



IMPACT OF MENSTRUAL PRACTICES ON THE HEALTH OF ADOLESCENT GIRLS AND THE CHALLENGES FACED IN MENSTRUAL HYGIENE MANAGEMENT AT SCHOOLS

Pratibha S¹, Ayesha S Nawaz², Aswin Kumar³

Financial Support: ICMR

Conflict of interest: None declared

Copy right: The Journal retains the copyrights of this article. However, reproduction of this article in the part or total in any form is permissible with due acknowledgement of the source.

How to cite this article:

Pratibha S, Nawaz AS, Kumar A. Impact of Menstrual Practices on the Health of Adolescent Girls and the Challenges Faced in Menstrual Hygiene Management at Schools. Ntl J Community Med 2016; 7(8):667-671.

Author's Affiliation:

¹Intern; ²Assistant Professor; ³Associate Professor, Community Medicine, S.S. Institute of Medical Sciences & Research Center, Davangere, Karnataka

Correspondence:

Dr. Ayesha S Nawaz
ayesh.siddique@gmail.com

Date of Submission: 31-03-16

Date of Acceptance: 09-08-16

Date of Publication: 31-08-16

ABSTRACT

Introduction: Menstrual hygiene is a neglected subject in schools & lack of adequate facilities to manage it makes the adolescent girls vulnerable to reproductive tract infections. Hence this study was carried out to know the practices related to menstrual hygiene followed by the adolescent girls, impact of these practices on their physical health and challenges faced by them in managing menstrual hygiene at school.

Methods: This School based cross sectional study was carried out among 346 adolescent school girls using a predesigned pretested questionnaire. Physical examination was carried out for all study subjects and Hb estimation was done for those with pallor.

Results: Only 53.8% of the girls were using sanitary napkins, 37.6% of the girls changed the absorbent every six hours and 78.9% of the girls maintained hygiene of the genitalia. Symptoms of RTI were found to be high among adolescents using cloth as absorbent & those not maintaining hygiene of genitalia. Lack of satisfactory facilities to manage menstrual hygiene at school contributed to absenteeism, difficulty in concentration and poor performance among the adolescents.

Conclusion: This study reinforces the crucial role of menstrual hygiene management in preventing RTI among adolescent school girls.

Key words: Adolescents, menstrual hygiene, school, challenges

INTRODUCTION

Adolescence is a crucial period in woman's life. The age at which they attain menarche and the way they deal with the physical and behavioural changes is crucial, as they are vulnerable and need support at this phase of their life.¹ In developing countries, menstrual problems are generally not perceived as major health concerns and often considered as irrelevant to the public health agenda.²

Majority of the girls lack scientific knowledge about menstruation and puberty. They hesitate to discuss this topic with their parents and fail to seek help regarding their menstrual problems.³ Use of sanitary pads and adequate washing of the genital area are essential during menstruation as

poor menstrual hygiene can lead to urinary or reproductive tract infections among the adolescents.^{4,5}

In schools, reproductive health & menstrual hygiene is often a neglected subject and often there is lack of adequate facilities in management of menstrual hygiene at school. As an adolescent spends about eight hours in a day at school, management of menstrual hygiene at school is a matter of concern. Poor menstrual hygiene management in schools can result in embarrassment, monthly absenteeism and poor performance among adolescents attending schools.⁶ UNICEF stresses the importance of provision of toilets in Schools which helps the adolescents to maintain menstrual hy-

giene with dignity and prevent absenteeism, thus improving girls' education.⁷ Hence this study attempted to study the practices related to menstrual hygiene followed by the adolescent school girls, the impact of these practices on their health and the challenges faced by the adolescents in managing menstrual hygiene at school.

METHODS

The present cross-sectional study was carried out among adolescent school girls in two schools situated in the urban field practice area of a Medical college in Central Karnataka, India. The study period was two months. The inclusion criteria was adolescent school girls studying in 8th to 10th standard, who had attained menarche and who were willing to participate in the study. Girls who had not attained menarche, not willing to participate in the study and absent on the day of study were not included.

Method of data collection: Ethical committee clearance was obtained before starting the study and prior permission was taken from the school authorities. Out of 500 adolescent girls studying in 8th to 10th standard, 346 participated in the study, 34 girls remained absent, 10 didn't answer the given questionnaire completely and the remaining 110 girls had not yet attained menarche. Data was collected from the girls using a pre-designed, pre-tested questionnaire in local language. Information collected from the students was kept confidential. Haemoglobin estimation using blotting paper technique was carried out for the adolescents found to have pallor on physical examination. Statistical analysis was done using software EpiInfo 6.

RESULTS

Demographic profile of the study subjects: Out of 500 adolescent girls, 346 girls studying in 8th to 10th standard participated in the study. About 47 girls (13.6%) belonged to 8th standard, 164 girls (47.4%) belonged to 9th standard and 135 girls (39%) belonged to 10th standard. The mean age was 13.93±0.811SD years. More than half (57.2%) of the study subjects were residing in nuclear families and 42.8% belonged to joint families. Majority of the study subjects (69.4%) belonged to below poverty line.

Menstrual history: The mean age at menarche was 12.34±1.14 years. About 67.6% (234) of the girls had regular menstrual cycles. About 38.1% (132) of the study subjects had menstrual period lasting for five days or less, in 37.6% (130) the duration varied between more than five to seven days and in 24.3% (84) the period lasted for more than seven days.

Menstrual Hygiene: 53.8% (186) of the girls were using sanitary napkins, while 46.2% (160) of the girls were using cloth as absorbent during menstruation. Only 37.6% (130) of the girls told that they changed the absorbent every six hours, while the rest changed at more prolonged intervals. 78.9% of girls said they maintain genital hygiene with soap and water during menstruation, while 21.1% did not. Only 13.6% of the girls said the absorbent cloth should be washed and dried in adequate sunlight. 42.2% believed that it should be dried in a closed space where nobody can see, whereas 44.2% didn't know what to be done.

Table 1: Symptoms related to menstruation, anaemia and Reproductive Tract Infection (n=340)

Symptoms during menstruation	Girls having Symptoms (%)
Pain in abdomen	237(68.5)
Excess bleeding	87 (25.1)
Get menstrual period too early every month	102 (29.5)
Giddiness	78(22.5)
Easy fatigability	152(43.9)
Foul smelling vaginal discharge	133(38.4)
Vaginal discharge with itching	82(23.7)
Burning micturition	84(24.3)

Students were asked about the problems faced by them during menstruation. There were multiple responses for this question. The adolescents were also questioned on the presence of symptoms related to anaemia and reproductive tract infections (RTI). Majority of the adolescents (68.5%) experienced pain in abdomen during menstruation, 43.9% complained of easy fatigability and 38.4% had foul smelling vaginal discharge. (Table 1)

Table 2 shows the symptoms of foul smelling vaginal discharge (62.4%) and vaginal discharge with itching (56.1%) were more common among adolescent girls using cloth as absorbent than the girls using sanitary napkins ($p<0.05$). The complaints of burning micturition (54.8%) were seen more among adolescents using cloth as absorbent ($P>0.05$).

Table 3, shows that majority of the adolescents who maintained genital hygiene had no symptoms of RTI ($p<0.05$).

As seen in Table 4, symptom of foul smelling vaginal discharge, vaginal discharge with itching and burning micturition were lesser among adolescents who changed absorbent every 6 hours than those who changed at more prolonged intervals. But this association was not statistically significant ($p>0.05$).

Table 2: Association between absorbent material used and Reproductive Tract infections

Symptoms	Absorbent Material		χ^2 (chi square)	P
	Sanitary Napkin (n=186) (%)	Cloth (n=160) (%)		
Foul smelling vaginal discharge	50 (37.6)	83 (62.4)	22.71	0.000002
Vaginal discharge with itching	36 (43.9)	46 (56.1)	4.19	0.04
Burning Micturition	38 (45.2)	46 (54.8)	3.24	0.07

Table 3: Association between Hygiene of genitalia and Reproductive Tract infections

Symptoms	Hygiene of genitalia		χ^2 (chi square)	P
	Yes (n=273) (%)	No (n=73) (%)		
Foul smelling vaginal discharge	88 (66.2%)	45 (33.8%)	21.05	0.000004
Vaginal discharge with itching	57 (69.5%)	25 (30.5%)	5.692	0.02
Burning Micturition	58 (69%)	26 (31%)	6.471	0.01

Table 4: Association between interval of changing absorbent and foul smelling vaginal discharge

Symptoms	Interval of changing absorbent		χ^2 (chi square)	P
	Every 6 hours (n=130) (%)	> 6 hours (n=216) (%)		
Foul smelling vaginal discharge	45 (33.8%)	88 (66.2%)	1.287	0.26
Vaginal discharge with itching	27 (33.0%)	55 (67.0%)	0.988	0.32
Burning Micturition	28 (33.3%)	56 (66.7%)	0.8498	0.36

Table 5: Association between regularity of menstrual period and anaemia

Menstrual Period	Anaemia		χ^2 (chi square)	P
	No (n=178) (%)	Yes (n=168) (%)		
Regularity of menstrual period	129 (55.1%)	105 (44.9%)	3.926	0.05
Duration of menstrual bleeding < 5 days	76 (57.6%)	56 (42.4%)	3.211	0.07
Get menstrual period too early every month	39 (38.2%)	63 (61.8%)	10.1	0.001

Haemoglobin estimation was carried out in girls who had pallor. 96 girls (27.7%) had mild anaemia, 70 girls (20.2%) had moderate and 2 girls (0.6%) had severe anaemia.

Table 5, shows that adolescent girls who had irregular menstrual periods and adolescents who complained of prolonged duration of menstrual bleeding were more likely to be anaemic than the others, however this association was not statistically significant. The adolescents who complained of getting their menstrual periods very early every month were more likely to be anaemic than the others ($p < 0.01$).

Health care seeking behaviour:

72% said they consult their mothers when faced with the above problems, while only 2.6% said they will consult a doctor.

Menstrual hygiene management at school:

The girls were questioned whether they have facilities at schools to manage menstruation hygienically. Facilities were labelled as satisfactory if there was a sanitary toilet with adequate privacy and facility to change and dispose off the absorbent. Facilities were labelled as not satisfactory in case of toilets which are not sanitary, devoid of privacy

and facility to change and dispose. These parameters were explained at the time of administration of questionnaire. 51.4% of the girls said that there are no such facilities at their school, 21.7% said facility is present and is satisfactory while 26.9% said facilities are present but not satisfactory. When asked how the menstrual problems were affecting their studies, 31.2% said they remain absent from school, 9.8% of the girls said they cannot concentrate while 10.4% of the girls said they perform poorly at school.

DISCUSSION

The mean age of the adolescent girls was 13.93±0.811 years. The mean age was almost similar in studies carried out by Nair P et al and Thakre S et al.^{8, 4}The mean age at menarche was 12.34±1.14 years. Similarly Study by Dasgupta A et al also showed mean age of menarche as 12.8 years.⁹

67.6% of the girls had regular menstrual cycle. 38.1% had menstrual period lasting for five days or less and in 24.3% the period lasted for more than seven days. 9% of girls of same age in Nigeria also had irregular menstrual cycles. About 18 (4.5%) of them reported duration of flow less than

2 days, 2 (0.5%) reported duration of flow over 8 days and 4 (1%) reported heavy menstrual flow.¹⁰

Menstrual Hygiene:

Majority of the girls (78.9%) said that they maintain hygiene of the genitalia with soap and water during menstruation. Hence practice related to hygiene of genitalia is better in our study as compared to studies by Nemade et al³ and Thakre S et al⁴ where, satisfactory cleaning of the external genitalia was practised by only 29.95% and 33.85% of the girls respectively.

In our study 53.8% of the girls were using sanitary napkins, while 46.2% of the girls were using cloth as absorbent during menstruation. This could be because of inability to afford sanitary pads as majority (69.4%) belonged to below poverty line. Only 37.6% of the girls told that they changed the absorbent every six hours, while the rest changed at more prolonged intervals. Nemade et al³ reported that 15.74% girls used only cloths while 40.61% girls used only sanitary pads. In a study conducted among Egyptian school girls, toilet tissue paper was most commonly used (41.31%) as absorbent followed by sanitary pads (32.7%), cloths (14.4%) and other materials (10.7%).¹¹

Only 13.6% of the girls said they wash and dry the absorbent cloth in adequate sunlight. 42.2% believed that it should be dried in a closed space where nobody can see, while 44.2% of the girls didn't know what to be done. This shows the lack of scientific knowledge about menstruation. Girls who told they would prefer a closed space to dry the clothes used as menstrual absorbent, were concerned about the embarrassment and humiliation they would face if others saw it. On the contrary Thakre B et al⁴ reported that, majority (52.17%) of girls dried the washed absorbent cloth outside the house in the sunlight, 46.73% dried it inside the house and 1.09% dried it outside the house without sunlight.

Symptoms related to anaemia and RTI

22.5% of the girls complained of giddiness, 43.9% of the girls had easy fatiguability. 38.4% of the girls had foul smelling vaginal discharge, 23.7% had vaginal discharge associated with itching and 24.3% had burning micturition. In a study by Goel S et al about 52% of the girls complained of fatigue, 29% had headache and 23% had dyspnoea.¹² In a study by Ray et al 18.4% of the girls reported white discharge per vagina and 10.5% complained of burning sensation during micturition.¹³

The symptoms of foul smelling vaginal discharge (51.9%) and vaginal discharge with itching (28.8%) were comparatively more among adolescent girls using cloth as absorbent than the girls using sani-

tary napkins ($p < 0.05$). The symptom of burning micturition was comparatively higher among adolescent girls using cloth as absorbent (28.8%) than the girls using sanitary napkins (20.4%). This indicates that girls who use cloth as absorbent are more prone for RTI.

The symptoms of foul smelling vaginal discharge (40.7%), vaginal discharge with itching (25.5%) and burning micturition (30%) were higher among adolescent girls who were changing absorbent at intervals longer than 6 hours. Though not statistically significant, this indicates interval between changing absorbent also plays a vital role in the occurrence of RTI.

The symptoms of foul smelling vaginal discharge (61.6%), vaginal discharge with itching (34.2%) and burning micturition (35.6%) were higher among adolescent girls who were not maintaining genital hygiene. This clearly defines the role of genital hygiene in the prevention of RTI. Similar studies by Kansal et al¹⁴ and Juyal et al¹⁵ reported the occurrence of RTI was higher among adolescents who did not maintain menstrual hygiene.

Haemoglobin estimation was carried out in girls who had pallor on general physical examination, 27.7% had mild anaemia, 20.2% had moderate and 0.6% had severe anaemia. A study by Goel S et al reported that 13.3% out of 390 females were anaemic.¹² The prevalence of anaemia was higher among the adolescent girls who got their menstrual period too early every month ($p < 0.05$). This shows that menstruation has an impact on the health of the adolescent girls and the commonest cause of prevalence of anaemia in them.

The health care seeking behaviour was poor as only 2.6% adolescents said they consult a doctor for menstruation related problems. Singh AM et al also reported that only 5.3% consulted a doctor.¹⁶

Facilities at school for maintaining menstrual hygiene

51.4% girls said there are no facilities at their school to maintain menstrual hygiene, while 26.9% said facilities are present but not satisfactory. 68.8% of the students said they don't miss school during menstruation due to the fear of facing punishment for remaining absent. 31.2% said they remain absent from school due to the lack of adequate facilities at school to manage menstrual hygiene.

17.9% of the students said that they miss school at least for one day during the menstrual periods. 9.8% of the girls said they cannot concentrate while 10.4% of the girls said they perform poorly at school. A study conducted in Nepal showed over half of the adolescents reported being absent

from school at some time, due to menstruation.⁶ while Ray et al reported the absenteeism to be 38%.¹³The reasons quoted were lack of privacy for cleaning and washing, lack of availability of disposal system and water supply. This clearly indicates poor facilities at school to manage menstrual hygiene contribute to absenteeism and also affects their studies.

CONCLUSION

Our study showed the symptoms of RTI were higher among girls who used cloth as absorbent and those who did not maintain genital hygiene. Anaemia was significantly higher among the girls who used to get their menstrual period too early every month. Our study also showed that lack of satisfactory facilities to manage menstrual hygiene at school contributes to absenteeism, inability to concentrate in class and poor performance.

ACKNOWLEDGEMENT

The authors acknowledge the ICMR for funding the study and all the study participants and the School authorities for their support.

REFERENCES

1. Park K. Park's Textbook of Preventive and Social Medicine, 21st ed. Jabalpur: Banarasidas Bhanot Publishers; 2011; pg.546
2. Harlow SD, Campbell Om. Menstrual dysfunction: A missed opportunity for improving reproductive health in developing countries. *Reproductive Health matters* 2000; 8: 142-7
3. Nemade D, Anjenaya S, Gujar R. Impact of Health education on Knowledge & Practices about menstruation among adolescent school girls of Kalamboli, Navi-Mumbai ; *Health & Population : Perspectives & Issues*,2009; vol.32 (4), 167-175
4. Thakre SB, Thakre SS, Reddy M, Rathi N, Pathak K, Ughade S. Menstrual Hygiene : Knowledge & Practice among Adolescent School girls of Saoner, Nagpur district. *Journal of clinical & diagnostic research* 2011; 5 (5):1027-1033.
5. Mahon T, Fernandes M. Menstrual hygiene in South- Asia. Available from http://www.wateraid.org/documents/plugin_documents/menstrual_hygiene_in_south_asia_1.pdf . Accessed on 16/01/2013
6. Is menstrual hygiene & management an issue for adolescent School girls? A comparative study of four schools in different settings in Nepal. Available from http://www.wsscc.org/sites/default/files/publications/wateraid_menstrual_hygiene_school_adolescencegirls-nepal_2009.pdf. Accessed on 16/01/2013
7. Piper-Pillitteri S. School menstrual hygiene management in Malawi: Morethan toilets. London, UK: WaterAid, 2011.
8. Nair P, Grover VL, Kannan AT. Awareness and practices of menstruation and pubertal changes amongst unmarried female adolescents in a rural area of east Delhi. Available from <http://www.ijcm.org.in> , Accessed on 14/9/2013, IP: 112.79.47.6
9. Dasgupta A and Sarkar M. Menstrual hygiene: how hygienic is the adolescent girl? *Indian Journal of Community Medicine*, 2008; Vol 33(2): 77-80
10. Esimai OA, Esan GO. Awareness of Menstrual abnormality amongst college students in urban area of Ile Ife, Osun State, Nigeria; *Indian Journal of community medicine* 2010; vol 35(1)
11. El- Gilany AH, Badawi K. Menstrual hygiene among adolescent school girls in Mansoura, Egypt. *Reprod Health Matters* 2005; 13 :147-52
12. Goel S, Gupta BD. Low anaemia prevalence among adolescents of an urban hilly community. *Indian journal of Community medicine* January 2007; vol.1(1)
13. Ray S, Dasgupta A. Determinants of menstrual hygiene among adolescent girls: a multivariate analysis. *National Journal of Community Medicine* April-June 2012; 3(2);294-301
14. Kansal S, Singh S, Kumar A. Menstrual hygiene practices in context of schooling: A community study among rural adolescent girls in Varanasi. *Indian J Community Med* 2016;41:39-44.
15. Juyal R, Kandpal S.D, Semwal J. Menstrual Hygiene and Reproductive Morbidity in Adolescent Girls in Dehradun, India. *Bangladesh Journal of Medical Science* April 2014;13 (2):170-174
16. Singh AM, Deri R, Gupta SS. Awareness and health seeking behaviour of rural adolescent and reproductive health issues. *Indian J Med Sci* 1999; 53; 439-43