead to increased vulnerability to reproductive tract infections, pelvic inflammatory disease and other complications. According to Thakre et al, we can achieve MDG- 2 on universal education and the MDG-3 on gender equality and women empowerment by maintaining good menstrual hygiene.⁴

This issue of menstrual hygiene is inadequately acknowledged and has not received proper attention. Although a natural process, menstruation is linked with several misconceptions and practices which sometimes results in adverse health outcomes. The data about the level of knowledge and practices with respect to menstruation are beneficial for planning a program for improving the awareness level and promoting their quality of life. Hence, the present cross sectional study was carried out.

Aim and objectives

This study was done to find out knowledge about menstruation, to study hygiene related practices and taboos associated with menstruation among school going adolescent girls (10-19 years) of Government Girls Inter College (GGIC), Saifai, Etawah.

METHODS

A school based cross-sectional study was undertaken among the adolescent school going girls of Government Girls Inter College (GGIC), Saifai, Etawah, who were purposively selected. All girls of above mentioned school between the age group of 10-19 years who have attained menarche were selected. Total sample size came out to be two hundred twelve. The study was conducted between 15th August to 30th September, 2016. GGIC is a state run Government Inter College for girls.

Inclusion criteria

Includes adolescent girls of age group 10-19 years, who are attending GGIC from classes 6th to 12th and have attained menarche

Exclusion criteria

Girls who are not in the above mentioned age group or have not attained menarche and are not willing to participate in study were excluded from our study.

Study tools and technique

After taking written permission from the school authorities, the teachers of class 6th to 12th were explained the purpose of study, a rapport was built with the students and verbal consents were taken. All the girls who attained menarche were included in the study and interviewed. The data was collected by a personal interview by post graduate students who were trained prior to the interview

of all the study participants. The questionnaire was a predesigned, pretested on a sample population other than study population and necessary changes were done. The questionnaire includes the demographic details of the participant including the parents' education, occupation, their socio-economic status, along with awareness about menstrual hygiene, practices followed by them and taboos attached with it. At the end of data collection, an audio visual session was conducted for educating the girls about the normal physiology of menstruation, the importance of maintaining hygiene and safe hygienic practices during menstruation. Questions and concerns of the participants were also addressed at the end of the session.

Statistical analysis

Data was coded and entered in Microsoft excel sheet and then imported into IBM SPSS (Statistical Package for the Social Sciences) software version 21 and analyzed accordingly.

RESULTS

Various socio-demographic details of study participants were taken into account, a pie chart showing the age distribution of study participants, almost two-third of girls are in age group of -15 years with mean age of 15.45±1.31, while the age range was 13-18 (Figure 1).

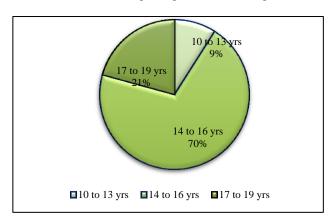


Figure 1: Age distribution of study participants.

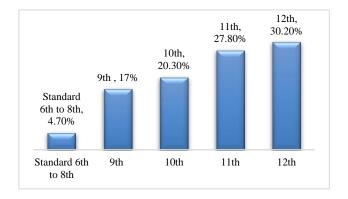


Figure 2: Education status of study participants.

A bar diagram representing education status of study participants shows that approximately one third of girls were in 12th standard (30.2%) and about 28% are in 11th standard (Figure 2).

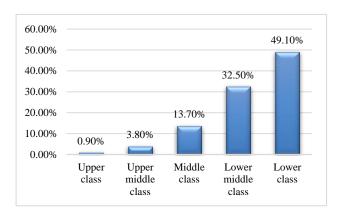


Figure 3: Socio-economic status of study participants.

According to modified B. J. Prasad classification March 2016 CPI=268, shows that most of the girls belong to lower class of socio-economic status (49.1%) and only 0.9% were in upper class (Figure 3).

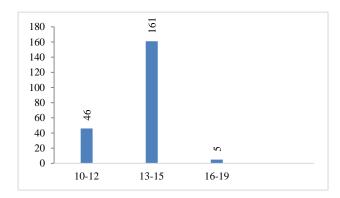


Figure 4: Age of attainment of menarche (years).

Mean age of attainment of menarche was 13.17 +/- 1.4 years. The age of attainment of menarche. 161 (75.94%) girls are of age group 13-15 when they attained menarche. While only 2.36% girls attained it between 16-19 years (Figure 4).

As we can observe in Table 1 the knowledge regarding menstruation in girls, majority (47.2%) of girls have no idea about the cause of menstruation while only 33% mentioned it to be a physiological cause. 43.4% of girls had no idea from where the menstrual blood comes from and only 31.6% mentioned it to be from uterus. Most of the girls (49%) knew about the normal duration of menstrual cycle. Normal duration of menstrual flow was also mentioned correctly by most of the girls (43.4%). Most of the girls also knew that excessive bleeding can lead to anemia i.e. 51.8% while 36.8% girls mentioned that menstruation continues in pregnancy also (Table 1).

Table 1: Regarding knowledge about menstruation.

	Number (%) (n=212)			
Cause of menstruation				
Physiological	70 (33)			
Curse from God	38 (17.9)			
Disease	4 (1.9)			
Don't know	100 (47.2)			
Menstrual blood comes from which organ?				
Uterus	67 (31.6)			
Urinary bladder	44 (20.8)			
Cervix	9 (4.2)			
Don't know	92 (43.4)			
Duration of menstrual cycle (days)				
<20	6 (2.8)			
20-35	104 (49)			
>35	34 (16.2)			
Don't know	68 (32)			
Duration of menstrual flow (days)				
<2	32 (15.1)			
2-7	92 (43.4)			
>7	12 (5.7)			
Don't know	76 (35.8)			
Does excessive bleeding lead to anemia?				
Yes	110 (51.8)			
No	82 (38.8)			
Don't know	20 (9.4)			
Does a woman have menses during pregnancy?				
Yes	78 (36.8)			
No	65 (30.7)			
Don't know	69 (32.5)			

Table 2 shows that majority of girls had no idea about menstruation before attainment of menarche (76.4%). More than three fourth (80%) of the girls gained information regarding menstruation from their mothers. A total of 47.2% girls had a feeling that menstruation is a burden. 48.6% girls used only sanitary pads as the absorbent material and 25.9% uses old cloth piece. Majority of girls change their sanitary pads/cloth more than once a day (61.8%). Most of the girls (95.5%) mentioned that they do not re-use cloth/pads while only 0.9% girls accepted that they re-use the cloth after washing it. Majority of girls (51.4%) dispose off their used sanitary pads/cloth in open field and about 8.5% dispose it off in well/lakes. More than two third (68.4%) girls used to buy their own sanitary napkins and only 2.9% received it from ASHA of their particular village. In table 2, this is also observed that more than half of girls (52.8%), used soap and water to clean their genital area during menstruation and just 0.9% used luke warm water.

Table 2: Hygiene practices during menstruation.

	N (%)
Heard about menstruation before menarche (N=212)	
Yes	50 (23.6)
No	162 (76.4)
Source of information regarding menstruation before menarche (multiple resp	oonses)
Family members (mother/sister)	40 (80)
Teachers	2 (4)
Friends	9 (18)
Material used during menstruation (N=212)	
Sanitary pads	103 (48.6)
New cloth pieces	19 (9)
Old cloth pieces	55 (25.9)
Mixed use	35 (16.5)
Change of sanitary pad/cloth (N=212)	
Once daily	68 (32.1)
More than once daily	131 (61.8)
Once in 2-3 days	13 (6.1)
Re-use of cloth (N=110)	
Yes	1 (0.9)
No	105 (95.5)
Sometimes	4 (3.6)
Method of disposal of sanitary pad/cloth (N=212)	
Dispose in open	109 (51.4)
Dispose in waste bin	79 (37.3)
Dispose in sanitary latrine	6 (2.8)
Dispose in well/lake	18 (8.5)
Source of sanitary pads (multiple responses)	
ASHA	4 (2.9)
Family (mother/sister)	47 (34.6)
Self-Purchase	93 (68.4)
Genital area cleaned during menstruation with (N=212)	
Plain water	98 (46.2)
Luke warm water	2 (0.9)
Soap and water	112 (52.8)

Table 3: Relationship between absorbent material used and socioeconomic status.

	Material used				Total
SES	Sanitary pads	New cloth piece	-		Total n (%)
	N (%)	N (%)	N (%)	N (%)	
Upper, upper middle and middle	27 (69.2)	1 (2.6)	6 (15.4)	5 (12.8)	39 (100)
Lower middle and lower	76 (43.9)	18 (10.4)	49 (28.3)	30 (17.3)	173 (100)
Total	103 (48.6)	19 (9)	55 (25.9)	35 (16.5)	212 (100)

 χ^2 =12.42, df=3, p=0.03173.

Table 4: Relationship between absorbent material used and mother's education.

Mother's education	Material used Sanitary pads n (%)	New cloth piece n (%)	Old cloth piece n (%)	Mixed use n (%)	Total n (%)
Illiterate, primary and high school	76 (43.4)	19 (10.9)	50 (28.6)	30 (17.1)	175 (100)
High school and above	27 (72.9)	0 (0)	5 (13.5)	5 (13.5)	37 (100)
Total	103 (48.6)	19 (9)	55 (25.9)	35 (16.5)	212 (100)

χ²=12.42, df=3, p=0.006

Table 3 shows the relationship between absorbent material used and SES of the family, chi square test was applied and it describes that there is significant association between the absorbent material used and SES.

Table 4 shows the relationship between absorbent material used and mother's education, chi square test was applied and this is again found to be significant.

Table 5: Restrictions practiced during menstruation.

Restrictions (multiple responses)	N (%)
Visit to holy places	212 (100)
Touching stored food	105 (49.5)
Entry in kitchen	83 (39.2)
Household work	20 (9.4)
Sleep on routine bed	11 (5.2)
Going school	1 (0.5)

Table 6: Problem faced in school during menstruation.

Problems	N (%)		
Menstruation affecting school performance (n=212)			
Yes	120 (56.6)		
No	92 (43.4)		
School absenteeism due to menstruation (n=212)			
Yes	81 (31.2)		
If yes, regular	26 (12.3)		
Sometimes	55 (25.9)		
No	131 (61.8)		
Menstrual hygiene privacy in school (n=212)			
Yes	172 (81.1)		
No	40 (18.9)		
Access to clean water (n=212)			
Yes	212 (100)		
No	0 (0)		
Share problems with (multiple re	esponses)		
Family	129 (60.8)		
Friends	91 (42.9)		
Teachers	1 (0.5)		
Supply of sanitary pads in school	l (N=212)		
Yes	4 (1.9)		
No	205 (96.7)		
Sometimes	3 (1.4)		
Feel comfortable in school (N=212)			
Yes	127 (59.9)		
No	85 (40.1)		
Reason of being uncomfortable (N=85)			
Abdominal pain	50 (58.8)		
Fear of getting stained	23 (27.1)		
Headache	2 (2.3)		
Uneasiness	6 (7.1)		
Weakness	4 (4.7)		

In India, there are some restrictions when a girl is menstruating which are followed in almost every family, some such restrictions have been discussed here in Table 5. In this table we can observe that 100% girls have restrictions in visiting holy places. 49.4% girls are not allowed to touch the stored food while only a single girl (0.5%) mentioned about missing her school during menstruation.

In Table 6, some important problems faced by girls in school during menstruation are discussed, because of which there is increased tendency of missing schools. A total of 56.6% (120) girls felt that the menstruation does affect their performance in school, 12.3% girls regularly missed their schools during menstruation every month. 81.1% (172) girls feel that they have proper privacy in school related to their menstrual hygiene. 100% girls get their access to clean water in schools. Most of the girls i.e. 96.7% (205) mentioned that they were not provided with sanitary pads in school. About half of the girls (58.8%) mentioned abdominal discomfort as their most common factor of being uncomfortable in school.

DISCUSSION

The present study shows that age of the study participants ranges between 13-18 years with the mean of 15.45 years and majority of the girls being between 14-16 years, while in another study menstruating girls ranges from 12-17 with a mean of 13.82 years.⁴ In the present study, the mean age of menarche was 13.17 years while another studies mean age of menarche was calculated as 12.85, 13.06, 12.7 and 13.11.4-7 Age of menarche is determined by general health, genetic, socioeconomic and nutritional factors. Chronic disease, malnutrition and high level of physical activity can delay menarche. Prior awareness about menarche and menstruation is generally low, in the present study only 23.6% of girls were aware about menstruation before menarche while in other studies around 36.95% and 23.2% girls were aware about menstruation.^{4,5} The most prominent source of knowledge about menstruation was family which is around 80%. The type of absorbent material which is used is of primary concern, since reuse of the material could be a cause for infection if it is improperly cleaned and poorly stored. This study revealed that even though it was a rural area around 63.7% girls were using sanitary pads as absorbent during menstruation, whereas other studies showed that 49.35%, 86.7% girls while another study showed that majority of the girls preferred cloth pieces rather than sanitary pads as menstrual absorbent i.e. about 70% of girls are using cloth rather than sanitary pads. 4,5,8 Recent provision of sanitary pads at a concession rate by state government at all government schools might be a reason for increased use of sanitary pads in the present study In this study more than half of girls (52.8%) cleaned their genital areas with soap and water, same was found in other studies also i.e. around 57.23% and in Parmeaswari et al about 65.7% girls are using soap and water for cleaning of genital area and in yet another study 91.2% girls wash their genitals properly. 4,6,9 In this study, more than three fourth of girls (76.7%) had no knowledge about menstruation before menarche while other studies

show nearly same results as 76.23%, 82% girls had no idea about menstruation and in one more study only 23.2% girls knew about menstruation.^{4,5,10} In our study mothers are the major source of knowledge regarding menstruation in about 80% and in other studies it was 59.7%, 62%, 83% and 64.9% which is almost similar to our study. 5,8,10,11 In our study, majority of girls' dispose of sanitary pads or cloth used in open field (51.4%) while in another study it was found that majority girls incinerate the cloth they are using i.e. 61.3% while 57.6% of girls using sanitary pads are disposed of in closed bin by wrapping it in paper while Madhusudan et al shows that majority of girls dispose of the sanitary pads by burning them i.e. 43.2% and 36.8% dispose in dustbin and by another study we can see that 50.6% were disposing the sanitary pads in open dustbins.^{5,6,9} Varied restrictions are followed by most of the girls in our study, possibly due to the different rituals in their communities, the same were practiced by their mothers or other elderly girls in the family, due to their ignorance and false perceptions about menstruation, visit to holy places was most common (100%) seen in other studies also. 4-6 A meta-analysis was done by Eijk etal which involves data from 138 studies involving 193 subpopulations and 97,070 girls. 12 This meta-analysis shows that in 88 studies, half of the girls reported being informed prior to menarche (PP 48%, 95%) CI 43% to 53%, I2 98.6%). Commercial pad use was more common among urban (PP 67%, 57% to 76%, I2 99.3%, n=38) than rural girls (PP 32%, 25% to 38%, I2 98.6%, n=56, p<0.0001), with use increasing over time (p<0.0001). Inappropriate disposal was common (PP 23%, 16% to 31%, I2 99.0%, n=34).

CONCLUSION

Menstrual hygiene is an issue which needs to be addressed at all levels. This study has highlighted the need of adolescent girls to have accurate and adequate information about menstruation and its appropriate management. Formal as well as informal channels of communication such as mothers, sisters and friends, need to be emphasized for the delivery of such information. There is a strong need to address issues like the restrictions which are imposed on or practiced by the adolescent school girls. Hence an educated adolescent girl will take care of her girl child in the future and will maintain the cycle of spreading the information to the next generation.

Limitations

Considering the limitations of this study in terms of sampling method, additional studies may be needed using a wider geographic scope, in order to produce sufficient and comprehensive results.

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Ethical approval: The study was approved by the

Institutional Ethics Committee

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