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Assessment of knowledge and practice regarding menstrual hygiene among school going adolescent girls of Jaipur city

Authors
Nikita Sharma, Rekha Shekhawat*, Kusum Gaur, K K Meena, G L Meena, Monika Rathore, Mahesh Verma, Dilip Raj, Rajeev Yadav, Suresh Kewalramani
Corresponding Author
Rekha Shekhawat

Abstract

Introduction: *There is lack of information on the process of menstruation, the physical and psychological changes associated with puberty and proper requirements for managing menstruation. Hence this community based study was carried out with the objective to assess the level of knowledge and practice regarding menstrual hygiene among school going adolescent girls.*

Methodology: *A descriptive, cross sectional study was conducted among 996 adolescent girls of senior secondary schools of Jaipur city.*

Results: *It was evident that 80.72% participants were aware about menstruation before their menarche and the most important sources of information were mothers (67.77%).Participants who were aware of the fact that menstruation is a normal process in which source of bleeding is uterus was 60.14%.Majority (68.07%) used sanitary pad as absorbent material. 34 % changed absorbent every 5-6 hours. 51 .70% of participants cleaned external genital area twice a day. Majority (75.56%) of participants discard the pad in dustbin after wrapping in paper.*

Conclusions: *The present study reveals that only 68.07% participants use sanitary pads. There is strong need to improvise and promote good menstrual hygiene knowledge and practices among adolescent girls. Improving mother's knowledge on menstrual hygiene management can go a long way in improving menstrual hygiene practice.*

Keywords: *Adolescent girls, Menarche, Menstruation, Menstrual Hygiene.*

Introduction

Adolescence is a transitional phase of growth and development between childhood and adulthood. The World Health Organization (WHO) defines an adolescent as any person between ages 10 and 19 years[(1)]. India is the home to 243 million adolescents contributing to one fifth (21.4%) of India's Population and Adolescent girls constitute to 47 percent of total adolescent population[(2)]. Adolescence is understood as a stage in the lives of females, which indicates their transition from girlhood to womanhood. This transitional period is marked with the onset of menarche, an important biological milestone.[(3)]. Menarche is the first menstruation of a girl. Menarche is the first menstruation of a girl .It occurs at the age of 12-13 years, although it may occur as early as 10 years or as late as 16 years. The age of menarche is between 10-16 years (average age 13.5years) in India[(4)]. Globally about 52% of the female

population is of reproductive age, meaning menstruation is part of their normal life and menstrual hygiene is therefore an essential part of basic hygienic practices[5]. Menstrual hygiene, which refers to the effective management of menstrual bleeding by women and girls, is an important aspect of reproductive health, which if not handled appropriately can cause infections of the urinary tract, pelvic inflammatory diseases and vaginal thrush, as well as bad odor, soiled garments and ultimately shame, leading to infringement on the girl's dignity[6]. Hence, targeting school girls at the time of adolescence is an appropriate strategy since it is the time when most of them are curious about their bodily changes and also active learning phase takes place. Even in urban areas due to lack of time given by parents, hesitation of teachers girls have incomplete knowledge regarding menstruation. Thus, present study was conducted with the aim to explore the prevailing knowledge and practices of menstrual hygiene among school going adolescent girls (10 -19 years) of Jaipur city.

Material and Methods

Study Area: Senior Secondary schools of Jaipur City.

Study Type: This is a community based descriptive type of observational study which was conducted on adolescent female students (10-19 years) of Jaipur city.

Study Design: Cross sectional study design.

Study Period: After getting approval from the institutional research review board and Ethical committee, plan of study was executed. Data collection for this study was carried out from 1st July 2017 to 10th April, 2018.

Study Universe: Female students of age group 10- 19 years studying in class 6th -12th of randomly selected schools of Jaipur city**.**

Sample Size: The sample size calculated was 793 at 95% confidence interval and 7% relative error to verify the expected minimum 50.8%[7] of prevalence of adolescent girls practicing the use of sanitary pads during menstruation. It is enhanced to 1000, to cover the expected 20% non response.

Study Tool: Pre designed and pre tested structured questionnaire having following parts:

a) Section A-Socio demographic Proforma.
b) Section B-Questions for assessment of menstrual pattern including age of menarche, cycle length, duration of flow, menstruation related physical problems.
c) Section C-Questionnaire regarding knowledge of menstrual hygiene.
d) Section D-Questionnaire regarding practice of menstrual hygiene.

Inclusion Criteria

- Female students of 10 to 19 years studying in Government and Private senior secondary schools (Girls and Co-Educational) having ≥ 500 students f Jaipur City
- Female students present on the day of study.
- Female students who had attained menarche.

Exclusion Criteria

- Those whose Principal /school authorities did not give consent.
- Female students who had not attained menarche.
- Female students who were absent on the day of study.

Sampling Technique

A complete list of Senior Secondary; Government and Private Schools of Jaipur city; with ≥500 students (girls or co-educational) was procured from Department of Education, Jaipur. All schools in each zone of the city (East, West, North and South) were categorized into government and private schools. One school each of government and private category from each zone (East, West, North and South zone) was selected by simple random sampling technique i.e. 8 schools in total. Permission to collect information was taken from District Education officer. Permission was taken

from principals of the selected School. If permission from selected school authority was not granted then it was replaced by the next school in the list in same category.125 female students studying in class 6-12th from each school were randomly selected to cover the sample size of 1000.Hence 18 randomly selected female students from each class(6th to 12th) were included .In case there was more than one section in a class , section was selected by chit in box method and 18 female students were selected by simple random method from the list of class roll numbers by using computer generated random numbers .If the selected female had not attained menarche than next roll number female student was selected All randomly selected eligible female students were asked to fill the pre-designed, pre-tested, structured Knowledge and Practice questionnaire after explaining them the purpose of study and promise anonymity. In co –educational schools, authorities were requested to make proper arrangements to ensure privacy for female students at the time of data collection .This was followed by a two way discussion with study participants in presence of school staff so as to improve their knowledge and practice regarding Menstrual Hygiene Management. Data was summarised in MS excel worksheet. Continuous data was summarized in form of mean and SD and analysed and Countable Data was expressed in form of proportions.

Results

Among 996 adolescent girls majority of` the participants were between 13-15 years, major group belonged to Hindu religion. Proportion in upper middle class and lower middle class found to be 42.27% and 31.73% respectively. 68.07% participants were living in a nuclear family while 31.92% were living in joint family (Table 1).Mean age of menarche of the respondents was 12.86 ± 0.933 years (Figure 1). Majority of the participants (80.72%) were aware about menstruation before the attainment of menarche (Figure 2). In majority (67.77%), mothers provided them the necessary information related to menstruation followed by elder sisters (18.17%), school teachers (17.67%), friends (10.64%) and media (9.13%). (Figure 3) .Majority of girls reported 3-5 days duration of menstrual blood flow .50.30% had 25-30 days cycle. Majority of girls (69.37%) faced the problem of dysmenorrhea followed by backache (17.87%) and nausea, vomiting (11.94%). (Table 2) 60.14% girls knew that menstruation is a normal process in which source of blood is uterus. Most (60.04%) of them were aware of the fact that menstrual hygiene includes choosing best hygiene products, bathing and care of vulva and vagina. 87.85% of girls had correct knowledge that readymade sanitary pads are the best absorbent to be used during menstruation (Table 3). However in practice only 68.07% participants used sanitary pad as absorbent material. 34.53% participants reported that they changed pad/cloth every 5-6 hours Majority of participants (95.96%) bath daily during menstruation. 51 .70% participants cleaned external genital area twice a day.75.56% of participants followed the correct practice of discarding the pad in dustbin after wrapping in paper. (Table 4)

Table 1 Socio-demographic distribution of study population (N=996)

Variables	Number (%)
Age Group(in Years)	
10-12years	161 (16.16)
13-15 years	436 (43.77)
16-19years	399 (40.06)
Religion	
Hindu	929 (93.27)
Muslim	52 (5.22)
Sikh	6 (0.60)
Others	9 (0.90)
Socio Economic Status	
Upper class	29 (2.91)
Upper-Middle class	421 (42.27)
Lower-Middle class	316 (31.73)
Upper-Lower class	220 (22.09)
Lower class	10 (1)
Type of family	
Nuclear	678 (68.07)
Joint	318 (31.92)

Table 2 Distribution of study population according to their menstrual characteristics

Menstrual Pattern	Number (%)
Normal duration of menstrual flow	
1-3 days	223 (22.46)
3-5 days	445 (44.67)
5-7 days	257 (25.88)
More than 7 days	71 (7.15)
Menstrual cycle in days	
20-25	191 (19.41)
25-30	501 (50.30)
30-35	236 (23.69)
More than 35	68 (6.91)
Physical problems during menstruation*	
Dysmenorrhea	691 (69.37)
Nausea and Vomiting	119 (11.94)
Breast tenderness	89 (8.93)
Backache	178 (17.87)
Any other	91 (9.13)
No complaint	104 (10.44)

*Multiple answers

Table 3 Distribution of study population as per knowledge regarding menstruation and menstrual hygiene

Items	Number(%)
Knowledge about Menstruation Process	
Normal process in which source of menstrual blood is uterus.	599 (60.14)
Normal process in which source of menstrual blood is urinary system.	197 (19.77)
Abnormal process which is not necessary.	15 (1.50)
Do Not Know.	185 (18.50)
Knowledge on Menstrual Hygiene	
Choosing best hygiene products, bathing and care of vulva and vagina during menstruation.	598 (60.04)
Only cleaning of genitalia.	94 (9.43)
Only changing of pads.	162 (16.26)
Do not Know.	142 (14.25)
Best absorbent to be used	
Sanitary Pad	875 (87.85)
New Cloth	51 (5.12)
Old Cloth	29 (2.91)
Do Not Know	41 (4.11)

Table 4 Menstrual Hygiene Practices

Items	Frequency(%)
Type of absorbent used	
Sanitary Pad	678 (68.07)
New Cloth	135 (13.55)
Old Cloth	63 (6.32)
Any of the above as per availability	120 (12.04)
Frequency of changing pad	
Twice a day	316 (31.72)
Once in a day	57 (5.72)
Whenever needed	279(28.01)
Every 5-6 hours	344(34.53)
Frequency of taking bath	
Daily	956 (95.98)
On first day and last day only	27 (2.71)
On last day only	10 (1.00)
No bathing	3 (0.30)
Frequency of cleaning external genitalia	
Once	190(19.07)
Twice	515(51.70)
3 or more than 3 times	291(29.21)
Disposal of Pads	
Discarding in dustbin after wrapping in paper	603(75.56)
Discarding in dustbin without wrapping in paper	101(12.65)
Flushing down in toilet	58(7.26)
Throw in open spaces	36(4.51)

Figure 1 Age of participants at the time of menarche (N=996)

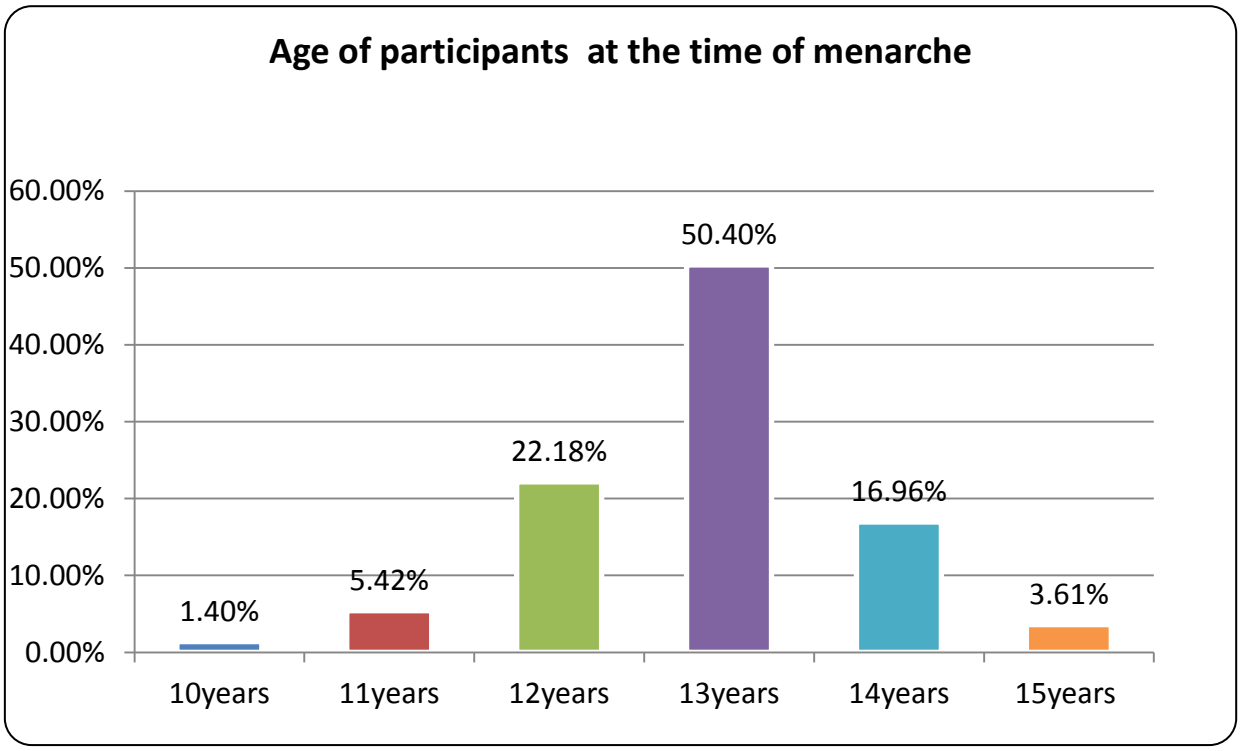


Figure 2 Distribution of study population as per their prior knowledge regarding menstruation (N=996)

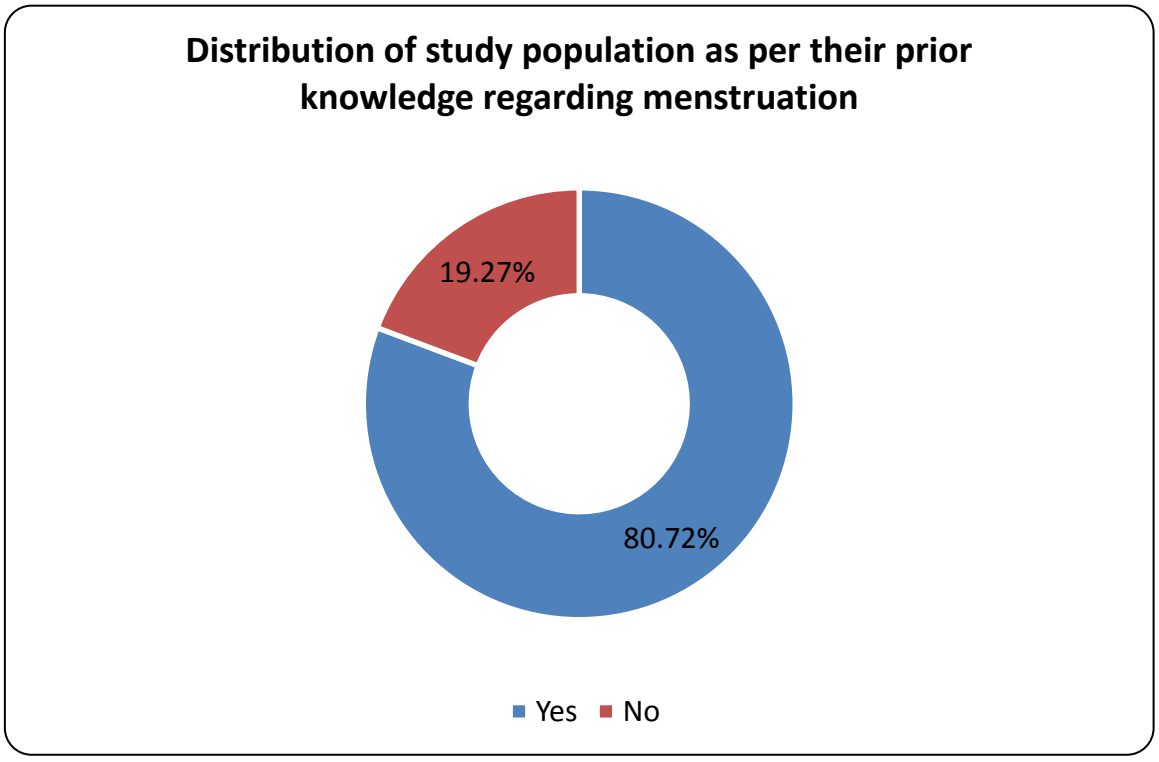
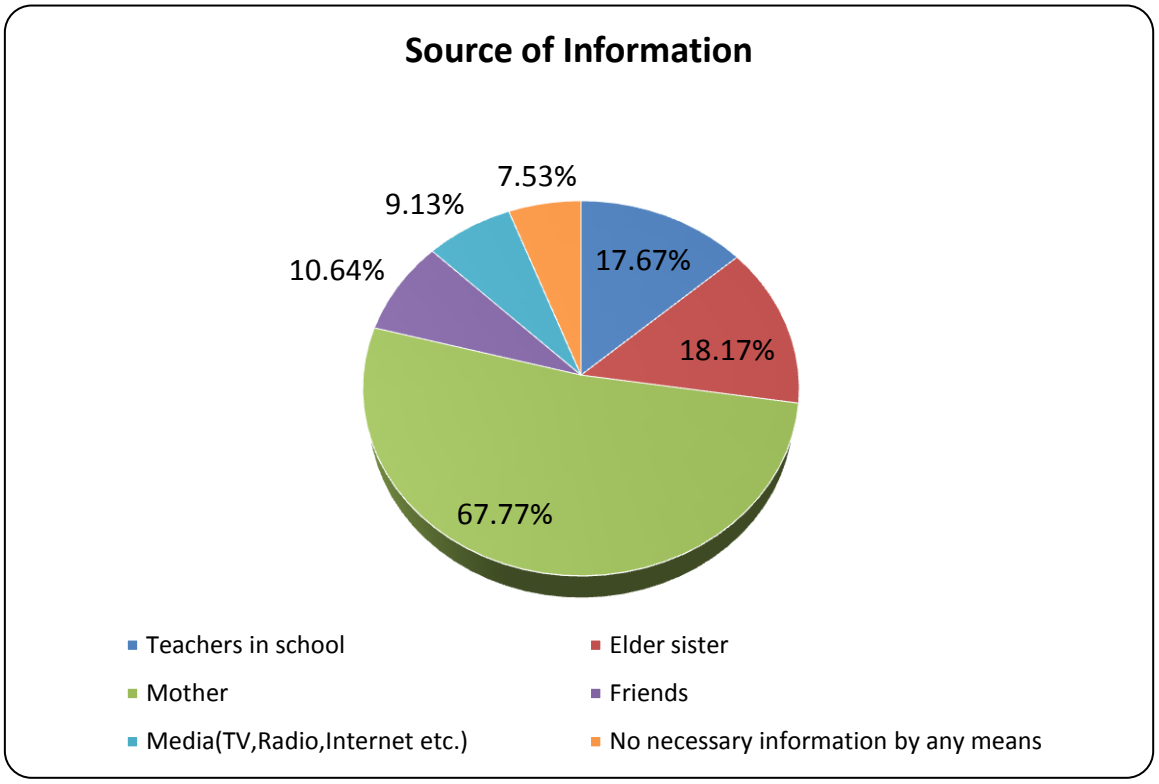


Figure 3 Distribution of study population as per their source of necessary information regarding menstruation: (N=996)



Discussion

Present study comprises 996 adolescent girls(10-19 years) of class 6-12th studying in senior secondary schools of Jaipur city. In the present study mean age of menarche of study population is 12.83+/-0.933 years which is similar to the study done by Dasgupta et al[8] in which the mean age of menarche of the respondents was 12.8 years whereas in a study conducted by Kollur et al[9], in Karad, Maharashtra mean age of Menarche was found to be 13.4 years. The difference may be of difference in socio demographic profile of the participants. In the present study 80.72% participants were having prior knowledge about menstrual cycle before their menarche which was supported by the study done by Dixit et al[10] who reported that majority of the girls (86%) knew about menstruation before menarche occurred . In contrast study done by Ester et al[11] in Rundu, Namibia showed that all (100%)the girls had knowledge on menstruation before menarche. The difference may be attributed to socio –demographic and cultural difference of the participants. In the present study it was found that main source of information related to menstruation was given by mothers in majority (67.77%) of the participants which is supported by the study done by Sanhita et al[12] in which primary source of information about menstruation were mothers(60.47%)teachers (17.05%) and elder sisters (6.20%). In contrast study among schoolgirls in Egypt by El- Gilany et al[13] reported that mass media was the main source of information whereas in the present study only 9.13% participants got information from mass media .The difference may be due to better mass media access by the participants in Egypt.

In the present study it was seen that 44.67% of participants reported 3-5 days duration which is less than what Dharampal G et al[14] concluded in his study showing proportion of respondents who had duration of flow of 2-4 days was 67.56%. However, in the present study menstrual flow duration of 5-7 days was found in 25.88% participants which was similar to the study conducted by Dharampal G et al (29.59%). Present study revealed that (5.8%) participants experienced longer duration of menstrual bleeding

(>7) days and (5.4%) reported duration of menstrual bleeding less than 3 days which is comparatively more than the study conducted by Dharampal et al who concluded that participants with duration of menstrual flow <2 days were 1.6% and those with menstrual flow >8 days were 1.25%. Priyamwada et al[15] concluded that menstrual flow duration of 3-5 days was found in 79.6% population while in present study this proportion was found to be 44.67%. Duration of 5-7 days is reported by 25.88% respondents in the present study which is supported by the study done by Priyamwada et al et al (20.3%). In present study 50.30% of girls reported cycle of 25-30 days while 6.91%had a cycle length longer than 35 days which was much less than the study done by Sudha Sharma et al[16] in Nepal, which concluded that 23.1% respondents had cycle longer than 35 days. The difference may be due to different lifestyle, dietary habits. In the present study the most common physical complaint faced by respondents was dysmenorrheal (69.37%) which is quite similar to the study done by Vinod Ramdasji Wasnik et al[17] (69.37%) who concluded that dysmenorrhea was the most common complaint faced by participants.

In the present study 60.14% participants knew that menstruation is a natural process in which source of bleeding is uterus similar to the findings by Reena Wagh et al[18] in which she concluded that 71% girls knew that menstruation is a physiological process and (68%) girls knew that source of bleeding is uterus. In contrast in a study done by Ray Sudeshna et al[19] concluded that number of respondents with correct information about source of bleeding during menstruation (uterus)was found to be only 17.9%. The difference may be because participants were from rural senior secondary school. In the present study participant who were having correct knowledge regarding the concept of menstrual hygiene was only 60.04% similar to the study done by Sasmita[20] who concluded that 70% of the subjects had knowledge regarding concept of menstruation. In contrast study by Lawan UM [21] et al documented that majority (87.5%) of the participants had knowledge about the concept of menstrual hygiene. The present study concluded that 87.85%of girls had correct knowledge that readymade sanitary pads are the best absorbent to be used during menstruation which was supported by the study done by Mathiyalagen et al[22] who concluded that sanitary pad was mentioned as ideal absorbent by 95.5% of the study population .

In the present study majority of participants used sanitary pad as absorbent material exclusively followed by new cloth (13.55%) which is supported by the study done by Kamaljit et al [23]who reported that 69.0 %of the respondents were using sanitary pads during the menstruation. In this study only 34.53% of study population changed the absorbent material every 4-5 hours which is similar to the the study done by Barthakur et al[24] in which 35.7% changed it ≥3 times a day. In contrast study done by Dixit et al [10] concluded that only 10% girls changed the absorbent thrice a day. In the present study majority of the participants practiced daily bathing (95.98%) which is supported by study by Pagadpally[25] in which majority (97%) respondents took bath daily. .On the contrary study done by Emam et al [26] 32.2% girls avoid bathing during menstruation , this difference may be due to socio-cultural background of the participants. The present study concludes that 75.56% of participants followed correct practice of discarding the pad in dustbin after wrapping in paper in contrast to the study done by Hema Priya [27] et al who concluded that majority of the girls (60.8%), burnt or buried their used menstrual absorbent. 7 percent participant of the present study flush it down in toilets and around 4.51% throw it in open spaces, which is supported by hema priya et al who also concluded that 6% girls disposed by flushing in the toilet.

Conclusions and Recommendation

The present study concluded that mothers were the major source of information of menstrual hygiene. Knowledge of using sanitary pad as

absorbent was more than practice of using sanitary pad among participants. Dysmenorrhea was the main problem faced by the respondents. Poor practices were seen regarding frequency of changing absorbent. This study highlighted the strong need of adolescent girls to have accurate and adequate knowledge and practice of menstrual hygiene management.

As mother's are the main source of information to their children regarding knowledge on menstrual hygiene, therefore mother's of young adolescent girls can be educated with appropriate menstrual hygiene management and trained with necessary skills of communication so as to transfer the needful information to their girl child. Seminars and campaigns to improve adolescent menstrual hygiene and self care should be organized by teachers and parents association involving young adolescent girls.

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