



MENSTRUAL HYGIENE MANAGEMENT AMONG RURAL ADOLESCENT GIRLS- A COMMUNITY-BASED CROSS-SECTIONAL STUDY

Dr. Tanya Sharma¹ Dr. K G Sruthi,² Dr. Kandarp Mathur,¹ Dr. Shraddha Gurha^{1,3},

1- JSPH, Poornima University, Jaipur, Rajasthan, India

2- Kle Vk Institute of Dental Sciences Belagavi, India

3- Model Rural Health Research Unit Badoni Datia, ICMR-National Institute of Research in Tribal
Health, Jabalpur, Madhya Pradesh, India

Corresponding Author: Dr. Shraddha Gurha

ABSTRACT

Background and Objectives

Menstruation is a universal and normal phenomenon that occurs during the reproductive age of females. Adolescence is a critical phase in which females prepare for and adapt to managing their menstrual bleeding in a safe and hygienic manner. Little available studies in India had no particular focus on adolescent school girls' knowledge and menstrual hygiene practice. This is an unrecognized and unaddressed public health concern in developing countries like India. Therefore, this study aimed to assess the Knowledge and menstrual hygiene practices of adolescent school girls and to estimate the prevalence and pattern of menstrual hygiene management among adolescent girls in the Bassi Tehsil of Jaipur.

Methodology

A community-based cross-sectional study was conducted in Bassi tehsil of Jaipur for 8 months from February 2021 to October 2021. There are a total of 206 villages in the Bassi Tehsil. We have selected 20 villages randomly as sample villages; 25 girls were selected from each govt. school of respective villages of Bassi. Girls studying in standard 8th to 12th in Bassi were included in the study. A 37-item, pre-tested self-administrated anonymous, semi-structured questionnaire was used to assess the prevalence and pattern of menstrual hygiene in adolescent girls. The survey focused on the knowledge and awareness of participants regarding menstrual hygiene. Descriptive statistics were performed to summarize the characteristics and answers to each question. Categorical data were presented as frequency and percentages.

Results

The prevalence of knowledge among adolescent girls was found to be 89.5%. In the present study, 29.5% miss social function during menstruation. The chi-square test shows a statistically significant difference between both groups.

Conclusion

Menstrual hygiene among the study population was found to be fair. Improving the education level of mothers can go a long way in improving menstrual hygiene practices. This study concludes that adolescent girls need to be educated about the facts of menstruation and menstrual hygiene practices in order to improve menstrual hygiene and bring them out of traditional beliefs, misconceptions, and restrictions regarding menstruation.

Keywords:- Menstruation, Adolescent, Women's health, Menstrual hygiene

INTRODUCTION:-

Menstruation is a universal and normal phenomenon during the reproductive age of females^{1, 2}. The onset of menses occurs during adolescence, a period marked by significant physiological and emotional changes^{2, 3}. Adolescence is an essential period where females are preparing and adjusting themselves to manage their menstrual bleeding in a safe and clean way^{3, 4}. This is also the ideal time that girls often join different environments including high schools and tried to plan for their next adulthood life³. However, most adolescent girls (girls with age ranges of 10 to 19 years old) enter their puberty stage (maturity) without preparing themselves due to the shortage of adequate information⁵. Most women are uncomfortable to discuss regarding “menses” as it is a social taboo and adolescent girls could not have access to gain adequate information^{4, 6}. Even the little information they receive most commonly from religious institutions, peers, and family members is often selective and surrounded by misperceptions⁷. For example, in developing countries like India, menstruation is often perceived as a result of being cursed, a sign of disease, a punishment from God, a lifelong process, and other factors⁷⁻¹¹. As a result, adolescent girls perceive menstruation as something embarrassing that should be kept hidden⁹⁻¹². This can increase the vulnerability of adolescent girls to mental, emotional, and physical problems^{13, 15}. These conditions further impair the daily activities, academic performance, school attendance, and social relationships of adolescent girls^{16, 17}. According to Census 2011 population data, about 336 million girls and women in India are of reproductive age and menstruate for 2-7 days, every month, and yet the topic of menstruation is expected to be a hush affair and kept under wraps,

black plastic bags, which is given to most of us each time we buy sanitary napkins.¹⁸ Little available studies in India had no particular focus on adolescent school girls' knowledge and menstrual hygiene practice. This is an unrecognized and unaddressed public health concern in developing countries like India. Therefore, this study aimed to assess the Knowledge and menstrual hygiene practices of adolescent school girls and to estimate the prevalence and pattern of menstrual hygiene management among adolescent girls in the Bassi Tehsil of Jaipur. The results of this study carry significant clinical implications, offering valuable insights for strategic planning, policy formulation, and the development of appropriate intervention strategies. Additionally, the findings from this study will serve as foundational information for future research endeavors.

AIMS AND OBJECTIVES OF THE STUDY

AIM: To assess the management of menstrual hygiene among 12-16-year-old girls residing in Bassi Tehsil of Jaipur.

OBJECTIVES:-

- To estimate the prevalence and pattern of menstrual hygiene management among adolescent girls in the Bassi Tehsil of Jaipur.
- To estimate the association of socio-demographic and other risk factors with menstrual hygiene management among adolescent girls.

MATERIALS AND METHODS: - A community-based cross-sectional study was conducted in the Bassi tehsil of Jaipur over a span of 8 months, from February 2021 to October 2021. The study received ethical approval from the committee at the Department of Public Health, JSPH, Poornima University, Jaipur. All participants provided written informed consent, which included an explanation of the study's nature and procedures. Among the 12 tehsils in Jaipur, the Bassi tehsil was selected using a random chit method. This tehsil encompasses a total of 206 villages, out of which 20 were randomly chosen as sample villages. From each government school within these selected villages, 25 girls in grades 8th to 12th were included in the study. While adolescence typically covers ages 12 to 16 years, we specifically selected participants aged 13 and above to ensure a better understanding of the questionnaire. As a result, the final sample size comprised 500 individuals.

Methodology: - A 37-item, pre-tested self-administrated anonymous, semi-structured questionnaire was used to assess the prevalence and pattern of menstrual hygiene in adolescent

girls. The survey focused on the knowledge and awareness of participants regarding menstrual hygiene. It comprises two parts, PART A includes close-ended questions to elicit information regarding basic demographic factors of the study population including age, sex, education, family type, parent's occupation and pattern of menstrual hygiene, and health-related events associated with menstrual hygiene among adolescent girls and PART B includes a validated knowledge and awareness on menstrual hygiene among adolescent girls.

Statistical analysis:- Descriptive statistics were performed to summarize the characteristics and answers to each question. Categorical data were presented as counts and percentages. Likert-scale responses were presented as mean \pm SD. Chi-square test was used to compare categorical data. All the statistical analyses were performed by using Statistical Package for Social Sciences (SPSS Inc., Chicago, Illinois, USA) version 26.0. The statistical significance level was set at $p < 0.05$

Adolescents are defined as young people between the ages of 10 and 19 years as per WHO (2014) criteria Menstrual Hygiene is vital to the empowerment and well-being of women and girls worldwide. It is about more than just access to sanitary pads and appropriate toilets – though those are important. It is also about ensuring women and girls live in an environment that values and supports their ability to manage their menstruation with dignity.

RESULTS

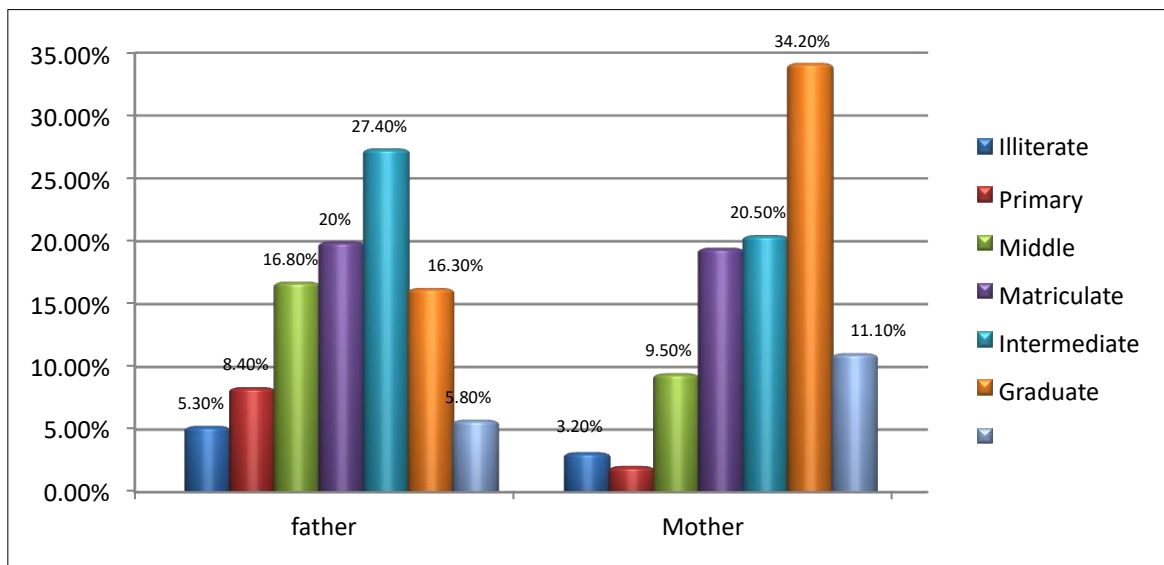
SOCIODEMOGRAPHIC DETAILS

Characteristics	Percent
Age of respondent (in years)	
12-13 years	13.7
13-14 years	23.2
14-15 years	14.2
15-16 years	12.1

>16 years	36.8
Religion	
Hindu	62.1
Muslim	15.3
Sikh	16.8
Christian	3.7
Other	2.1
Type of family	
Nuclear	58.4
Joint	36.8
other	4.7

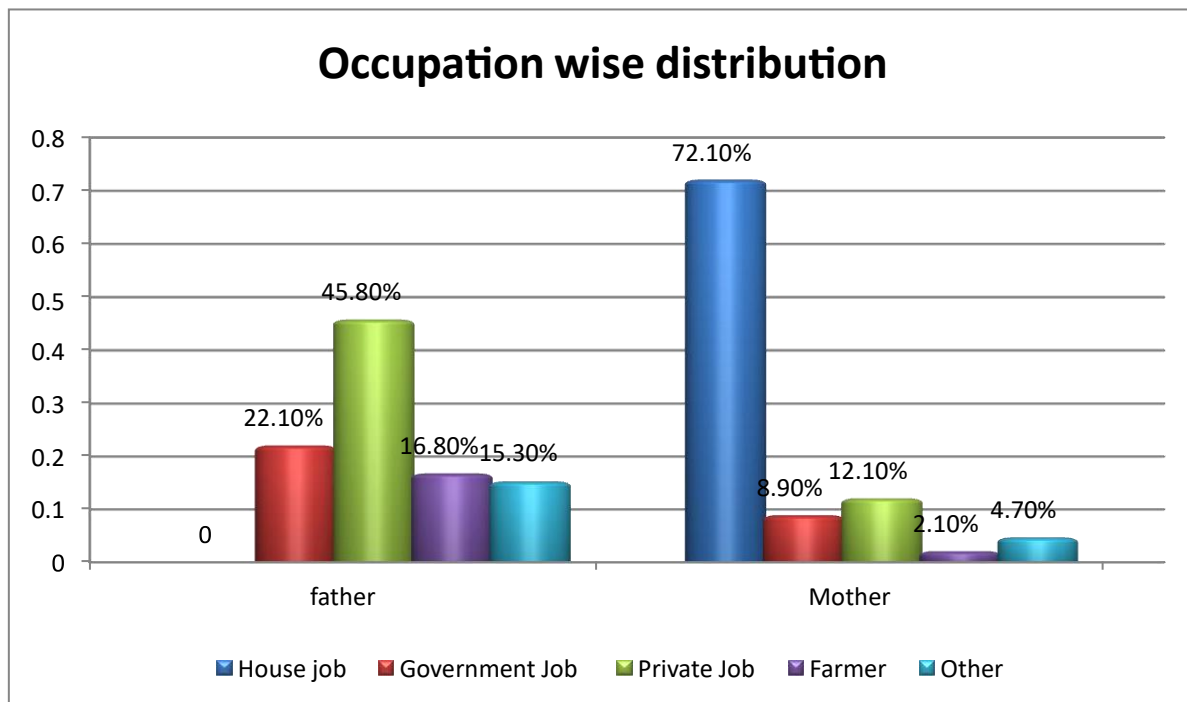
In the present study, 36.8% belong to the 16 and above age group, 44% of girls belong to the 13-14 years age group, 13.7% to the 12-13 years group, and 26.3% belong to 14-16years age group. According to religion, the majority of participants were Hindu 62.1% and belongs to the nuclear family 58.4%.

EDUCATION AND OCCUPATION OF PARENTS



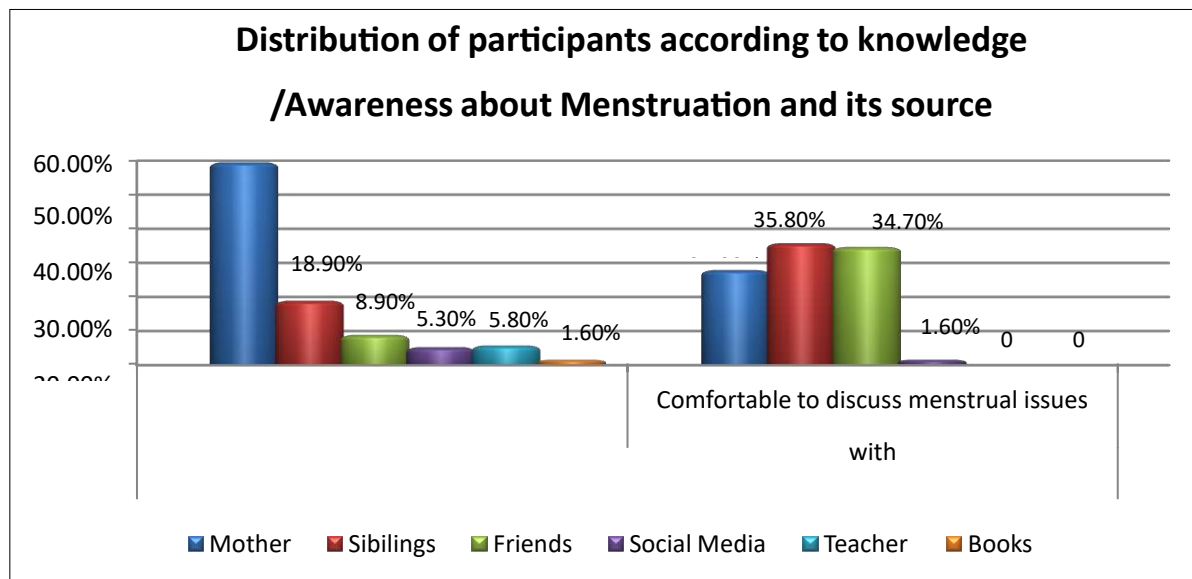
In the present study, 27.4% of fathers were having Intermediate level of education followed by 20% of fathers who had completed Matriculation 16.3% had a graduate degree and 5.8% had done post-graduation. Similarly, 20.5% of mothers were having Intermediate level of education followed by 19.5% of mothers who had completed their Matriculation, 34.2% had a graduate degree, and 11.1% had done post-graduation.

OCCUPATION STATUS



According to the Occupation status of parents, 72.1% of mothers were housewives. 12.1% of mothers were in private jobs, 8.9% of mothers were in government jobs. Whereas, among fathers, 45.8% were in private jobs, 22.1% were in government jobs and 16.8% were farmers.

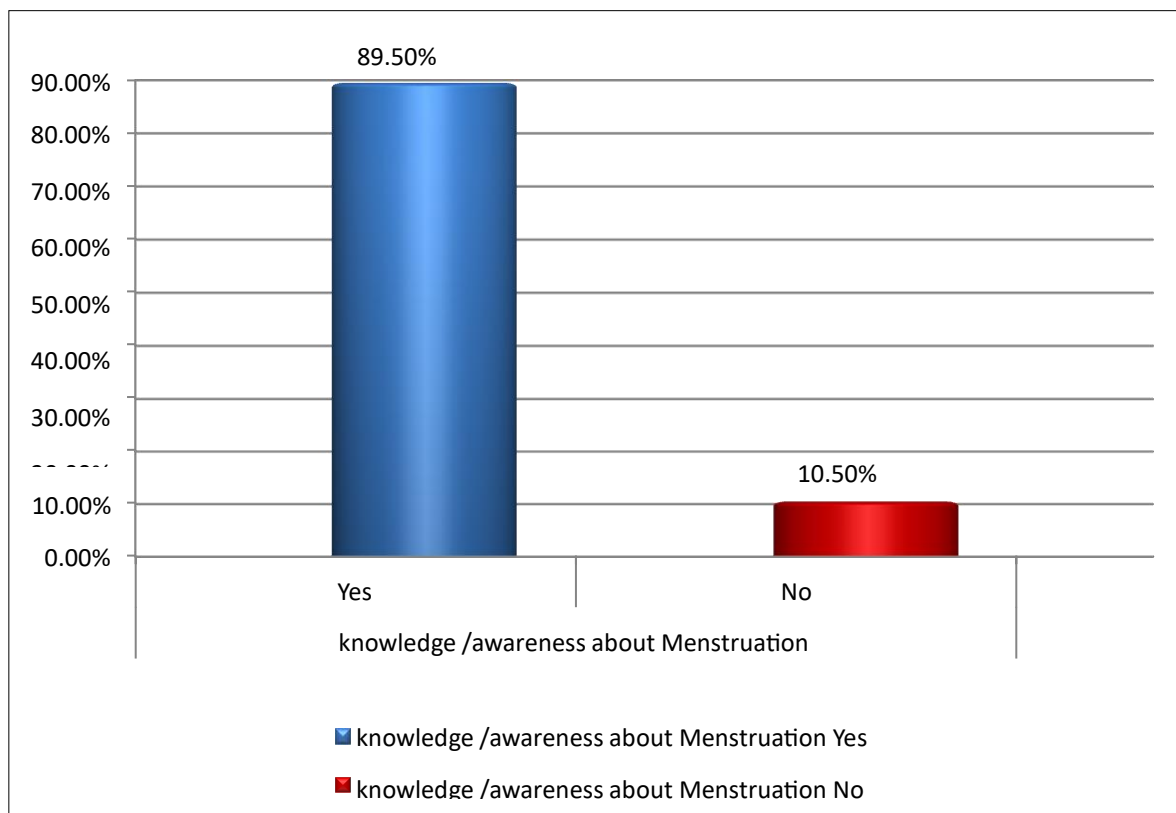
KNOWLEDGE /AWARENESS ABOUT MENSTRUATION AND ITS SOURCE



In the present study, the majority 59.5% of participants reported their mothers as the source of information regarding menstruation whereas 18.9% got information from their siblings, 8.9% from their friends, 5.3% from social media or health professionals, 5.8% got information from teachers and 1.6% got information from books

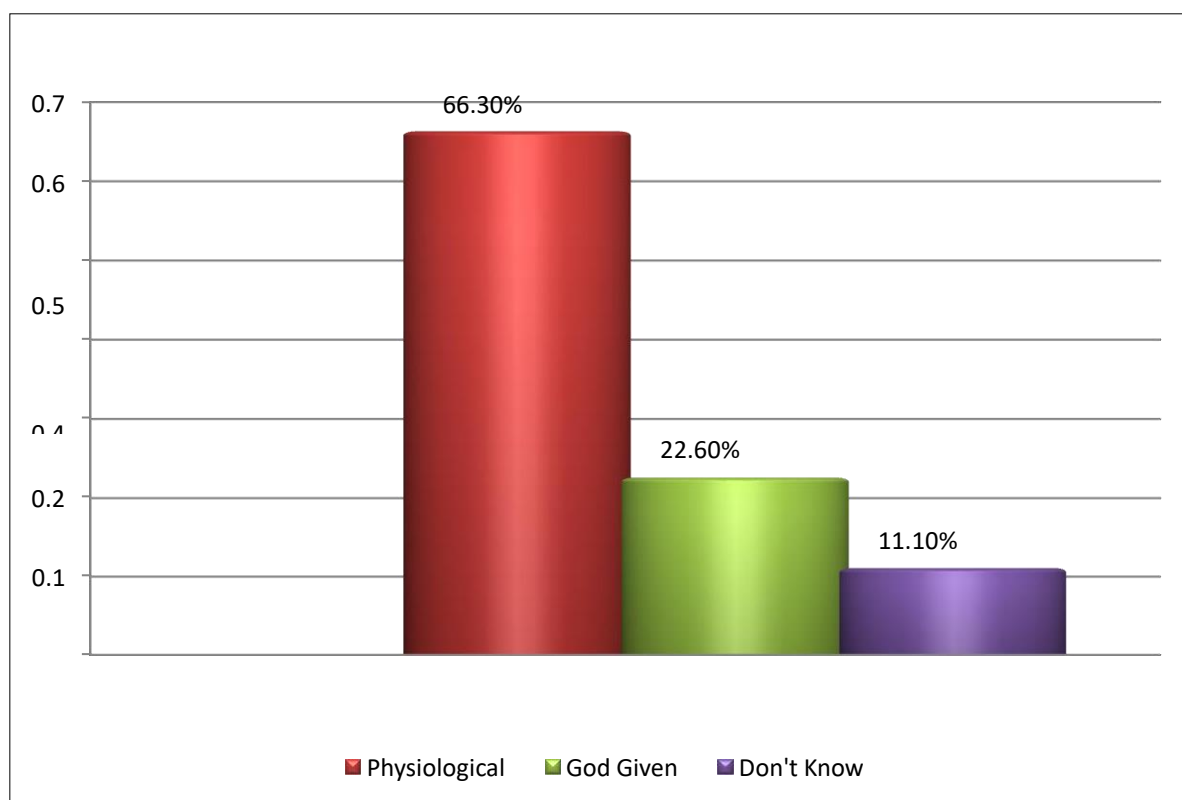
According to the comfort level of girls for discussing menstrual issues, 27.9% of adolescents were comfortable with their mothers whereas 35.8% were comfortable with their siblings, 34.7% were comfortable discussing it with friends and only 1.6% of adolescents were comfortable with health workers.

KNOWLEDGE /AWARENESS OF ADOLESCENT GIRLS ABOUT MENSTRUATION



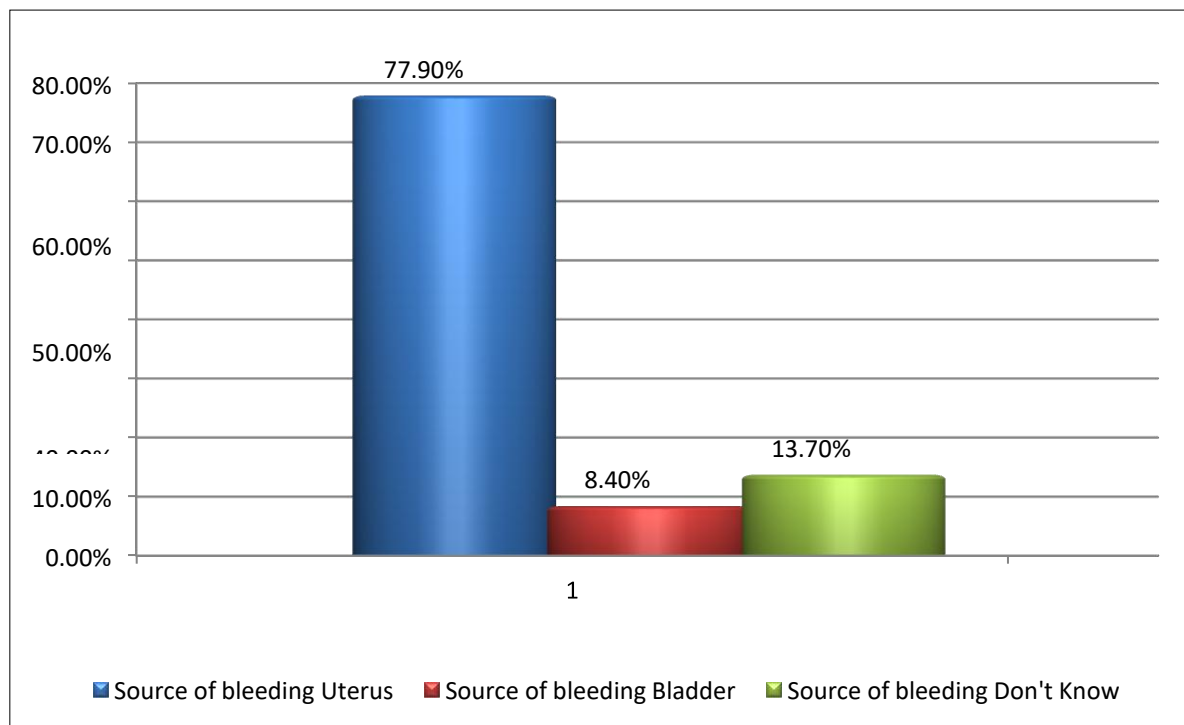
In the present study 89.5% girls were aware about menstruation and 10.5% did not have any knowledge regarding menstruation.

KNOWLEDGE /AWARENESS OF ADOLESCENT GIRLS ABOUT CAUSE OF MENSTRUATION



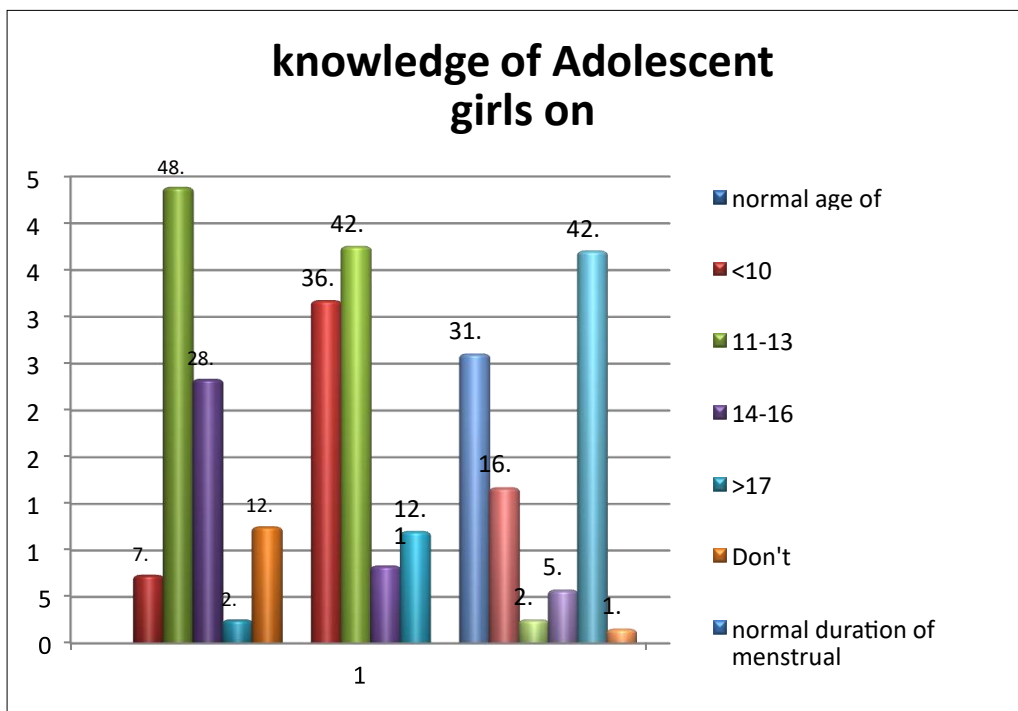
In the present study, 66.3% of participants were aware that menstruation is a physiological process whereas 22.6% of girls think that it is a god's given process and 11.10% did not have any knowledge regarding it.

KNOWLEDGE /AWARENESS OF ADOLESCENT GIRLS ABOUT SOURCE OF BLEEDING DURING MENSTRUATION



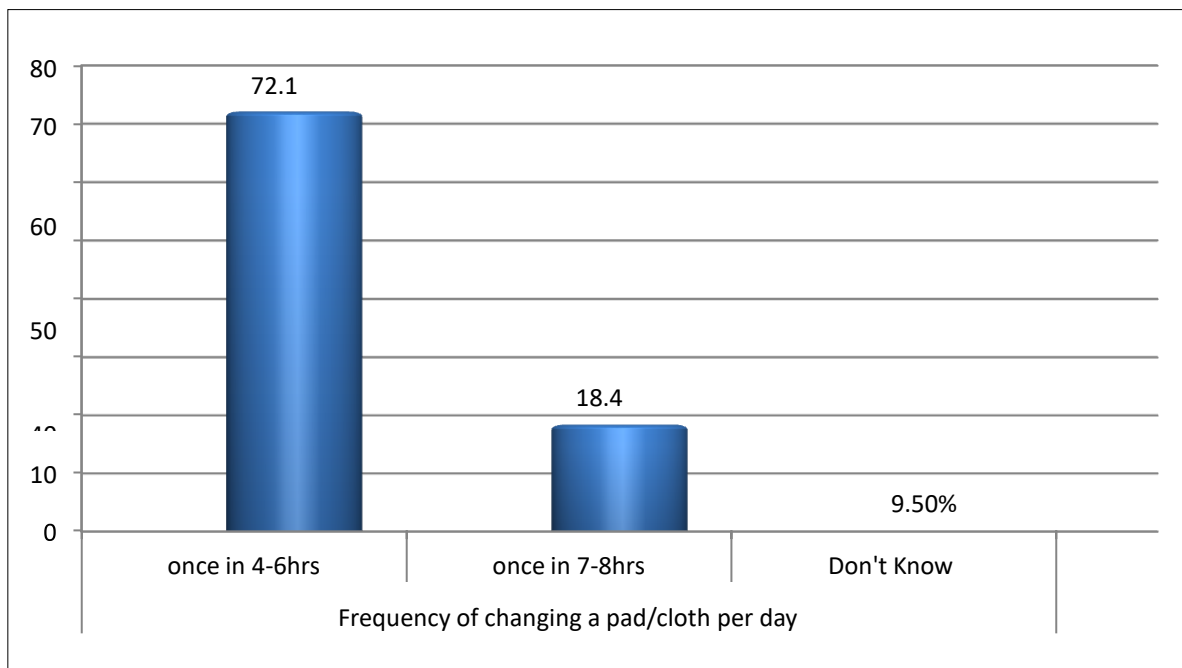
In the present study, 77.9% of girls reported Uterus as a source of bleeding during menstruation and 8.4% of girls reported bladder as a source of bleeding. Whereas, 13.7% of adolescents did not have any knowledge regarding it.

KNOWLEDGE OF ADOLESCENT GIRLS ON MENSTRUATION

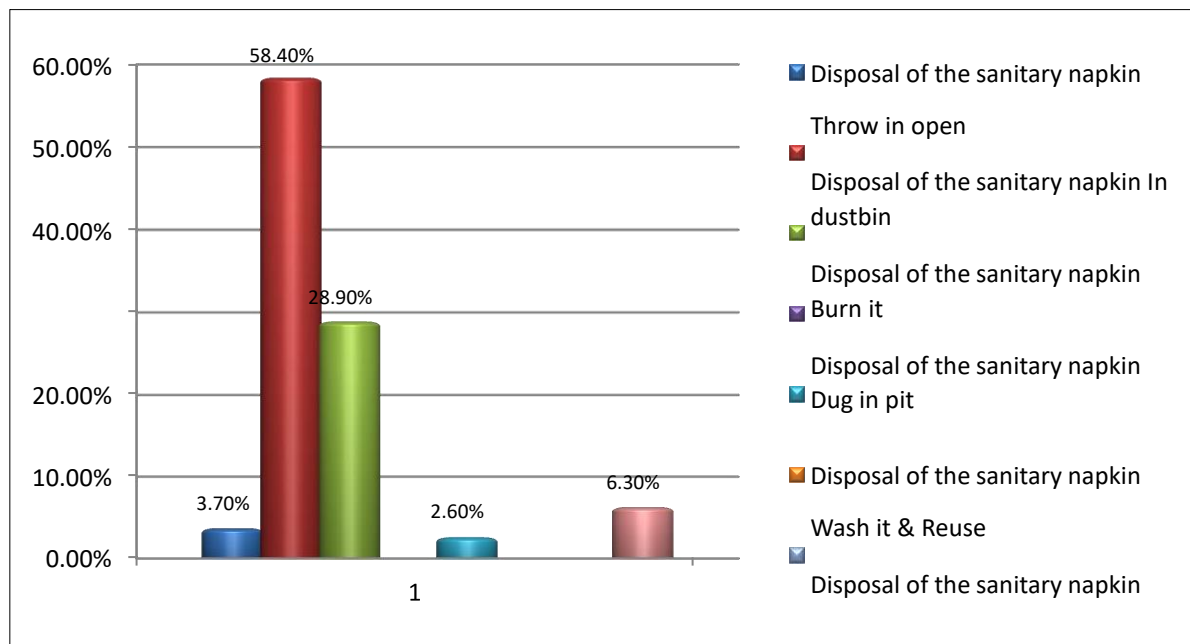


In the present study, the majority 48.9% of the girls reported 11-13 years as the normal age of menarche whereas 28.4% reported it as 14-16 years normal age. According to the normal duration of the menstrual cycle, Similarly, 8.4% of girls reported >36 days and, 21.1% did not know anything about it. When asked about common menstrual symptoms, 80(42.1%) girls reported abdominal pain, body ache, fever, and irritation. Whereas, only 3(1.6%) girls did know anything about it.

PRACTICES OF MENSTRUAL HYGIENE

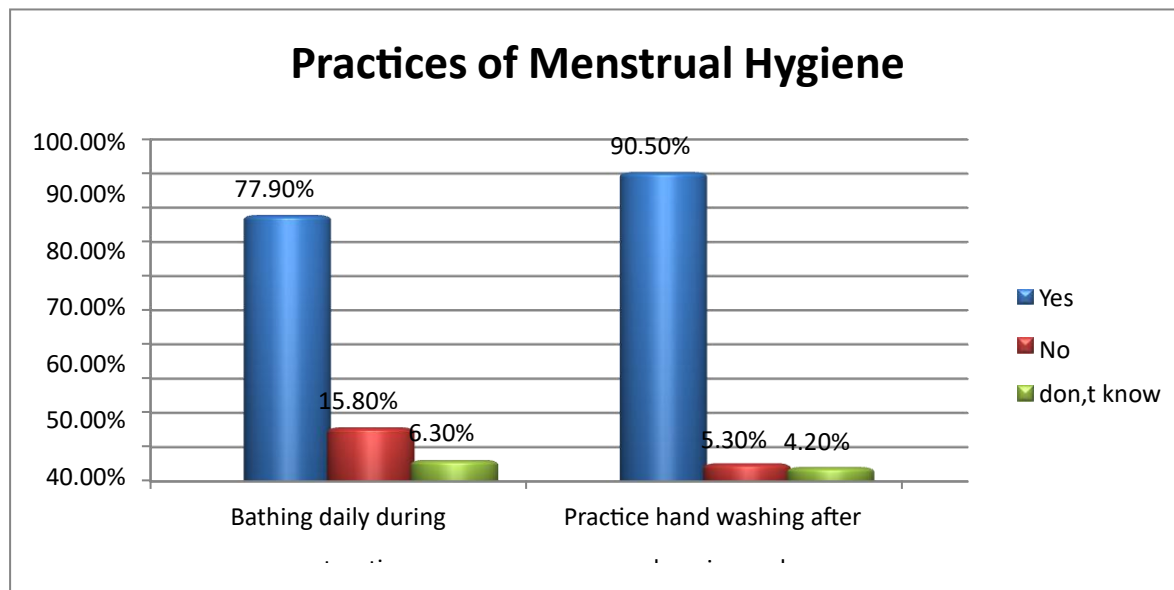


In the present study, 72.1% of girls changed their pad/cloth once in 4-6 hours whereas 18.4% changed their pad/cloth once in 7-8 hours, and 9.5% of girls reported that they don't know about it.

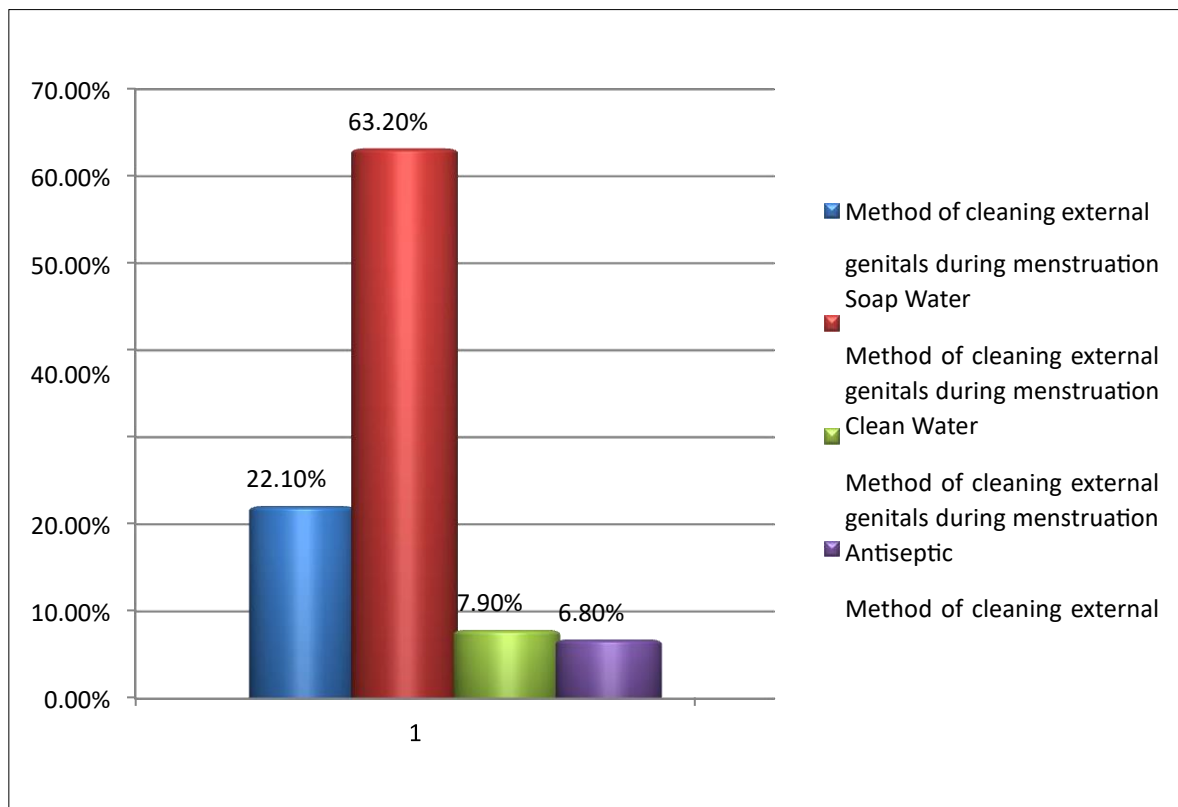


In the present study, 58.4% reported that they dispose of sanitary napkins in dustbins while 28.95% of girls use them to burn them, 3.75% throw them in open areas, and 2.6% flush in toilets.

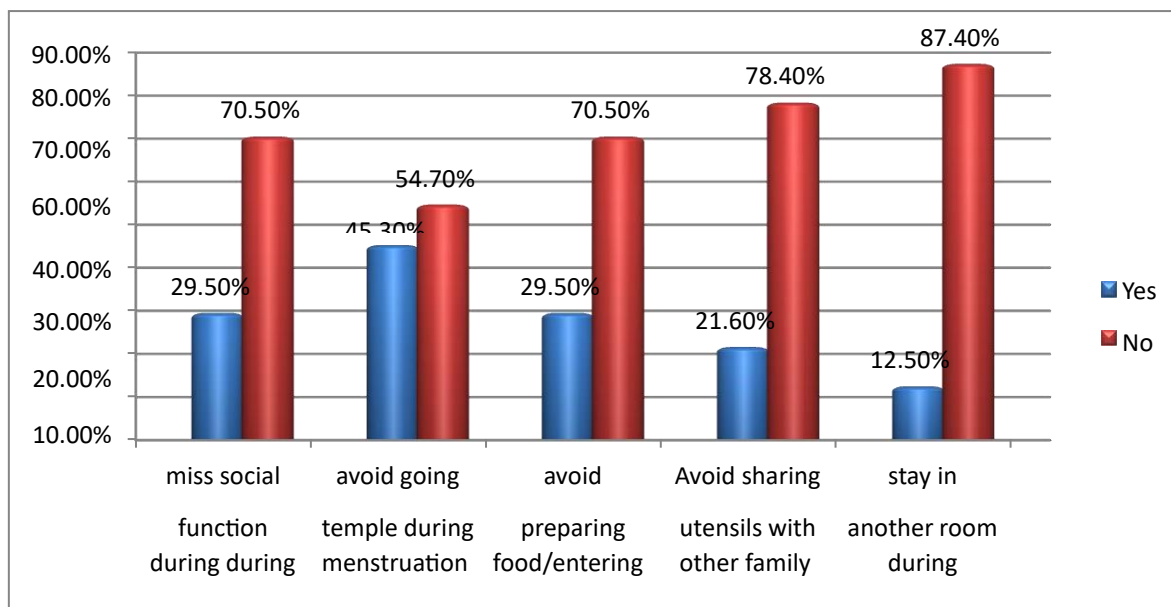
PRACTICES OF MENSTRUAL HYGIENE



In the present study, 77.9% of girls reported that practiced bathing daily during menstruation while 15.8% did not practice bathing and 6.3% did not know anything about this practice. when asked about hand washing practices after changing pads, 90.5% reported it in a positive way which shows a significant difference among all the groups.



In the present study, 63.2% of girls reported clean water as a method of cleaning external genitals whereas 22.1% reported soap water and 7.9% reported antiseptic as another method of cleaning their genitals.



In the present study, 29.5% miss social function during menstruation. The chi-square test shows a statistically significant difference between both groups.

When asked about restrictions for going to temples, 45.3% of girls reported that they avoid going to the temple during menstruation. The chi-square test shows a statistically significant difference between both groups.

Similarly, 29.5% of girls, avoid preparing food/entering the kitchen, 21.6%. Avoid sharing utensils with other family members and 12.6% of girls stay in another room during menstruation. The chi-square test did not show a statistically significant difference between both groups.

DISCUSSION

Menstrual hygiene is a crucial practice during menstruation that plays a significant role in preventing infections in the reproductive and urinary tracts of women. Unfortunately, in India, menstruation is shrouded in myths and misconceptions, accompanied by a long list of dos and don'ts imposed on women. These taboos and socio-cultural restrictions continue to cast a shadow over menstruation and menstrual practices, leading to a lack of knowledge among adolescent girls. As a consequence, they remain unaware of essential scientific facts and hygienic health practices, which can sometimes result in adverse health outcomes.¹⁹

Young girls often grow up with limited knowledge because of their shyness to discuss the process of menstruation. The informants to young girls are mothers, sisters, and friends and if they are themselves ignorant and unaware many illogical myths and concepts are passed on to the next generation. Many girls still believe menstruation to be a disease. A similar observation was seen in the present study also.⁴ Lack of awareness and knowledge often leads to an unconcerned attitude, which may adversely affect the preparedness to meet up challenges to combat this kind of public health problem. Hence, this survey was initiated to evaluate the knowledge among girls residing in Bassi Tehsil. The data collection was based on personal interviews with the subjects. The participants were explained that the collected data would be only used for the purpose of the study and they could be benefitted from the doctors giving them the right understanding of many aspects of menstruation. It was observed in the study that the majority of the subjects had fair knowledge regarding menstrual hygiene and physiology, as it is infrequently discussed at homes or at schools. Some of the girls, who reported having received information from their mothers, did not have complete and accurate information. This signifies the lack of knowledge and hesitation of parents to talk about reproductive health with their children. In a study by Khanna et al (2005), a significant proportion of girls were not aware of menstruation prior to menarche, which is similar to the findings of the present study.² In the present study, the mean age of menarche was 12.9 years which was almost similar to the study by Dasgupta et al (2008)⁴ and Thakur et al. (2014).²¹ where the mean age of menarche of the respondents was 12.8 years.

According to religion, the majority of participants were Hindu and belongs to nuclear families. These findings were similar to the study conducted by Thakur et al. (2014)⁵³ where

91.2 % of participants were Hindu.²¹ The present study showed that the mother of the adolescent girl was the primary source of information regarding menstruation, for the majority of the respondents. Similar studies done by Damor (2015)²², Jailkhani (2014)²³, Jogdand and Yerpude(2011)²⁴ in urban settings in Meeraj and Guntur found that the main source of information regarding menstruation was the mother. Dasgupta et al (2008) 4 reported that in the rural secondary school of West Bengal, the main source of knowledge is mother and sister (45%). These findings are consistent with the present study. Whereas Yasmin et al(2013)²⁵ reported that in most cases their first informant was their friend. Juyal et al.(2014)²⁶ in Uttarakhand reported that friends were the first informant in about 31.8 % of girls. In a similar study conducted in Mansoura, Egypt by El-Gilany et al (2005)²⁷ mass media were the main source of information about menstrual hygiene, followed by mothers. In a study conducted in Rajasthan by Khanna et al (2005)²⁰, most of the girls got their first information about menstruation from their mothers with other major informants being sisters and friends. So mothers should be taught about menstruation and hygienic practices to break their inhibitions about discussing with their daughters about menstruation prior to the attainment of menarche. About 77.9% of girls knew about the correct cause of menstrual bleeding is Uterus. Whereas, 13.7% did not know about the source of menstrual bleeding. These findings show that these students did not have the right knowledge about menstruation which might be due to the poor literacy level of mothers or the absence of proper health education programs in school, which should focus on menstrual hygiene among girls. In the present study, the majority of girls avoid going temple during menstruation, avoid preparing food/entering the kitchen and sharing utensils with other family members, stay in another room during menstruation⁴¹. Another study done by Ray et al (2012) in a rural area in West Bengal elicited that restricting sour food and not visiting temples have been the most common restrictions observed by the girls. This finding is more or less consistent with the present study.²⁸

CONCLUSION

Menstrual hygiene among the study population was found to be fair. Improving the education level of mothers can go a long way in improving menstrual hygiene practices. This study concludes that adolescent girls need to be educated about the facts of menstruation and menstrual hygiene practices in order to improve menstrual hygiene and bring them out of

traditional beliefs, misconceptions, and restrictions regarding menstruation. Adolescence is the major receptive period, if appropriate, adequate health education is given then these adolescent girls at this tender age will remain as healthy as their richer counterparts. Since they will practice healthy behavior, they will also generate the correct message when they have their own family. In this way, there will be a successful implementation of correct habits, culture, and practice regarding menstruation and menstrual hygiene at individual, family, and community levels for years to come.

RECOMMENDATIONS

- This study indicates that there is an urgent need for health educational activities among adolescent girls, their parents, and teachers for improving menstrual hygiene and removing myths and misconceptions regarding menstruation.
- Teachers can play an influential role in informing them about changes during adolescence, especially about menarche and other issues related to menstruation. As per the present study, sisters and mothers were the major sources of information. Therefore, there is a need for the provision of comprehensive family life education for the parents also.

REFERENCES

1. Matsumoto S. Statistical studies on menstruation; criticism on the definition of normal menstruation. *Gunma J Med Sci.* 1962;11(4):294–318.
2. MacGregor E, Chia H, Vohrah R, Wilkinson M. Migraine and menstruation: a pilot study. *Cephalalgia.* 1990;10(6):305–10.
3. Ayele E, Berhan Y. Age at menarche among in-school adolescents in Sawla town, South Ethiopia. *Ethiop J Health Sci.* 2013;23(3):189–200.
4. Lee S. Health and sickness: the meaning of menstruation and premenstrual syndrome in women's lives. *Sex Roles.* 2002;46(1):25–35.
5. Dasgupta A, Sarkar M. Menstrual hygiene: how hygienic is the adolescent girl? *Indian J Community Med.* 2008;33(2):77.

6. Wall LL, Belay S, Bayray A, Salih S, Gabrehiwot M. A community-based study of menstrual beliefs in Tigray, Ethiopia. *Int J Gynecol Obstet.* 2016;135(3):310–3.
7. Sommer M, Ackatia-Armah N, Connolly S, Smiles D. A comparison of the menstruation and education experiences of girls in Tanzania, Ghana, Cambodia and Ethiopia. *Compare.* 2015;45(4):589–609.
8. Shanbhag D, Shilpa R, D'Souza N, Josephine P, Singh J, Goud B. Perceptions regarding menstruation and practices during menstrual cycles among high school going adolescent girls in resource limited settings around Bangalore city, Karnataka, India. *Int J Collaborative Res Intern Med Public Health.* 2012;4(7):1353.
9. Adinma ED, Adinma J. Perceptions and practices on menstruation amongst Nigerian secondary school girls. *Afr J Reprod Health.* 2008;12(1):74–83.
10. Bhatt R, Bhatt M. Perceptions of Indian women regarding menstruation. *Int J Gynecol Obstet.* 2005;88(2):164–7.
11. Kumar A, Srivastava K. Cultural and social practices regarding menstruation among adolescent girls. *Soc Work Public Health.* 2011;26(6):594–604.
12. Goel MK, Kundan M. Psycho-social behaviour of urban Indian adolescent girls during menstruation. *Australas Med J.* 2011;4(1):49.
13. Takeda T, Koga S, Yaegashi N. Prevalence of premenstrual syndrome and premenstrual dysphoric disorder in Japanese high school students. *Arch Womens Ment Health.* 2010;13(6):535–7.
14. Nwankwo TO, Aniebue UU, Aniebue PN. Menstrual disorders in adolescent school girls in Enugu, Nigeria. *J Pediatr Adolesc Gynecol.* 2010;23(6):358–63.
15. Halbreich U, Borenstein J, Pearlstein T, Kahn LS. The prevalence, impairment, impact, and burden of premenstrual dysphoric disorder (PMS/PMDD). *Psychoneuroendocrinology.* 2003;28:1–23.
16. Adewuya A, Loto O, Adewumi T. Premenstrual dysphoric disorder amongst Nigerian university students: prevalence, comorbid conditions, and correlates. *Arch Womens Ment Health.* 2008;11(1):13–8.
17. Omu FE, Al-Marzouk R, Delles H, Oranye NO, Omu AE. Premenstrual dysphoric disorder: prevalence and effects on nursing students' academic performance and clinical training in Kuwait. *J Clin Nurs.* 2011;20(19–20):2915–23.

18. Lawan U, Nafisa WY, Musa AB. Menstruation and menstrual hygiene amongst adolescent school girls in Kano, northwestern Nigeria. *Afr J Reprod Health*. 2010;14(3):201–7.
19. <https://www.ckbhospital.com/blogs/why-is-it-important-to-maintain-menstrual-hygiene/>
20. Khanna A, Goyal RS, Bhawsar R. Menstrual practices and reproductive problems: a study of adolescent girls in Rajasthan. *J Health Manag* 2005;7:91-107.
21. Thakur H, Aronsson A, Bansode S, Stalsby Lundborg C, Dalvie S, Faxelid E. Knowledge, Practices, and Restrictions Related to Menstruation among Young Women from Low Socioeconomic Community in Mumbai, India. *Front Public Health*. 2014 Jul 3;2:72.
22. Damor R, Kantharia SL. Original article menstrual hygiene: Gaps in the knowledge and practices. *J Evidence Based Medicine and Healthcare* 2015;2:2290-5
23. Jaikhani SM. Patterns and problems of menstruation among the adolescent girls residing in Athe Urban Slum. *Sch J Appl Med Sci* 2014;2:529-34.
24. Jogdand K, Yerpude P. A community based study on menstrual hygiene among adolescent girls. *Indian J Matern Child Health* 2011;13:1- 6.
25. Yasmin S, Manna N, Mallik S. Menstrual hygiene among adolescent school students: An in- depth cross-sectional study in an urban community of West Bengal, India. *IOSR J Dental and Medical Sciences* 2013;5:22-6.
26. Juyal R, Kandpal SD, Semwal J. Menstrual hygiene and reproductive morbidity in adolescent girls in Dehradun, India. *Bangladesh J Med Sci* 2014;13:170-4.
27. El-Gilany A.H., & Badawi K. (2005). Menstrual hygiene among adolescent schoolgirls in Mansoura, Egypt. *Reproductive Health Matters*, 13:147-52.
28. Ray S, Dasgupta A. Determinants of menstrual hygiene among adolescent girls: A multivariate analysis. *National J Community Medicine* 2012;3:294-30