

Knowledge and practices related to menstruation and their relation to school absenteeism among adolescent girls attending tertiary care hospital in Ghaziabad: A cross sectional study

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Abstract

Introduction: Onset of menarche is a special period when adolescent girl undergoes various social emotional and physiological changes. They often lack knowledge regarding reproductive health which can be due to socio-cultural barriers in which they grow up. Though menstruation is a natural process, it is associated with misconceptions and challenges among girls in developing countries. This has led to decrease in school attendance and increasing numbers of school dropouts. With focus on the school girls, this study examined knowledge about menstruation, determinants of menstrual management and its influence on school-attendance in Ghaziabad.

Aims and Objectives: To assess the knowledge and the practices of menstrual hygiene among adolescent girls attending Gynecology OPD of a tertiary care hospital. To find out the proportion of school absenteeism in the study group and factors related to it.

Materials and Methods: It was an observational study conducted over a period of 3 months from January 2019 to March 2019. All adolescent school going girls who presented in the Gynaecology OPD in Santosh Medical College & Hospital, Ghaziabad, were recruited in the study. They were interviewed after their informed consent using a pretested structured questionnaire which focused on socio-demographic factors, parental factors, knowledge, social restrictions and hygienic management regarding menstruation, problems associated with menstrual health practices and school attendance.

Statistical Analysis: Frequencies were calculated for different variables. Data was analyzed and p value of <0.05 was taken significant.

Results: The mean age at menarche was 13.67 (± 1.17) years. About two thirds, that is 122 (61%) of girls had knowledge about menstruation and its management. Only 64 (32%) of the girls used sanitary napkins as absorbent during menstruation. About 128 (64%) girls were reported to have been absent from school during their menstruation period. Those who did not use sanitary napkins, where there were lack of facilities and restrictions on playing were more likely to be absent from school ($p < 0.0001$). In addition, study indicated that school absenteeism was common among girls who experienced teasing and humiliation by classmates when their clothes were stained with blood.

Conclusion: Lack of basic needs like availability of sanitary napkins and their disposal, separate functional wash rooms and running water supply are the most important factors causing drop in girls' school-attendance.

Keywords: Menstrual hygiene, Menstrual knowledge, Menarche, Sanitary napkins, Adolescent school girls, School absenteeism, School dropout.

Introduction

Menstruation is a milestone event in a girl's life and the beginning of reproductive life. Most of the time adolescent girls are unprepared in terms of knowledge, skills, and attitudes for managing the menstrual cycle.¹ In schools, teachers can help the girls to know physiological changes occurring in the body and to make the school environment more friendly to manage menstruation with dignity. In most of the cases, teacher's attitude is not supportive towards menstruating girls in schools. This leads to inadequate menstrual hygiene which is a major problem for girls in resource-poor countries including India. Inadequate water and sanitation facilities is a major impediment to maintenance of menstrual hygiene which adversely affects the health and development of adolescent girls.² More than half the schools in low-income countries either lack sufficient toilets for girls or they are frequently not very clean.³ Lack of access to effective absorbents, inadequate facilities to change, lack of privacy and lack of access to soap and water are the major factors causing drop in school attendance. In addition, inadequate social support and presence of taboos can lead to psychosocial consequences like shame, fear, anxiety and distraction from studies which

further contribute to school absenteeism.⁴⁻⁸ With focus on the school girls, this study examined knowledge about menstruation, determinants of menstrual management and its influence on school-attendance among adolescents attending Gynecology OPD in a tertiary care hospital in Ghaziabad.

Aims and Objectives

1. To assess the knowledge and the practices of menstrual hygiene among adolescent girls attending Gynecology OPD of a tertiary care hospital.
2. To find out the proportion of school absenteeism in the study group and factors related to it.

Materials and Methods

The study was an observational cross sectional study conducted in Ghaziabad, Uttar Pradesh, India. After taking ethical clearance from Ethical committee of the Institution, the study was conducted over a period of 3 months from January 2019 to March 2019. Two hundred and seven adolescent girls who came to Gynaecology OPD in Santosh Medical College and Hospital, Ghaziabad, were recruited in the study, out of which seven girls dropped out of the study

making a study group of two hundred girls. They were interviewed after taking their informed consent. The purpose of the study was explained to them and complete confidentiality and anonymity was assured to them. A pretested structured questionnaire which was divided in four parts was administered to them. The first part focused on socio-demographic factors which included age, age at menarche, mothers' education, socioeconomic status, residence, type of family and employment status of mother. The second part discussed the knowledge, reaction, myths and restrictions during menstruation. The third section consisted of menstrual health management and attitude towards hygiene with special reference to toilet facilities, water supply and waste disposal, and the last section included problems associated with menstrual health management and their correlation with school absenteeism.

Statistical analysis

The data was collected and tabulated. Analysis was done using Statistical Package for Social Sciences (SPSS) version 21.0. The observations were described in terms of percentages and proportions. Data was compiled and statistically analysed using chi square test, students t test where applicable. $p < 0.05$ was considered statistically significant.

Results

200 adolescent girls participated in the study with age ranging from 10 to 18 years with mean age of 13.67 ± 1.17 years. Most of the girls were studying in classes 7th to 9th. Mothers of most were uneducated 139 (69.5%). (Table 1)

Table 1: Sociodemographic factors of the adolescent girls attending tertiary care hospital, Ghaziabad, 2019 (n=200)

Variable		n	%
Age (years)	10-13	54	27
	14-16	116	58
	≥17	30	15
Socioeconomic Status	LSES	112	56
	MSES	84	42
	USES	4	2
Age at menarche (years)	<10	24	12
	11-15	99	49.5
	≥16	77	38.5
Religion	Hindu	80	40
	Muslim	78	39
	Others	42	21
Class	≤6	9	4.5
	7-9	104	52
	≥10	87	43.5
Education of mother	Educated	61	30.5
	Uneducated	139	69.5
Residence	Rural	99	49.5
	Urban	101	50.5

Majority of the girls 122(61%) had heard about menses before menarche. Friends were the leading source of information 50 (25%), followed by media 36(18%) and mothers 34(17%). Only 22 (11%) were comfortable to talk

about menses. Not more than third 70 (35%) were aware that menstruation is a physiological process. More than two thirds had no knowledge regarding menstrual hygiene and its management 134 (67%). (Table 2)

Table 2: Knowledge about menses in the adolescent girls attending tertiary care hospital Ghaziabad, 2019 (N=200)

Variable	Response	n	%
Heard about menses before menarche	Yes	122	61
	No	78	39
Source of information	Mother	34	17
	Friends	50	25
	School	2	1
	Media	36	18
	No Idea	78	39
Comfortable to talk about menses	Yes	22	11
	No	178	89
Aware that menses is a physiological process	Yes	70	35
	No	130	65
Knowledge about Menstrual hygiene	Mother	32	16
	Friends	12	6
	School	14	7
	Media	8	4
	No idea	134	67
Knowledge about absorbents	Yes	61	30.5
	No	139	69.5

In this study most girls felt embarrassed (41%), scared (36.08%), upset (23.7%) and disgusted (2.8%). (Fig. 1). Such responses result in lack of communication which leads to various misconceptions and myths regarding the condition. (Fig. 2)

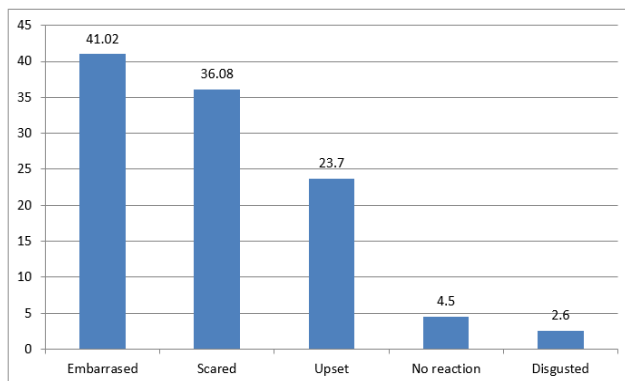


Fig. 1: Responses to menstruation by the girls in the study group, Ghaziabad 2019 (N=200)

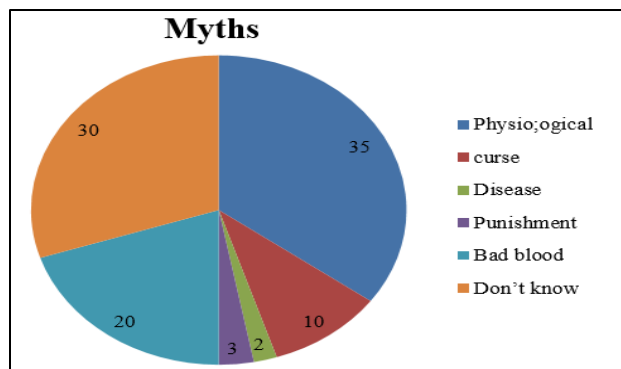


Fig. 2: Myths regarding menses prevailing in the families of the girls in the study group, Ghaziabad 2019

In our society menses is seen as throwing out of dirty blood. Hence the girls who are having menses face many social restrictions. Almost in all households they were not seen fit for any sacred event like going to temple 200(100%) or working in kitchen 144 (72%). Many girls were restricted from playing and doing strenuous physical activities as it was thought that they can land up with gynaecological diseases leading to infertility 116(58%). They were made to sleep on floor and their beddings were segregated from the rest of the household. (Fig. 3)

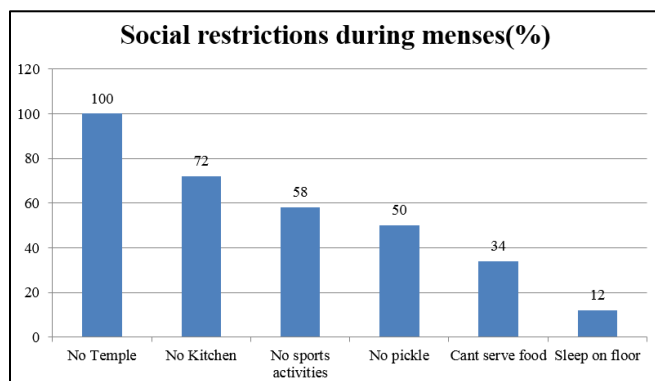


Fig. 3: social restrictions faced by the adolescent girls during menses, Ghaziabad 2019

Only 64(32%) of girls used sanitary pads as absorbents. Rest of them either used old cloth or discarded clothes as absorbents. The main reason for not using sanitary pad was lack of affordability 86 (67.4%) followed by lack of disposal facilities 85(66.2%) amongst other causes (Table

Table 4: Multivariate analysis of school absenteeism with menstrual health practices in adolescent girls Ghaziabad 2019

Serial no.	Factors	School Absenteeism		p value	OR (95% CI)	AOR (95% CI)
		Yes	No			
1	Mother's Edu			0.0006	6.49 (2.25-18.8)	6.79 (2.55-19.0)
	Uneducatd	84	55			
	educated	44	17			
2	Socioeconomic Status			<0.0001	32.5 (13.8-76.8)	32.6 (13.9-77.8)
	LSES	104	8			
	MSES	24	60			
3	Sanitary pad use			<0.0001	0.1 (0.04-0.20)	0.2 (0.05-0.40)
	Yes	13	39			

3). In our study we observed that girls who came from urban area, middle socioeconomic status and educated mothers were more likely to use sanitary pads.

Table 3: Reasons for not using sanitary pad by the adolescent girls during menstruation, Ghaziabad 2019 (N=136)

Reason	n	%
Lack of Knowledge	16	10,3
Cost factor	86	67.4
Non availability	34	26.5
Disposal issues	85	66.2
Tradition of using cloth	32	25.4

In our study about two thirds of girls 128(64%) refrained from going to school mainly due to fear of leakage and staining of clothes leading to shame and embarrassment they would have to face. The mean days of absenteeism were 2.87 ±1.07 days. Apart from fear of leakage, the main reasons for not coming to school were lack of disposal of sanitary pad (65.7%), lack of privacy (56.1%) and poor water supply(43.1%). (Fig. 4). Rather than facing teasing and humiliation by classmates, they preferred staying back at home.

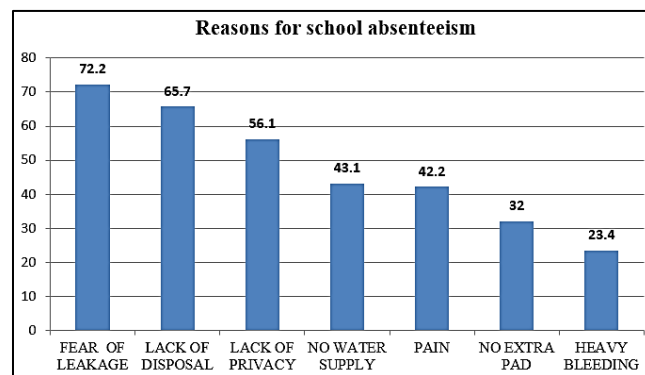


Fig. 4: Reasons for school absenteeism in the subjects during menstruation, Ghaziabad 2019 (n=128)

Girls who belonged to low socioeconomic status, with uneducated mothers, who did not use sanitary napkins, who were restricted from playing and who did not have proper toilet facilities were more prone for school absenteeism (Table 4).

	no	115	33			
4	Facilities			0.004	0.36 (0.19-0.72)	0.39 (0.22-0.76)
	Yes	21	25			
	no	107	47			
5	Restrictions on playing			<0.0001	7.48 (3.90-14.31)	7.50 (4.02-14.55)
	Yes	95	20			
	no	33	52			

Discussion

Management of menstruation is challenging among school going girls in low income countries, and involves psychosocial and physical challenges. The age of menarche in our study was 13.67 ± 1.17 years which was consistent with many studies.⁹⁻¹¹

In our study the main informants about menses and menstrual hygiene were friends and media. This was in contrast to various studies where in around 85%, the major source of information about menstruation were the school teachers.¹² Similarly, in the studies conducted by Patavegar *et al.*⁹ and Upashe *et al.*,¹³ teachers were the first informants for 40.2% and 50.4% of the girls, respectively. Large number of girls are mostly ignorant and have misperceptions about menses because the topic is not discussed in homes with their mothers or sisters. The information from the media or friends is often misleading and often leads to various misconceptions. Most of the time adolescent girls are unprepared so there is a long-standing need to openly discuss the issue by the family.

Our study showed that the majority of the girls had experienced different negative reactions to menstruation like embarrassment, disgust, shame and fear. This was probably due to lack of communication leading to such reactions. Many subjects were unaware of the physiological nature of menses (n=35%) which is a reflection of taboos and prejudices in society about menstruation which is similarly shown by various other studies.¹⁴⁻¹⁶ A vast information gap exists among adolescent girls regarding prior awareness about menstruation and menstrual hygiene which has an impact on the practices during menstruation and the associated gynecological morbidities.

In this study we found that girls had to face many social restrictions due to various cultural and religious beliefs regarding menstruation. Almost in all households they were not seen fit for any sacred event like going to temple (100%) or working in kitchen (72%). The literature is flooded with studies which support our findings. These restrictions are imposed on the girls as the menstrual blood flow is considered dirty and polluting.¹⁷

Only 32% of girls used sanitary pads as absorbents. Rest of them either used old cloth or discarded clothes as absorbents. The main reasons for not using sanitary pad was non affordability (67.4%) followed by lack of disposal facilities (66.2%) amongst other causes. In our study we observed that girls who came from urban areas, middle socioeconomic status and educated mothers were more likely to use sanitary pads. This was comparable to other studies which showed that financial constraint was the most important factor which led to less use of sanitary pad as

absorbents.¹³⁻¹⁸ Such poor personal sanitary practices during menstruation have been associated with serious ill-health ranging from genital tract infections, urinary tract infections, and bad odour.

Incidence of school absenteeism in our study was 64% due to fear of leakage and staining of clothes and the consequent embarrassment they would have to face. The mean days of absenteeism were 2.87 ± 1.07 days. This was similar to various studies.^{18,19} In a study around 40% of the girls had been absent from school during their menstrual period (12). It was found that girls with menstrual disorders like dysmenorrhoea and heavy menstrual bleeding were more likely to be absent [19]. In a study by Avril M Houston *et al.*, majority of the girls were absent only for a day probably because of the symptoms of menses are more severe during that period [20]. On the contrary, in a study by Monica *et al.* there was no evidence of menses related school absence.²¹ Similar results were seen in studies in Nepal and in African countries where a non significant association was seen with menses and school absenteeism.^{18,22}

Our study showed that 115 (58%) avoided participation in sports activities at school during menses, out of which 95 (74%) girls were absent from school. This corresponds to another study conducted by Khamdan *et al.*²¹ where 62% stopped exercising during menses. Most of them (42.9%) indicated that pain was what prevented them from exercising.

Our study revealed that girls who belonged to low socioeconomic status, with uneducated mothers, who did not use sanitary napkins, who were restricted from playing and who did not have proper toilet facilities were more prone for school absenteeism. These findings were consistent with other studies which found that the availability of water and sanitation facilities in schools is a key determinant of girls' school attendance.²⁵⁻²⁷ Menstrual hygiene management is therefore an increasingly important issue that is an important determinant for girls' education, empowerment, and social development.

Conclusion

The study shows that more than half of adolescent girls remain absent from school during menses. The main cause for this is lack of awareness and practices which are often not optimal for menstrual health management. Lack of affordable sanitary pads and proper toilet facilities are the main culprits behind the high incidence of school absenteeism. Increasing mothers' awareness and educating the girls regarding menstrual hygiene may help in improving school attendance and improving their academic performance.

Source of funding

None.

Conflict of interest

None.

References

- Juyal R, Kandpal SD, Semwal J. Menstrual hygiene and reproductive morbidity in adolescent girls in Dehradun, India. *Banglad J Med Sci* 2014;13:170–4.
- McMahon SA, Winch PJ, Caruso BA, Obure AF, Ogutu EA, Ochari IA, 'The girl with her period is the one to hang her head' reflections on menstrual management among schoolgirls in rural Kenya. *BMC Int Health Hum Rights* 2011;11:7.
- Emily O, Rebecca T. Menstruation, sanitary products, and school attendance: Evidence from a randomized evaluation. *Am Econ J Appl Econ* 2011; 3:91–100.
- Sommer M, Sahin M. Overcoming the taboo: advancing the global agenda for menstrual hygiene management for schoolgirls. *Am J Public Health*. 2013;103(9):1556–9.
- Mason L, Nyothach E, Alexander K, Odhiambo FO, Eleveld A, Vulule J, et al. 'We keep it secret so no one should know'—a qualitative study to explore young schoolgirls attitudes and experiences with menstruation in rural western Kenya. *PLoS One* 2013;8(11):e79132.
- Phillips-Howard PA, Caruso BA, Torondel B, Zulaika G, Sahin M, Sommer M. Menstrual hygiene management among adolescent schoolgirls in low- and middle-income countries: research priorities. *Glob Health Action* 2016; 9: 33032.
- van Eijk AM, Sivakami M, Thakkar MB, Bauman A, Laserson KF, Coates S, et al. Menstrual hygiene management among adolescent girls in India: A systematic review and meta-analysis. *BMJ Open* 2016;6:e010290.
- Sommer M. Where the education system and women's bodies collide: the social and health impact of girls' experiences of menstruation and schooling in Tanzania. *J Adolesc* 2010;33(4):521–9.
- Patavegar BN, Kapilashrami MC, Rasheed N, Pathak R. Menstrual hygiene among adolescent school girls: An in-depth cross-sectional study in an urban community. *Int J Health Sci Res* 2014;4:15–21.
- Kumar D, Goel NK, Puri S, Pathak R, Sarpal SS, Gupta S, et al. Menstrual pattern among unmarried women from Northern India. *J Clin Diagn Res* 2013;7:1926–9.
- Thakre SB, Thakre SS, Reddy M, Rathi N, Pathak K, Ughade S. Menstrual hygiene: Knowledge and practice among adolescent school girls of Saoner, Nagpur district. *J Clin Diagn Res* 2011;5:1027–33.
- Aditi Vashisht, Rambha Pathak, Rashmi Agarwalla, Bilkish N. Patavegar, Meely Panda: School absenteeism during menstruation amongst adolescent girls in Delhi, India. *J Family Community Med* 2018;25(3):163–8.
- Upashe SP, Tekelab T, Mekonnen J. Assessment of knowledge and practice of menstrual hygiene among high school girls in Western Ethiopia. *BMC Womens Health* 2015; 15:84.
- Oche M, Umar A, Gana G, Ango J. Menstrual health: the unmet needs of adolescent girls' in Sokoto, Nigeria. *Sci Res Essays* 2012;7(3):410–8.
- Abhay B, Naveeta K. A cross-sectional study on awareness regarding safe and hygienic practices amongst school going adolescent girls in rural area of Wardha district, India. *Global J Health Sci* 2010;2(2):225–31.
- Deo S, Ghattargi H. Perceptions and practices regarding menstruation: a comparative study in urban and rural adolescent girls. *Indian J Community Med* 2005;30:1.
- Rajanbir Kaur, Kanwaljit Kaur, Rajinder Kaur. Menstrual hygiene, management, and waste disposal: Practices and challenges faced by girls/women of developing countries. *Hindawi J Envir Public Health* 2018; Article ID 1730964, 9 pages. Available on: <https://doi.org/10.1155/2018/1730964>
- Tegegne TK, Sisay MM. Menstrual hygiene management and school absenteeism among female adolescent students in Northeast Ethiopia. *BMC Public Health* 2014;14:1118.
- Bodat S, Ghate MM, Majumdar JR. School absenteeism during menstruation among rural adolescent girls in Pune. *Natl J Community Med* 2013;4:212–6.
- Avril M. Houston, Anisha Abraham, Zhihuan Huang, Lawrence J. D'Angelo. Knowledge, attitudes, and consequences of menstrual health in urban adolescent females. *J Pediatr Adolesc Gynecol* 2006; 19:271–275.
- Verma PB, Pandya CM, Ramanuj VA, Singh MP. Menstrual pattern of adolescent school girls of Bhavnagar (Gujarat). *Natl J Integr Res Med* 2011;2:38–40.
- Oster E, Thornton R. Menstruation, sanitary products, and school attendance: evidence from a randomized evaluation. *Am Econ J* 2011;3(1):91–100.
- Grant MJ, Lloyd CB, Mensch BS. Menstruation and school absenteeism: evidence from rural Malawi. *Comp Educ Rev* 2013;57(2):260–84.
- Phillips-Howard PA, Nyothach E, Ter Kuile FO, Omoto J, Wang D, Zeh C, et al. Menstrual cups and sanitary pads to reduce school attrition, and sexually transmitted and reproductive tract infections: a cluster randomised controlled feasibility study in rural western Kenya. *BMJ Ope*. 2016;6(11):e013229.
- Lawan UM, Yusuf NW, Musa AB. Menstruation and menstrual hygiene amongst adolescent school girls in Kano, Northwestern Nigeria. *Afr J Reprod Health* 2010;14:201–7.
- Mahbub-Ul Alam, Stephen P Luby, Menstrual hygiene management among Bangladeshi adolescent schoolgirls and risk factors affecting school absence: results from a cross-sectional survey Published in *BMJ open* 2017 DOI:10.1136/bmjopen-2016-015508.
- Miir G, Rutakumwa R, Jessica Nakiyingi-Miir, Nakuya K. Menstrual health and school absenteeism among adolescent girls in Uganda (MENISCUS): a feasibility study. *BMC Women's Health* 2018;18:4 DOI 10.1186/s12905-017-0502.