Original Article

Prevalence, Socio-cultural Restrictions and Determinants of School Absenteeism during Menstruation among Adolescent School Girls in Bangalore

Brunda N. Krishnaiah[1], Deepa L. Nanjundaswamy[2], Sujatha N. Kulkarni[3], Dinesh Peraje Vasu[4], Annarao G. Kulkarni[5], Bhaskar Kurre[6]

[1]Department of Community Medicine, Dr. Chandramma Dayananda Sagar Institution for Medical Education and Research, Kanakapura, Karnataka, India.
[2]Department of Community Medicine, East Point College of Medical Sciences & Research Centre, Bangalore, Karnataka, India.
[3]Department of Community Medicine, Navodaya Medical College Hospital & Research Center, Raichur, Karnataka, India.
[4]Department of Community Medicine, KVG Medical College, Sullia, Karnataka, India.
[5]Department of Community Medicine, East Point College of Medical Sciences & Research Centre, Bangalore, Karnataka, India.
[6]Department of Community Medicine, RVM Institute of Medical Sciences and Research Centre, Mulugu, Siddipet, India.

Abstract

Introduction: Menstrual-related problems are one of the most common problems among adolescent girls and might adversely affect their performance in academic and other activities of daily life.

Aims & Objectives: To determine the prevalence of school absenteeism among adolescent school girls during menstruation. To assess the restrictions which are imposed on adolescent school girls during menstruation. To evaluate the various factors associated with school absenteeism during menstruation.

Methods: A study was conducted by carrying out a questionnaire and focus group discussion between October 2019-January 2020 in seven schools of Bangalore city after obtaining the assent and informed consent signed by their parents.

Result: The mean age of the girls was 14.45 ± 1.71. The proportion of school absenteeism during menstruation was (30.25%). The majority (89.25%) of the students among the school absentees missed one day of school during menstruation. Among the school absentees, pain/discomfort was one of the main reasons for missing school, accounting for (69.42%). (46.25%) of the students were restricted from any kind of religious activities. Pain during menstruation, shame, fear of leakage, lack of toilet or water supply, lack of a place to dispose of sanitary pads and absence of a private place to manage periods were some factors that were associated with school absenteeism during menstruation.

Conclusion: Considerably high school absenteeism among adolescent girls due to menstruation was noted in this study, highlighting the need for improved interventions that reach girls at a young age.

Keywords: Adolescent, Female, Absenteeism, Prevalence, Bathroom Equipment, Focus Groups, Students, Surveys and Questionnaires, Parents, Shame, Informed Consent, Fear

Introduction

Women constitute 50% of the population. Women's health and education empower them to fully participate in occupational and domestic life. Menstruation is a normal, natural phenomenon in a women's life. Knowledge about menstruation and good menstrual hygiene are necessary for the health and dignity of adolescent girls. In most parts of the world, girls learn about menstruation after they attain menarche and for some girls it may be shocking or absurd

Access this article online

Quick Response Code

Website: www.iapsmupuk.org

DOI: 10.47203/IJCH.2023.v35i01.013

Address for correspondence: Dinesh P. Vasu
Department of Community Medicine, KVG Medical College, Sullia, Karnataka, India.
E-mail: sullia.dinesh@gmail.com

How to cite this article: Krishnaiah BN, Nanjundaswamy DL, Kulkarni SN, Vasu DP, Kulkarni AG, Kurre B. Prevalence, Socio-cultural Restrictions and Determinants of School Absenteeism during Menstruation among Adolescent School Girls in Bangalore. Indian J. of Com. Health. 2023;35(1):71-76.
Received: 27-11-2022, **Accepted:** 17-02-2023, **Published:** 31-03-2023

that this happens, but the majority of girls are not educated about sexual and reproductive health. Their parents, other relatives, schools, and society have failed them.[1]

Women and girls are disproportionately affected by the lack of access to basic water, sanitation and hygiene facilities, due to their needs during the period of increased vulnerability to infection around menstruation and reproduction. The sustainable development goals (SDGs) attempts connecting water, sanitation and hygiene (SDG 6) through target 6.2, which point out access to decent sanitation and hygiene, and the necessities of women and girls.[2,3]

Menstrual-related problems are one of the most common problems among adolescent girls and might have an adverse effect on their performance in academics and other activities of daily life which may lead to school absenteeism during menstrual days.[4] Being absent from school due to menstruation-related issues during the menstruation is called School absenteeism during menstruation.[5]

In the school setting, lack of clean, private, gender-specific, water, sanitation and hygiene (WASH) facilities are documented to be associated with menstruation-related school absenteeism among girls.[5] To overcome the problem related to menstruation, the Ministry of Health and Family Welfare of India has introduced a scheme for promoting menstrual hygiene among adolescent girls in the age group of 10 to 19 year.[6] There are very few studies conducted in Bangalore on menstrual issues among school going adolescent girls and these studies have focused on dysmenorrhea, menstrual knowledge and menstrual hygiene management.

An assessment and understanding of the full range of these factors is an important step towards developing specific interventions to control high burden of menstruation-related school absenteeism. Hence, the present study is conducted to assess the impact of menstruation on school attendance and restricted activities imposed to adolescent girls. The objective of study were to determine the prevalence of school absenteeism among adolescent school girls during menstruation, to assess the restrictions which are imposed on adolescent school girls during menstruation, to evaluate the various factors associated with school absenteeism during menstruation.

Materials and Methods

The present study was undertaken among adolescent school going girls aged between 10 to 18 years in the field practice area of a medical college in Bangalore city between October 2019 and January 2020. The sample size was calculated using the formula $Z^2p\ (1\text{-}p)/d^2$. The prevalence (p) of school absenteeism was considered as 43.2% as per a study conducted by Suman Bodat *et al*.[4] and error was considered as 5%. The sample size was calculated to be 376.89, rounded to 400.

There were about 5 kindergarten, 3 primary schools, 5 middle and 10 high schools in the field practice area. A two-stage sampling strategy was used to select study subjects.

Table 1: Socio demographic characteristics of the study population

Socio-demographic factors		No. of subjects (%)
Age	≤ 12 Years	80 (20%)
	13 Years	58 (14.5%)
	14 Years	70 (17.5%)
	15 Years	60 (15%)
	≥ 16 Years	132 (33%)
Age at menarche	≤ 11 Years	100 (25%)
	12 Years	142 (35.5%)
	13 Years	106 (26.5%)
	14 Years	40 (10%)
	≥15 Years	12 (3%)
Education of mother	Professional	45 (11.25)
	Graduate/Postgraduate	77 (19.25)
	Post High Diploma	40 (10)
	High School	117 (29.25)
	Middle School	49 (12.25)
	Primary School	26 (6.5)
	Illiterate/Non-formal education	46 (11.5)
Religion	Hindu	302 (75.5)
	Muslim	39 (9.75)
	Christian	58 (14.5)
	Others	1 (0.25)
Type of Family	Nuclear	339 (84.75)
	Joint	61 (15.25)
Socio Economic Status	Class I	147 (36.75)
	Class II	146 (36.50)
	Class III	87 (21.75)
	Class IV	20 (5)
Source of information	Mother	306 (76.5)
	Sister	45 (11.25)
	Friend	43 (10.75)
	Teacher	6 (1.50)

In stage one, a sample frame comprising of 15 eligible schools were obtained out of which 7 schools were systematically selected. The first school was randomly selected after which every second school was included in the study upto seven schools. A line listing of all students satisfying the inclusion criteria was made from those included schools. Then a simple random sampling technique was performed to select the students. Those who were unwilling to participate and absent on the day of visit were excluded from the study.

A pre-designed, pretested and semi-structured questionnaire was used in the study. The data collection technique was by personal interviews of the study subjects. After taking permission from the school authorities, the study subjects' class teachers were explained the study's purpose.

Table 2: Information regarding absenteeism from school during menstruation

S. No.	*Information regarding absenteeism*	*No. of subjects (%)*
1	School absenteeism during menstruation	121 (30.25%)
	Absent for 1 day	108 (89.25%)
	Absent for 2–4 days	10 (8.26%)
	Absent for ≥ 5 days	3 (2.47%)
2	Reasons for school absenteeism	
	Pain/Discomfort during Menstruation	84 (69.42%)
	Fear of Leakage/Staining of Clothes	39 (32.23%)
	Due to Shame	16 (13.22%)
	No Private place in school to manage periods	38 (31.40%)
	Lack of toilet/water supply	17 (14.04%)
	No place to dispose sanitary pads	47 (38.84%)
3	Effects of menstruation on day to day activities	
	Lack of concentration/answer questions in class	64 (16%)
	Unable to participate in sports	137 (34.25%)
	Unable to walk far/long distances	81 (20.25%)
	Unable to carry out daily activities	70 (17.5%)
	Restricted from doing domestic work	109 (27.25%)
	Restricted from Pooja/Going to temple/church/mosque	185 (46.25%)

Rapport was built up with the girl students. After obtaining the assent from the participants, a written informed consent signed by their parents was obtained. The purpose of the study and the nature of information had to be furnished by the study subjects explained to them. "A mixed method research of combined cross-sectional survey and qualitative research was adopted". A questionnaire-based survey and focus group discussion (FGDs) of school girls were done in order to explore the views of female students on menstruation and challenges faced in menstrual management in a hygienic manner and the effects of menstruation on school absenteeism in the last six menstrual cycles and day to day activity.

The questionnaire included topics related to the absenteeism and reasons, effects of menstruation, demographic information, socio-economic status, age at menarche and sources of information on menstruation. Kuppuswamy's classification was modified for socio-economic status classification of study subjects. The school attendance record was used to verify the absenteeism. Questionnaire was administered in the presence of teachers and the researcher guided the students to complete the questionnaire.

A total of 20 FGDs, comprising of 7 participants in each group, were conducted in the selected schools.

In each FGD, one student from each class was taken for discussion. The FGD centered on girls' knowledge and perception of menstruation, hygienic management practices, effects of menstruation on school attendance, academics, reasons for being absent from school, and effects on students' day-to-day activity. The information was recorded using a digital voice recorder and notes were taken. The recorded data were transcribed and translated into English. Ethical approval from the institutional ethical committee was obtained before the start of study. The confidentiality of the respondents was maintained throughout the study. Reference No: EPCMSRC/ADM/IEC/2019-2-/020, Date: 20/09/2019

Statistical Analysis

Data was entered in MS Office Excel 2007 and after coding it was further processed and analyzed using Open Epi info statistical software version 7.0. Data was expressed as percentages and proportions for qualitative data and mean and standard deviations for quantitative data. Chi-square test was used to assess the association among the study variables. A "p" value of <0.05 is considered as statistically significant.

Results

The study revealed that the age of menstruating girls ranged from 10 to 18 years, majority (33%) of girls were aged 16 years of age. Mean age was 14.4 ± 1.71. Many of the students 142 (35.5%) attained menarche at 12 years. Mean ageat menarche was 12.27 ± 2.46. The majority (75.5%) of the students were Hindus and from nuclear families (84.75%). The majority (29.25%) of their mothers had studied till high school (Table 1).

The study revealed that out of the 400 adolescent school girls, about 121(30.25%) were absent from school during menstruation. The majority (89.25%) of those absentees missed 1 day of school because of menstruation. Pain/discomfort (69.42%) were the most important reason for school absenteeism, followed by an absence of place to dispose of sanitary pads (38.84%). (32.23%) of the students absented themselves because of fear of leakage or staining (Table 2).

Total students 46.25%, were restricted from involving themselves in any kind of religious activity. (34.25%) of the students admitted that they weren't able to participate in sports. About (27.25%) of them were restricted from involving themselves in any household work (Table 2).

School absenteeism was more common in the age group of ≥ 16 years, accounting for 10.75%. Among the total of 132 students in ≥ 16 years age group, 32.57% absented themselves due to menstruation.The overall prevalence of school absenteeism was (30.25%)(Table 3). Pain during menstruation, shame, fear of leakage, lack of toilet or water supply, lack of place to dispose sanitary pads and absence of private place to manage periods were some factors which were associated with school absenteeism during menstruation (Table 4).

In focus group discussions, knowledge about menstruation among school students was good. School girls spoke about the problems they faced in school while managing their menstrual

Table 3: Relationship of socio-demographic factors with school absenteeism during menstruation

Socio demographic factors		*Absenteeism*	*No absenteeism*	*Chi square value*	*P value*
age	≤ 12 Years	20 (5%)	60 (15%)	1.6849	0.7934
	13 Years	18 (4.5%)	40 (10%)		
	14 Years	22 (5.5%)	48 (12%)		
	15 Years	18 (4.5%)	42 (10.5%)		
	≥ 16 Years	43 (10.75%)	89 (22.25%)		
Age at menarche	≤ 11 Years	26 (6.5%)	74 (18.5%)	13.6169	0.0086*
	12 Years	34 (8.5%)	108 (27%)		
	13 Years	46 (11.5%)	60 (15%)		
	14 Years	14 (3.5%)	26 (6.5%)		
	≥ 15 Years	1 (0.25%)	11 (2.75%)		
Education of mother	Professional	14 (3.5%)	28 (7%)	2.0722	0.7224
	Graduate/Post Graduate	24 (6%)	58 (14.5%)		
	Post High Diploma	10 (2.%)	32 (8%)		
	High School	40 (10%)	78 (19.5%)		
	Middle School	14 (3.5%)	32 (8%)		
	Primary School	8 (2%)	16 (4%)		
	Illiterate/Non formal education	11 (2.75%)	35 (8.75%)		
Religion	Hindu	84 (21%)	216 (54%)	2.3669	0.4998
	Muslim	14 (3.5%)	26 (6.5%)		
	Christian	22 (5.5%)	36 (9%)		
	Others	1 (0.25%)	1 (0.25%)		
Type of family	Nuclear	110 (27.5%)	234 (58.5%)	2.5279	0.1118
	Joint	11 (2.75%)	45 (11.25%)		
Socio economic status	Class I	36 (9%)	100 (25%)	6.7336	0.0808
	Class II	56 (14%)	92 (23%)		
	Class III	26 (6.5%)	68 (17%)		
	Class IV	3 (0.75%)	19 (4.75%)		

Table 4: Relationship between social and clinical factors with school absenteeism during menstruation

Social and clinical factors		*Absenteeism*	*No absenteeism*	*Chi-square value*	*p-value*
Pain during Menstruation	Present	70 (17.5%)	10 (2.5%)	155.3393	< 0.0001*
	Absent	51 (12.75%)	269 (67.25%)		
Fear of Leakage/Staining of Clothes	Present	40 (10%)	2 (0.5%)	93.9343	< 0.0001*
	Absent	81 (20.25%)	277 (69.25%)		
Due to Shame	Present	18 (4.5%)	1 (0.25%)	39.3153	< 0.0001*
	Absent	103 (25.75%)	278 (69.5%)		
No Private place in school to manage periods	Present	38 (9.5%)	1 (0.25%)	92.4494	< 0.0001*
	Absent	83 (20.75%)	278 (69.5%)		
Lack of toilet/water supply	Present	13 (3.25%)	3 (0.75%)	20.4546	< 0.0001*
	Absent	108 (27%)	276 (69%)		
No place to dispose sanitary pads	Present	36 (9%)	12 (3%)	51.7696	< 0.0001*
	Absent	85 (21.25%)	267 (66.75%)		

cycle. They felt awkward about asking help from teachers and friends, especially when there were boys around. Hence, they used to remain absent during the first one or two days, especially when the flow was heavy, in case if the cycle starts when they were in school, they used to inform teachers that they are sick and then they were sent home.

Most common reason for school absenteeism was because of pain, fear of leakage, shame and teasing by their classmates. The majority of them said they would rather remain absent as the boys might figure out what was going on by their movements and frowns because of unbearable pain. Most students said, 'I don't want my classmates to know that I am in my period because they would tease me'. Because of fear of sudden onrush or leakage and staining of clothes, they were hesitant to get up and answer questions in class. They were always thinking about leakage and staining. Hence, they could not concentrate on academics during their cycles.

Another reason for absence from school was the lack of sanitary pads with them at school. Few girls stated, "I cannot afford to buy sanitary pads always and hence I use old clothes at home and sanitary pads while I go to school and when traveling for a long distance." Regarding the lack of facilities in their school toilet, some mentioned that they felt uncomfortable to use toilet facilities in which there was no soap, not clean or with lack of clean water, lack of private place in school to manage their menstrual cycle. Due to lack of adequate sanitary pads, especially in heavy bleeding days.

Some students stated that they were not allowed to attend school during their periods. Most of them mentioned that they were not allowed to do pooja at home. Also they were restricted from going to the temple. Some students said they are not allowed to cook or play games with boys during their menstrual cycles. They were unable to participate in the sports because of pain and fear of leakage, though they said they continued with other household chores (Table 4).

Discussion

In the present study, majority (33%) of girls were aged more than or equal to 16 years with a mean age of 14.4. Similar age groups were noted in other studies conducted in India and abroad.[4,7-9] This is in contrast to a study conducted by Vashisht *et al.*[10] in Delhi, where a majority (77.3%) belonged to 12–14 years of age. The mean age at menarche in the study participants was 12.27 in the present study. This early age of menarche is probably because our study was conducted in urban slums and consumption of junk food is usually high among urban children when compared to rural areas. Age at menarche was different in different studies and can be attributed to differences in geography and diet.[7-10] In the present study, a majority (19.5%) of the participant's mothers studied up to high school, probably because of increased awareness about the importance of education in urban areas. The major source of information regarding menstruation was mother and accounting for (76.5%). In a study conducted at Delhi,[10] the source of information in a majority (85.7%) was through special sessions conducted at schools.

In the present study, the prevalence of school absenteeism was (30.25%). A slightly lower prevalence (27.5%) was noted in a study conducted by Kumbheni *et al.*[5] at Ghana. Higher proportion of school absenteeism was noted in studies conducted by Bodat S *et al.*[4] and Vashisht *et al.*,[10] accounting for 43.2 and 40.8%, respectively. The school absenteeism was not only because of pain or discomfort but also due to unavailability of separate places to manage periods. In one of the schools, there was no toilet facility within the school premises; thus, the students were asked to use the public toilet, which they were uncomfortable using. Some of the schools did not have a separate toilet or did not provide a continuous water supply. Some study subjects complained that the water or toilet was not clean and there was no separate place to dispose of sanitary pads. Opposite gender used to make fun of the menstruating girl students whose clothes were stained.

About 89.25% of girls missed school for one day because of menstruation, probably because, on the first day of the menstrual cycle, pain and discomfort is more in the majority of adolescent girls when compared to the second and other consecutive days. Similar findings were noted in studies conducted by Bodat S *et al.*[4] and Vashisht *et al.*[10] accounting for 78.06 and 68.6%, respectively.

In our study, reasons for missing school were pain/discomfort (69.42%), fear of leakage/staining (32.23%), no private space to manage periods (31.40%) and no space to dispose the sanitary pads (38.84%). The reason for school absenteeism was pain/discomfort in other studies as well, accounting for 20.97,[7] 15.03,[8] 76.3[10] and 20%.[11] In the study conducted byBodat S *et al.*[4] the reasons for missing school were no place to wash (23.32%) and no space for proper disposal of sanitary pads (4.24%).

The present study revealed that, (17.5%)of girls were unable to do their daily activities and (34.25%) were restricted from sports. (46.25%) were restricted from involving themselves in any religious activity. Similar restrictions were also noted in the study conducted by Vashisht A *et al.* [10]

Conclusion

Considerably high school absenteeism among adolescent girls due to menstruation was noted in the study, highlighting the need for improved interventions. The main reason for missing school was because of pain/discomfort. Further, menstruation was associated with certain unnecessary unscientific social and cultural restrictions, thus necessitating the role of correct knowledge to the entire community, including adolescents and young girls. Pain during menstruation, shame, fear of leakage, lack of toilet or water supply, lack of place to dispose of sanitary pads and absence of a private place to manage periods were some factors associated with school absenteeism during menstruation.

Limitation

Obtaining additional information from other sources like parents and teachers would have enhanced the validity of the study.

Recommendations

Adolescent girls as well as their parents, should be educated on the fact that menstruation is a physiological process and the restrictions imposed should be discouraged. Since the main reason for missing school was pain/discomfort, emphasis should be given on medical and certain non-medical measures like yoga. Schools should also address the issues such as providing place for the disposal of sanitary pad and also providing sufficient water and toilet facility.

Financial Support and Sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Bustreo F. We cannot fail to empower girls before they become women. Available at https://apps.who.int/mediacentre/commentaries/adolescent-girls-health/en/index.html. Last accessed on 10th October 2022.
2. KayserGL, Rao N, Jose R, Raj A. Water, sanitation and hygiene: measuring gender equality and empowerment. Bulletin of the World Health Organization 2019 Jun 6;97(6):438.
3. Ray I. Women, water, and development. Annu. Rev. Environ. Resour 2007 Nov 21;32:421-49.
4. Bodat S, Ghate MM, Majumdar JR. School absenteeism during menstruation among rural adolescent girls in Pune. Natl J Community Med 2013 Jun 30;4(2):212-6.
5. Kumbeni MT, Ziba FA, Apenkwa J, Otupiri E. Prevalence and factors associated with menstruation-related school absenteeism among adolescent girls in rural northern Ghana. BMC Women's Health 2021;21(1):1-6.
6. Menstrual Hygiene Scheme: Revised Guidelines for Menstrual Hygiene Scheme 2016. Available from: Menstrual Hygiene Scheme(MHS) :: National Health Mission (nhm.gov.in). Last accessed on 12th October 2022.
7. Tegegne TK, Sisay MM. Menstrual hygiene management and school absenteeism among female adolescent students in Northeast Ethiopia. BMC public health 2014 Dec;14(1):1-4.
8. Sule ST, Ukwenya JE. Menstrual experiences of adolescents in a secondary school. J TurkGerGynecol Assoc 2007;8(1):7-14.
9. Davis J, Macintyre A, Odagiri M, Suriastini W, Cordova A, Huggett C et al.. Menstrual hygiene management and school absenteeism among adolescent students in Indonesia: evidence from a cross-sectional school-based survey. Trop Med Int Health 2018 Dec;23(12):1350-63.
10. Vashisht A, Pathak R, Agarwalla R, Patavegar BN, Panda M. School absenteeism during menstruation amongst adolescent girls in Delhi, India. J Fam Community Med 2018 Sep;25(3):163.
11. Grant M, Lloyd C, Mensch B. Menstruation and school absenteeism: evidence from rural Malawi. Comp Educ Rev 2013 May 1;57(2):260-84.