Original Article

Menstrual hygiene management and menstrual problems among adolescent girls in an urban area in north India: A cross-sectional study

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Abstract

Introduction: Most adolescent women face many restrictions, which become much more severe during menstruation. In India, millions of adolescent girls drop out of school every year due to menstruation-related problems and restrictions. Despite extensive research, a paucity of literature was observed on the level of knowledge, attitude, and practices of adolescent girls regarding menstruation. Hence, we proceeded to undertake the present study, to have a deeper understanding of the menstrual hygiene management of adolescents. **Aims:** To describe the menstrual hygiene management among adolescent school girls. **Objectives:** (a) To examine the association, if any, between menstrual hygiene management and school absenteeism during menstruation in adolescent school girls. **Materials And Methods:** We conducted a school-based cross-sectional analytical study in an urban area in north India. The study population comprised adolescent school girls of all the high schools in the urban area. With a 95% confidence interval, and 5% margin of error, the sample size was calculated to be 369. However, an even larger sample size of 600 was actually studied. The probability proportional to size sampling approach was followed based on the number of adolescent girls in each school class/section. Participants were selected through a stratified proportionate sampling method. Ethical approval was obtained from the ethical committee of the district director of education of the urban area where the study was conducted before the commencement of the study. Confidentiality of the information collected was ensured. The data collected was quantitative in nature, using a pretested self-administered questionnaire consisting of both open-ended and close-ended questions. Data was checked for its completeness, coded, and entered into Microsoft Excel 2021 Spreadsheet. Subsequently, the data was imported into IBM Statistical Package for the Social Sciences (SPSS) Statistics for Windows, Version 23.0. Armonk, NY: IBM Corp. for data analysis. Standard statistical methods were utilized for data analysis. **Results:** The mean age (standard deviation [SD]) of the study participants was 13.68 (1.29). The mean age (SD) at menarche was 13.29 (0.96). Based on the overall menstrual hygiene management score, 377 (62.83%) of the study participants were engaged in good menstrual hygiene management, while 223 (37.17%) were engaged in poor menstrual hygiene management. The mean score (SD) was 7.80 (±0.43). Compared to those aged 17–19 years, those aged 10–13 years had a 0.36 (95% CI 0.17–0.75) decreased odds of good menstrual hygiene, while those aged 14–16 years had a 0.29 (95% CI 0.14–0.59) decreased odds of good menstrual hygiene. The adjusted odds ratios were 0.32 (95% CI 0.19–0.65) and 0.25 (95% CI 0.12–0.41) respectively. Out of 600 study participants, 229 (38.17%) reported school absenteeism at least once in the last 1 year because of menstruation. The mean (standard deviation) duration of school absenteeism was 2.4 (0.78) days per menstrual cycle. The commonest reason for menstruation-related school absenteeism was pain, wherein 105 (45.85%) study participants reported

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this reason. **Conclusion:** In our study, we observed that over two-thirds of the study participants were engaged in good menstrual hygiene practices, while ~40% of them reported menstrual-related school absenteeism. Our study also found evidence that the age of the school girls was associated with their menstrual hygiene management practices. We recommend further research on the impact of menstruation and its management on the academic performance of adolescent school girls. Efforts are also required to develop the capacity of teachers to teach menstrual hygiene education.

Keywords: Adolescence, hygiene, menstruation

Introduction

The natural biological process of menstruation is a period of change from adolescence to womanhood. Notwithstanding this fact, worldwide millions of adolescent women are denied the right to a dignified and healthy control over their menstrual cycle.[1-3]

First, menstruation (menarche) most commonly occurs between the ages of 11 and 14 years. However, in some cases, it may commence as early as 8 or at 17 or older. Menstrual hygiene is fundamental to the dignity and health of women and girls. It is an issue that every girl has to deal with right from adolescence till menopause.[4-6]

The World Health Organization (WHO) has defined adolescence as the period between 10–19 years of age. It is the phase of physical and mental development, wherein the individual transits from childhood to adulthood and is characterized by immense physical, psychological, mental, social, and hormonal changes.[7]

There exists wide variation in menstrual hygiene management (MHM) practices both within and between countries. MHM includes, practices such as type of absorbent material use, frequency of changing, bathing, method of washing, drying, and storing reusable pads, location of menstruation-related changing, and washing practices.[8-10]

The leading contributors to the morbidity burden of adolescent girls are dysmenorrhea, premenstrual syndrome, and poor menstrual hygiene.[7,11]

India is host to 20% of the world's population of adolescent women. Most of these adolescent women face many restrictions, which become much more severe during menstruation. Consequently, they are prevented from taking part in several activities of social life, such as worshipping, bathing, and cooking. In India, millions of adolescent girls drop out of school every year, due to menstruation-related problems and restrictions.[3,12,13]

Despite extensive research, we observed that there was a paucity of literature on the level of knowledge, attitude, and practices of adolescent girls regarding menstruation. It is of vital importance for policymakers to appreciate the access to and use of menstrual hygiene methods among adolescent women in India.

It was keeping the above points in mind that we proceeded to undertake the present study, to have a deeper understanding of the menstrual hygiene management of adolescents and the impact of menstruation and menstrual hygiene practices on school absenteeism among adolescent school girls in an urban area in north India.

Aims

To describe the menstrual hygiene management among adolescent school girls.

Objectives

(a) To examine the association, if any, between menstrual hygiene management and school absenteeism during menstruation in adolescent school girls.

Materials and Methods

General settings and study design

We conducted a school-based cross-sectional analytical study in an urban area in north India. There were seven high schools in the urban area. The study population comprised adolescent school girls of all the high schools in the urban area. Data was collected from high school girls between the ages of 10 and 19 years who had attained menarche. Girls experience menarche between the age of 11 to 14 years.[4-6] Hence, the study participants were selected from high schools. The study was carried out from Jan 2022 to Dec 2022.

Sample size and sampling procedure

Cochran's correction formula for a finite population was used for the calculation of the sample size. The sample size for the study was determined using Cochran's correction formula for a finite population.[14]

Thus, the following formula was used:

$$\frac{n = Z^2P\,(1 - P)}{d2}$$

where n = Sample size,

Z = Z statistic for a level of confidence (1.96 for 95% confidence level),

P = Expected prevalence or proportion, and. d = Precision.

Based on the previous available literature, we assumed a 40% prevalence of menstrual hygiene practices.[15] With a 95% confidence interval and a 5% margin of error, the sample size was thus calculated to be 369. However, an even larger sample size of 600 was actually studied, thereby largely increasing the power of the study.

We apportioned the estimated sample size to each school, class, and section using a stratified proportional to size sampling approach based on the number of adolescent girls of each age group in each school class and section, respectively. With the assistance of school teachers using class registers, a sampling frame of eligible participants for each school, class, and section was designed. The list so generated was then used to select participants through a stratified sampling method.[16]

The students were identified using the classroom registers. They were approached in their respective classrooms in each school. Subsequently, the study participants were put together in one classroom for completion of the study questionnaire. One school teacher was purposively selected in each school as a key informant to interview on the impact of menstruation on school attendance. Classroom teachers who had taught in the school for at least 2 years and consented to play the role of key informant were selected. Female teachers who met the above criteria, were given preference over male teachers, as adolescent girls are more likely to disclose their menstruation-related problems with female teachers as against male teachers.

Inclusion criteria

All adolescent nonpregnant girls present in the school on the days of data collection were included in the study sample.

Exclusion criteria

The following were the exclusion criteria:

(i) All adolescent girls present in the school on the days of data collection were excluded from the study sample.
(ii) Girls absent from school due to any other reason other than menstruation.
(iii) Pregnancy.

Ethical approval

Ethical approval was obtained from the ethical committee of the district director of education of the urban area where the study was conducted before the commencement of the study. Permission was also obtained from the principal of each school. The purpose and significance of the study were explained to the study participants, following which they signed a consent form that was designed for the study and gave their written consent.

For study participants who were under the age of consent, informed verbal consent was obtained from the principals of the respective schools, head teachers of their respective class/section, and signed informed assent from the participants. The consent procedure was approved by the ethics committee and accepted by the principals and head teachers. Confidentiality of the information collected was ensured.

Data collection procedure

Data collected was quantitative in nature, using a pretested self-administered questionnaire consisting of both open-ended and close-ended questions on sociodemographic characteristics of the participants, menstrual hygiene management, and the effect of menstruation on school attendance/absenteeism of the study participants. The questionnaire was field-tested by means of a pilot study among 30 adolescent girls with similar characteristics as the study population. Thus, the reliability of the instrument and the ability of the participants to comprehend and reply to the questions were assessed. Requisite amendments were made to the questionnaire after the pilot study. The subjects of the pilot study were not included in the final analysis. Three female research assistants were recruited and trained to administer the questionnaire. The school teachers assisted in positioning the study participants apart from each other in classrooms to prevent discussions between them while responding to the questionnaire. Since the subject of menstruation is culturally sensitive, adolescent boys and male teachers were not permitted in the classrooms where the data collection was carried out. The female research assistants explained to the study participants how to complete the questionnaires and offered assistance to whomsoever, wherever, and whenever it was required.

The study participants were informed of the purpose of the study and their right to decline to answer any question or withdraw from participation at any time during the study.

Definition of terms

Menstrual hygiene management

The menstrual hygiene management definition proposed by the WHO and United Nations International Children's Emergency Fund (UNICEF) is as under: "Women and adolescent girls are using a clean menstrual management material to absorb or collect menstrual blood, that can be changed in privacy as often as necessary for the duration of a menstrual period, using soap and water for washing the body as required, and having access to safe and convenient facilities to dispose of used menstrual management materials. They understand the basic facts linked to the menstrual cycle and how to manage it with dignity and without discomfort or fear." This definition was adopted for the purpose of our study.[17]

Menstrual-related school absenteeism

Missing one or more days of school because of menstruation or its management was adopted as the definition for menstrual-related school absenteeism.[6]

School attendance records were cross-checked to validate the information on absenteeism.

Adolescent school girls between the ages of 10 and 19 years were considered as adolescents in this study.[7]

Data management and statistical analysis

Data was checked for its completeness, coded, and entered into Microsoft Excel 2021 spreadsheet. Subsequently, the data was imported into IBM Statistical Package for the Social Sciences (SPSS) Statistics for Windows, Version 23.0. Armonk, NY: IBM Corp. to carry out the data analysis. Standard statistical methods were utilized to carry out the data analysis.[18,19]

Responses of the study participants were compiled by whether they had ever experienced menstruation-related school absenteeism. Menstrual hygiene management was assessed based on nine menstrual hygiene management questions and scored based on the scoring scheme of a previous study carried out by Upashe *et al.*[15] One point was awarded for each correct response, while no points were awarded for incorrect responses. The scores were added to assess the overall menstrual hygiene management score of the study participants.

Participants who had scored 6–9 points were classified as following good menstrual hygiene management, while those who scored less than five points were classified as following poor menstrual hygiene management. Univariate and multivariate logistic regression analysis was carried out to provide crude and adjusted effect estimates and 95% confidence intervals for the association, if any, between various sociodemographic factors and the menstrual hygiene management of the study participants. Only independent factors that depicted statistically significant association ($P < 0:05$) in the initial univariate analysis were taken into account for the multivariate regression model.

Results

Sociodemographic characteristics of study participants

Out of 600 study participants, 348 (58%) were of the age group 14–16 years, followed by 180 (30%) in the age group of 17–19 years, and 72 (12%) in the age group of 10–13 years.

Four hundred and twenty (70%) had attained menarche between 13 and 15 years of age. The mean age (SD) of the study participants was 13.68 (1.29). Mean age (SD) at menarche was 13.29 (0.96). Five hundred and forty (90%) were from nuclear families.

Duration of menstruation, menstrual frequency, and menstrual problems

Out of 600 study participants, 480 (80%) reported menstruation lasting for 3–5 days, 66 (11%) had their periods for more than 5 days (menorrhagia), while 54 (9%) had menstruation lasting for only 2 days (hypomenorrhoea). Four hundred and fifty (75%) of the girls reported normal bleeding, 78 (13%) reported heavy bleeding (menorrhagia), and 72(12%) reported scanty bleeding (hypomenorrhoea). Age group-wise duration of menstruation is presented in Figure 1.

Out of 600 study participants, 507 (84.5%) gave a history of a normal menstrual cycle every 25–30 days, 84 (14%) had menstrual cycles every 21 days or less (polymenorrhoea), while 9 (1.5%) reported having cycles longer than 35 days (oligomenorrhoea). Out of 600 study participants, 110 (18.33%) experienced dysmenorrhoea, 133 (22.17%) had backaches, and 35(5.83%) had pain in the legs. Age group-wise frequency of menstrual cycles and participants experiencing dysmenorrhoea and other menstrual symptoms are depicted in Figures 2 and 3, respectively.

Menstrual Hygiene Management of Adolescent School Girls: During menstruation, 356 (59.33%) and 244 (40.67%) girls were using sanitary napkins and clothes/rags, respectively. Age group-wise distribution of the type of absorbent material is given in Table 1. The frequency of changing absorbent materials was three times or more in a day, which was there in 353 (58.83%), and in the rest, it was less than three times a day. 490 (81.67%) of the study participants gave a history of washing their hands both before and after changing their pads [Figure 4].

Out of 600 study participants, 365 (60.83%) gave a history of disposing of their used sanitary pads/clothes/rags in the latrine, while 235 (39.17%) were disposing of their used sanitary pads/clothes/rags in the waste bin [Figure 5]. Four hundred and eighty-three (80.5%) of the study participants reported that they clean their genitals with water and soap during their menstruation; however, 582 (97%) follow the practice of daily baths during menstruation. Age group-wise distribution of habit of daily baths during menstruation is given in Table 2.

Based on the overall menstrual hygiene management score, 377 (62.83%) of the study participants were engaged in good menstrual hygiene management, while 223 (37.17%) were engaged in poor menstrual hygiene management. The mean score (SD) was 7.80 (±0.43).

Factors associated with menstrual hygiene management of adolescent school girls

In the bivariate analysis, the age of the study participants had a very strong association with menstrual hygiene management.

Table 1: Age group-wise distribution of using sanitary napkins and using clothes/rags

Age group (years)	Type of material used for menstrual hygiene management		Total (%)
	Using sanitary napkins No. (%)	Using clothes/rags No. (%)	
10–13	088 (48.89)	092 (51.11)	180 (30)
14–16	212 (60.92)	136 (39.08)	348 (58)
17–19	056 (68.29)	026 (31.71)	072 (12)
Total	309 (51.5)	291 (48.5)	600 (100)

Note: The percentages in the first three rows in the column of type of material used for menstrual hygiene management are given out of the total study participants in the respective age group. The percentages in the last row in the column of type of material used for menstrual hygiene management are given out of the total study participants, that is, 600. The percentages in the last column are given out of the total study participants, that is, 600

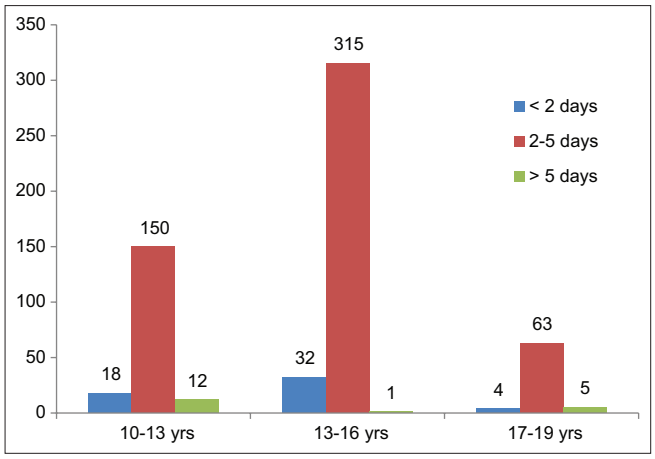

Figure 1: Age group-wise duration of menstruation

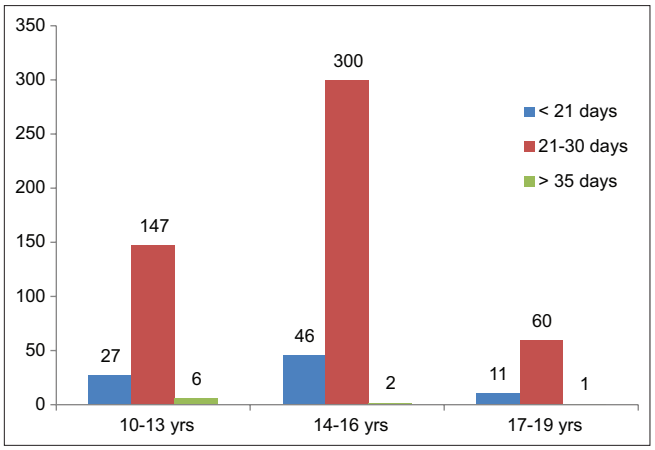

Figure 2: Age group-wise frequency of menstrual cycles

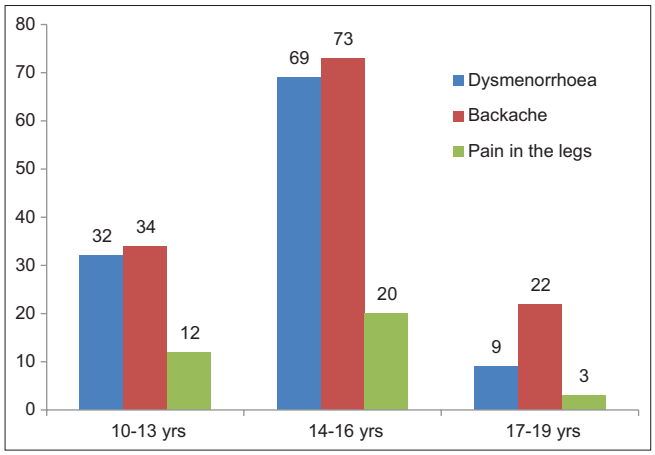

Figure 3: Age group-wise distribution of dysmenorrhoea and other menstrual symptoms

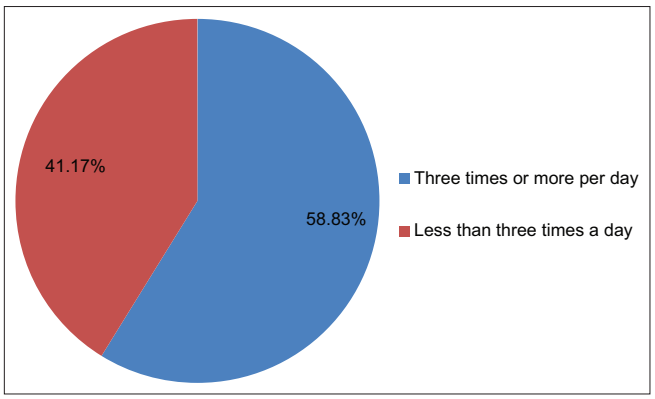

Figure 4: Frequency of changing absorbent materials

Age group-wise distribution of overall menstrual hygiene score is shown in Table 3. Compared to those aged 17–19 years, those aged 10–13 years had a 0.36 (95% CI 0.17–0.75) decreased odds of good menstrual hygiene, while those aged 14–16 years had a 0.29 (95% CI 0.14–0.59) decreased odds of good menstrual hygiene. The adjusted odds ratios were 0.32 (95% CI 0.19–0.65) and 0.25 (95% CI 0.12–0.41).

Influence of menstruation on the school attendance of adolescent girls

Out of 600 study participants, 229 (38.17%) reported school absenteeism at least once in the last 1 year because of menstruation, while the remaining 371 (61.83%) study participants said that they had never missed school because of menstruation. Out of 410 study participants who were engaged in good menstrual hygiene, 155 (37.80%) reported menstruation-related school absenteeism. Out of 190 study participants who were engaged in poor menstrual hygiene, 74 (38.95%) reported menstrual-related school absenteeism. These findings are tabulated in Table 4. Mean (SD) duration of school absenteeism was 2.4 (0.78) days per menstrual cycle. However, we did not observe any association between menstrual hygiene management and menstruation-related school absenteeism. ($x^2 = 0.07$, $P = 0.78$)

The commonest reason for menstruation-related school absenteeism was pain, wherein 105 (45.85%) study participants reported this reason. This was followed by fear of staining the dress and fear of being teased, which were reported by 83 (36.24%) and 64 (27.95%), respectively. Cultural and religious restrictions accounted for 45 (19.65%) of responses. These findings are tabulated in Table 5.

Discussion

The taboo of menstrual hygiene is compounded by gender inequality and various religious/cultural beliefs and practices that exclude women from the decision-making processes. Our study was planned to assess the knowledge and practices of menstrual hygiene among unmarried adolescent girls in an urban area in North India so that the results can be utilized for some need-based intervention.

Our study revealed that nearly 40% of the study participants had one or more menstrual problems. Menstrual problems observed in our study were menorrhagia (11–13%), hypomenorrhoea (12%), polymenorrhoea (14%), oligomenorrhoea (1.5%), and

dysmenorrhoea (18.33%). Juyal *et al.*[20] in their study, reported a prevalence of dysmenorrhoea varying from 63.5 to 67%. Varghese *et al.* and Lee *et al.,* in their studies, reported the prevalence of dysmenorrhoea as 79% and 82%, respectively.[7,21] The findings of our study are in stark contrast to those of the above three studies. This could be attributed to the different population in our study and those conducted by the previous researchers. The findings of Bahrami *et al.,* wherein they reported a prevalence of menstrual symptoms of 35.9%, are comparable to the findings of our study.[22]

We observed that over two-thirds of the study participants were engaged in good menstrual hygiene management, while approximately two-fifths of them reported menstrual-related school absenteeism. After controlling for the effect of various factors, we observed that the age of the study participants was associated with the practice of good menstrual hygiene management.

Table 2: Age group-wise distribution of habit of daily bath during menstruation

Age group (years)	Habit of daily bath during menstruation		Total (%)
	Yes no. (%)	No no.(%)	
10–13	174 (96.67)	006 (03.33)	180 (30)
14–16	341 (97.99)	007 (02.01)	348 (58)
17–19	067 (93.06)	005 (06.94)	072 (12)
Total	582 (97)	018 (03)	600 (100)

Note: The percentages in the first three rows in the column of habit of daily bath during menstruation are given out of the total study participants in the respective age groups. The percentages in the last row in the column of habit of daily baths during menstruation are given out of the total study participants, that is 600. The percentages in the last column are given out of the total study participants, that is, 600

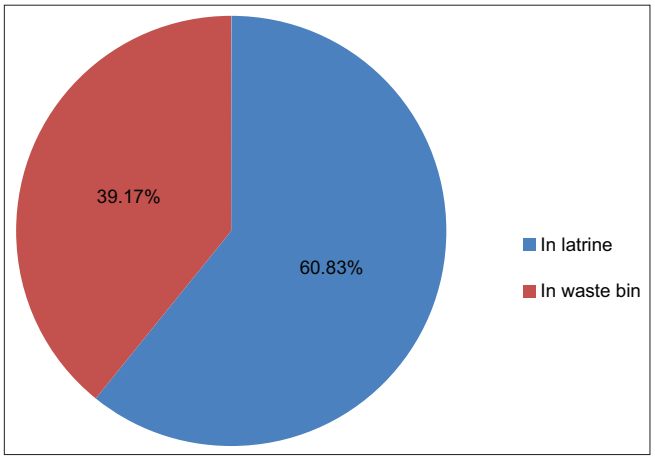

Figure 5: Method of disposing of absorbent material

Table 3: Age group-wise distribution of overall menstrual hygiene score

Age group (years)	Overall menstrual hygiene score		Total (%)	Crude odds ratio (95% CI)	*P*	Adjusted odds ratio (95% CI)	*P*
	6–9 points (Good) No. (%)	<5 points (Poor) No.(%)					
10–13	124 (68.89)	056 (31.11)	180 (30)	0.36 (0.17–0.75)	<0.001	0.32 (0.19–0.65)	<0.001
14–16	224 (64.37)	124 (35.63)	348 (58)	0.29 (0.14–0.59)		0.25 (0.12–0.41)	
17–19	062 (86.11)	010 (13.89)	072 (12)	1		1	
Total	410 (68.33)	190 (31.67)	600 (100)				

x^2=13.07, *P*<0.001. Note: The percentages in the first three rows in the column of overall menstrual hygiene score are given out of the total study participants in the respective age group. The percentages in the last row in the column of overall menstrual hygiene score are given out of the total study participants, that is, 600. The percentages in the column of total are given out of the total study participants, that is, 600

Table 4: Age group-wise distribution of reported school absenteeism in study participants with good menstrual hygiene and poor menstrual hygiene

Age group (years)	Good menstrual hygiene		Total (%)	Poor menstrual hygiene		Total (%)
	Reported school absenteeism No. (%)	Did not report school absenteeism No. (%)		Reported school absenteeism No. (%)	Did not report school absenteeism No. (%)	
10–13	048 (38.71%)	076 (61.29)	124 (30.24%)	023 (41.07%)	033 (58.93%)	056
14–16	086 (38.39%)	138 (61.61%)	224 (54.63%)	047 (37.90%)	077 (62.10%)	124
17–19	21 (33.87)	41 (66.13%)	062 (15.12%)	004 (40%)	006 (60%)	010
Total	155 (37.80%)	255 (62.20%)	410 (100%)	74 (38.95%)	116 (61.05%)	190 (100%)

Note: The percentages in the first three rows in the columns of reported school absenteeism are given out of the total study participants in the respective age group who reported menstruation-related school absenteeism. That is, the percentages in the last row in the columns of reported school absenteeism are given out of total study participants with good menstrual hygiene and poor menstrual hygiene, that is, 410 and 190, respectively. The percentages in the columns of total are given out of total study participants with good menstrual hygiene and poor menstrual hygiene, that is, 410 and 190, respectively

Table 5: Age group-wise distribution of reasons for menstruation-related school absenteeism

Reason for menstruation-related school absenteeism	Age group (years)			Total (%)
	10–13 No. (%)	14–16 No. (%)	17–19 No. (%)	
Pain	051 (48.57)	047 (35.34%)	007 (28%)	105 (45.85%)
Fear of staining the dress	026 (36.62%)	048 (36.09%)	009 (36%)	083 (36.24%)
Fear of being teased	019 (26.76%)	037 (27.82%)	008 (32%)	064 (27.95%)
Cultural and religious restrictions	014 (19.72%)	26 (19.55%)	005 (20%)	045 (19.65%)
Total	110 (154.93%)	158 (118.80%)	029 (116%)	297 (129.69%)

Note: The percentages in all four rows in the columns of age group are given out of the total study participants in the respective age group, that is, 71, 133, and 25 in the age groups 10-13, 14–16, and 17–19, respectively. The percentages in the column of the total are given out of the total study participants who reported menstruation-related school absenteeism. The figures in the last row and last column add up to more than 100% due to multiple responses by some study participants

Our study observed an overall prevalence of 68.33% of good menstrual hygiene management practices. Upashe *et al.*reported an overall prevalence of 39.9% of good menstrual hygiene management.[15] Singh *et al.*, Mohammed S *et al.,* and Yadav *et al.,* in their studies among adolescent women, reported an overall prevalence of 42, 50.8, and 40% of good menstrual hygiene management, respectively.[3,6,23] The findings of our study differ from those of all the above studies. This difference could be because of the difference in population of our study and those conducted by the previous researchers. The findings of our study are similar to those of the studies among adolescent girls carried out by Kumbeni *et al.* and Bhusal CK, wherein they reported good menstrual hygiene management in 61.4% and 67% of their study participants, respectively.[24,25]

In our study, we have observed an increasing odds of good menstrual hygiene management with an increase in age. There exists evidence in the literature that shows that menstrual hygiene management practices vary significantly between adolescent girls of different ages.[4,6] The findings of both the above studies are in consonance with those of our study. This may explain why girls between the ages of 17 and 19 years had increased odds of good menstrual hygiene management compared to those in the 10–13- and 14–16-year age groups. This could be attributed to better knowledge about menstrual hygiene products, their use, and storage among older girls because they would have had better opportunities to learn from peers and family as compared to younger girls.

Dambhare *et al.* reported a prevalence of menstruation-related school absenteeism of 13.9%[26]. Varghese *et al.,* in their study among adolescent girls, reported 23% school absenteeism due to menstrual problems, wherein the girls had missed their school for 1 to 3 days.[7] The prevalence of menstruation-related school absenteeism in both these studies is much less than the prevalence of 38.17% observed in our study. Tegegne *et al.,* in their study on adolescent girls in Ethiopia, reported a much higher prevalence of menstruation-related school absenteeism of 54.51% as compared to our study.[27]

Mohammed S *et al.* and Alam *et al.,* in their studies on adolescent girls, reported a prevalence of menstruation-related school absenteeism of 40.4% and 41%, respectively.[6,28] The findings of our study are similar to those of both the above studies.

Limitations

Our study has several limitations which need to be kept in mind when interpreting the findings. Firstly, due to resource constraints, data on school facilities, socioeconomic status, educational status of parents, and other potential risk factors for poor menstrual hygiene management were not collected. Such data, if collected and analyzed, could have provided a deeper understanding of menstrual hygiene management practices among adolescent girls.

Adolescent school girls who have attained menarche were identified with the help of a female teacher. Hence, our sample may not be representative of the total population, which was tackled by taking a larger sample of the study population than estimated statistically. Besides, those girls who were absent on the day of the survey might have been menstruating and so may have been under-represented.

Conclusion

In our study, we observed that over two-thirds of the study participants were engaged in good menstrual hygiene practices, while ~40% of them reported menstrual-related school absenteeism. Our study also found evidence that the age of the school girls was associated with their menstrual hygiene management practices.

We recommend further research on the impact of menstruation and its management on the academic performance of adolescent school girls. We also recommend extensive research on the reproductive health effects of poor menstrual hygiene practices. This will enable the primary care physician to have a better comprehension of the effects of menstrual hygiene management beyond school attendance and academic performance.

Health education should be provided to girls regarding the process of menstruation and the importance of menstrual hygiene management practices before they attain menarche. The health education should also include the effects of menstrual hygiene management on their future reproductive health. Thus, the target of the National Rural Health Mission (NRHM) of taking care of Adolescent Sexual and Reproductive Health (ASRH) will be fulfilled. Promoting the education and empowerment of adolescent school girls and women would yield greater results in increasing the level of exclusive use of hygienic methods among this population.

Disadvantaged groups of adolescent women can be targeted by policymakers and stakeholders, to improve the level of menstrual hygiene management practices. Several government programs which have commenced in recent years, could be supported, expanded, and broadened to cover the entire adolescent women population.

A broader discussion within the community might also create a more supportive environment for girls to attend school during menstruation. Efforts are also required to develop the capacity of teachers to teach menstrual hygiene education.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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