Journal of Cardiovascular Disease Research
ISSN: 0975-3583, 0976-2833 VOL15, ISSUE 11, 2024

ASSESSMENT OF KNOWLEDGE, ATTITUDE AND MENSTRUAL HYGIENE MANAGEMENT PRACTICES AMONG ADOLESCENT GIRLS OF DISTRICT BARABANKI, UTTAR PRADESH

Zainab khan, Farha Tarannum

Assistant professor, Department of Community Medicine, Hind Institute of Medical Sciences, Barabanki, UP, India, 7376493343,(drzainab2k19@gmail.com)
Associate Professor, Department of Community Medicine, Mamata Academy of Medical Sciences, Bachupally, Hyderabad, India, 7985784266,(farha.amu88@gmail.com)
Gunjan Mishra, Assistant Professor, Department of Biochemistry, Hind Institute of Medical Sciences, Barabanki, UP, India, 6396973277,(gunjanmishra09@gmail.com)

Corresponding Author: Dr.FarhaTarannum

farha.amu88@gmail.com,Contact No.: 7985784266

Address: Department of community medicine, Mamata Academy of Medical Sciences, Bachupally 500090, Hyderabad, Telangana.

ABSTRACT

Background: Menstruation is an integral part of human life,but there is lack of scientific knowledge about it among adolescent girls. Due to which it is linked with several misconceptions and practices. This study aims to assess knowledge, attitude and Menstrual Hygiene Management practices among adolescent girls of district Barabanki.

Material & method: A cross-sectional study was conducted among 640 school going adolescent girls. Multistage sampling technique was used and data was collected using apre-designed and pre- tested questionnaire.

Result: 462 (72.2 %) of the respondents had good knowledge and449(70.2%) had positive attitude towards menstruation and its hygiene. 430(67.2%) had satisfactory menstrual hygiene. The risk of poor knowledge is significantly higher in age group of 10-14 years as compared to age 15-19 years (OR=1.49). Also, this risk is higher in class 6th to 9th as compared to class 10th – 12th class (OR = 1.42). The risk for poor knowledge is 2.21 times higher among OBC/SC Category as compared to General Category and 3.23 times more in Lower Middle and Lower Class as compared to Upper, Upper Middle and Middle class. On Multiple Logistic Regression Analysis, age, social category, socio economic status was found to be statistically significant with adjusted Odd's Ratio of 1.57, 1.58, 1.86, and 1.92 respectively.

Conclusion: Majority of girls had adequate knowledge and positive attitude towards menstruation and its hygiene. A slightly lower proportion of girls had satisfactory menstrual hygiene practices.

Keywords: adolescent, menstruation, knowledge, attitude, hygiene

MAIN ARTICLE TEXT

INTRODUCTION

Adolescence in girls has been recognized as a special period which signifies the transition from girlhood to womanhood. "Menstruation is an integral and normal part of human life, indeed of human existence, and menstrual hygiene is fundamental to the dignity and wellbeing of women and girls and an important part of the basic hygiene, sanitation and reproductive health services to which every women and girl has a right"[1]. Menstrual hygiene and management is an issue that is insufficiently acknowledged and has not received adequate attention. Adolescent girls often are reluctant to discuss this topic with their parents and often hesitate to seek help regarding their menstrual problems[2].

While menstruation is a healthy and integral part of female identity, the cultural message of menstruation to be gross, troubling, or shameful has created a dominant narrative of menstruation as a negative, troubling, and problematic experience for those who menstruate[3,4]. Common practices associated with menstruation include socio cultural restrictions like not entering one's own kitchen, not touching food or participating in religious activities. Further to make matters worse many a times public places are not equipped with the basic amenities for menstrual management. According to World Health Organisation (WHO), globally, some 2.3 billion people lack safely managed sanitation[5].

To conclude I would like to mention, since there is inadequate information on menstruation and menstrual hygiene among adolescent girls of developing nations, which subsequently results in negative attitude and poor menstrual hygiene management, this study aims to identify issues relevant on the concerned topic among these adolescent girls.

OBJECTIVES

1. To assess the prevailing knowledge, attitude and Menstrual Hygiene Management practices among adolescent girls of district Barabanki.
2. To study the socio - cultural factors associated with knowledge on menstruation and its hygiene practices.

MATERIAL & METHODS

Study design and setting

This descriptive cross-sectional study was carried among 640 adolescent school going girls of 10 to 19 years of age, in district Barabanki of Uttar Pradesh.

Sample strategy and Sample size

Assuming the prevalence of dysmenorrhea (p) to be 72.7% based on the finding of the preliminary study[6], with an allowable error(d) of 5%, and design effect of 2, the total sample size calculated was 634 and it was rounded to 640.

Formula used: size (N) = δ [z^2 p (1-p)/d^2; where N= sample size, *z* = value of standard normal deviate = 1.96 at 95% confidence interval (CI).

Multistage sampling technique was used. Convenient Sampling was used for selecting the

Block in District Barabanki. Out of 15 Blocks of District Barabanki, 2 Blocks Harak and Banki were chosen being in vicinity of Rural Health and Training Centre. Next Stratified Random Sample was used for selecting the schools. A list of private schools in the selected Blocks was prepared and randomly one school was chosen. The total number of enrolled students in the required classes 6th to 12th in this private school was 1311. A list of government schools was also prepared since the number of students enrolled in each government school was less, two schools were selected randomly so as to achieve the total number of students at par with the private school. The number of students enrolled in these two government schools in the required classes 6th to 12th was 730 and 385. Hence the total number of students enrolled in the government schools in the required classes 6th to 12th was 1115. To achieve the desired sample size Probability Proportionate to Size (PPS) Method was adopted by obtaining the list of students in each school, from class 6 to class 12. Further, number of adolescent girls to be enrolled in the study from each class was also achieved by the PPS method. Simple Random Sample Method was used to select the required number of girls from each class. Randomization of students was done for each class, employing simple random sampling, taking class attendance register as the reference on the day of the visit, to select the students from each class. Thus, a sample size of 640 students were selected for the study.

Assessment of knowledge was done by using a modified scoring system, where each correct answer = 1 mark; each incorrect answer = 0 mark. Minimum score was “0” and maximum score was “7”. After calculating Median score, those who scored 0 - 3 marks were considered to be “Poor Scorer”; and the participants who scored 4 -7 marks were considered to be “Good Scorers”, similar to methodology used by Das et. al.,8and Mahajan et. al.,9 in their respective studies.

Score	**Knowledge**	**Attitude**	**Practice**
Poor Scorer (Score 0 - 3)	Poor Knowledge	NegativeAttitude	Unsatisfactory Practice
Good Scorer (Score 4-7)	Good Knowledge	Positive Attitude	SatisfactoryPractice

Data collection

The principals of the concerned schools as well as parents of girls were explained about the purpose of study and were reassured about the confidentiality of the data. Informed consent was obtained from each participant and their parents in case of minors prior to interview. School girls who had attained menarche and were present in school during the days of survey were included in study. Data was collected using a pre-designed and pre-tested questionnaire. Data regarding family income, educational status of parent's and social category was collected from school records. Socioeconomic class was assessed by Modified BG Prasad Classification, January, 2017[7].

Statistical analysis

Data collected were directly entered, after data cleaning and rechecking, to Epi Info software. The univariate analysis proportion, percentages had been displayed. Statistical tests of significance i.e. Binary Logistic Regression Analysis and Multiple Logistic Regression Analysis were used to predict the association between the independent and dependent variables. $P \leq 0.05$ was considered statistically significant.

Ethical considerations

Ethical clearance for this study was obtained from the institutional ethics committee, Hind Institute of Medical Sciences, Barabanki (HIMS/IRB/2017/719).

RESULTS

Table 1 shows the distribution of school going adolescent girls according to their Socio demographic characteristics. Out of the total 640 students involved in the study, 213 (33.3%) were early adolescents aged 10-14 years and 427(66.7%) were late adolescents aged 15-19years. Among the total study subjects, 159 (24.8%) students were studying in classes 6th, 7th and 8th, 244 (38.1%) students were studying in classes 9th and 10th , and 237 (37.1%) students were studying in classes 11th and 12th. In the present study out of total study participants, 487 (76.1%) were Hindus and 153 (23.9%) were Muslims. 281 (43.9%) belonged to General Category, 265 (41.4%) belonged to Other Backward Caste and 94(14.7
%) belonged to Scheduled Caste. Out of 640 respondents, 411(64.2%) belonged to nuclear family and 229 (35.8%) belonged to joint family. Among the respondents (640) most of the students 273 (42.7%) belonged to Middle Class followed by 148 (23.1%) who belonged to Lower Middle Class, 93 (14.5%) belonged to Upper Middle Class, 80 (12.5%) were in Lower and only 46 (7.2%) belonged to Upper Class.

ISSN: 0975-3583, 0976-2833 VOL15, ISSUE 11, 2024

Table 1: Distribution of Adolescent School Girls according to their Socio demographic Characteristics (N=640).

Socio demographic Characteristics		Frequency	Percentages
Age	10 – 14 years	213	33.3
	15 – 19 years	427	66.7
Class of Study	6^{th} – 8^{th} Class	159	24.8
	9^{th} – 10^{th} Class	244	38.1
	11^{th} – 12^{th}Class	237	37.1
Religion	Hindu	487	76.1
	Muslim	153	23.9
Social Category	General	281	43.9
	OBC	265	41.4
	SC	94	14.7
Family Type	Nuclear	411	64.2
	Joint	229	35.8
# Socio Economic Status	Upper Class	46	7.2
	Upper Middle Class	93	14.5
	Middle Class	273	42.7
	Lower Middle Class	148	23.1
	Lower Class	80	12.5

OBC = Other Backward Caste. SC = Schedule Caste.

According to the data obtained from the 640 participants, 462 (72.2%) of the respondents had good knowledge about menstruation and its hygiene **(figure1).** 503 (78.6%) of girls knew correctly about the age of menarche, 559(87.3%) of the girls knew about normal duration of bleeding and only 156(24.4%) of girls had the correct knowledge regarding length of menstrual cycle. 250(39.1%) of the girls knew the source of origin of menstrual blood and 513(80.2%) girls had knowledge regarding which material should be used as absorbent during menstruation. 515(80.5%) believed that a girl can take bath during menses and 291 (45.5%) knew that no food restriction is required during menses. **(Table 2)**

Further, when attitude of these adolescent girls towards menstruation was assessed, 449(70.2%) had positive attitude towards it **(figure2).**

Table 2: knowledge regarding menstruation

Variables	Response	n	percentage
Menstruation starts at what age?	1.Do not know / Incorrect answer	137	21.4
	2. correct answer	503	78.6
For how many days bleeding occurs during period?	1.Do not know / Incorrect answer	81	12.7
	2. correct answer	559	87.3
Menstrual cycle is of how many days?	1.Do not know / Incorrect answer	484	75.6
	2. correct answer	156	24.4
What is the source of menstrual blood?	1. Do not know/incorrect answer	390	60.9
	2. correct answer	250	39.1

ISSN: 0975-3583, 0976-2833 VOL15, ISSUE 11, 2024

What material can be used as absorbent during period?	1.Do not know/incorrect answer	127	19.8
	2. correct answer	513	80.2
should a girl take bath during period?	1. Do not know /no	125	19.5
	2.yes	515	80.5
Should a girl avoid certain food during menstruation?	1.Do not know/yes	349	54.5
	2. no	291	45.5

Figure 1: Distribution of Adolescent Girls according to their Knowledge regarding Menstrual Hygiene Management (N = 640)

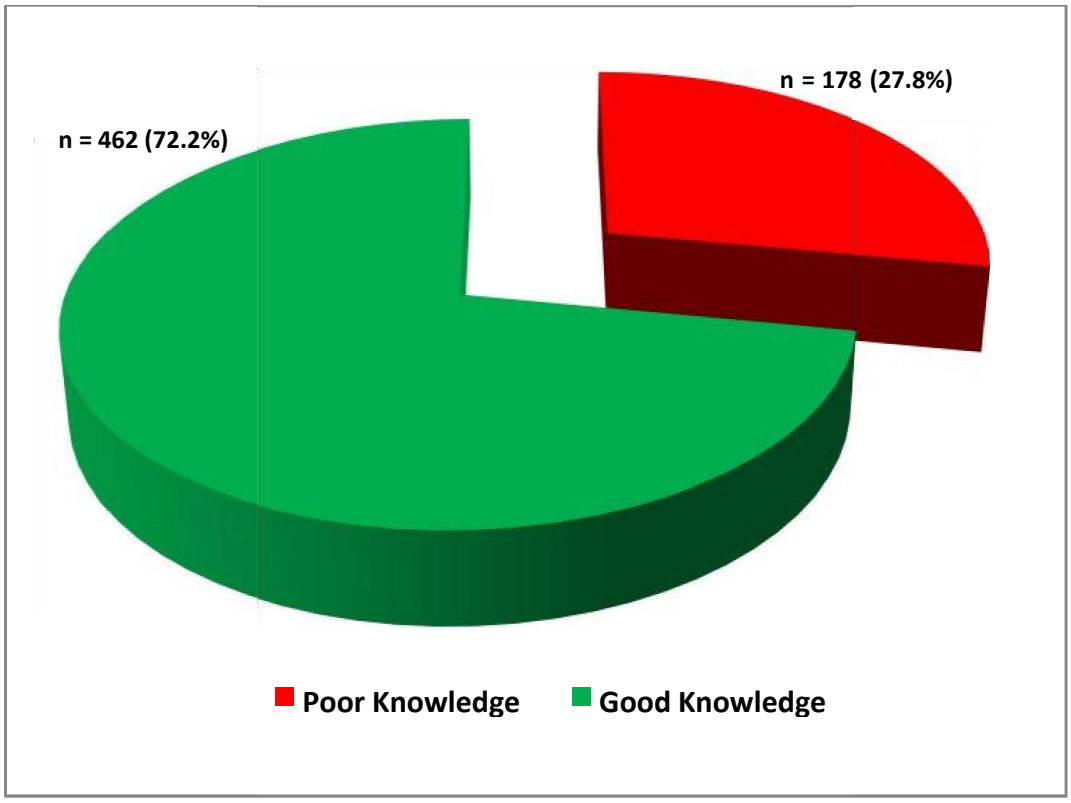


Figure 2: Distribution of Adolescent Girls according to their Attitude towards Menstrual Hygiene Management (N = 640).

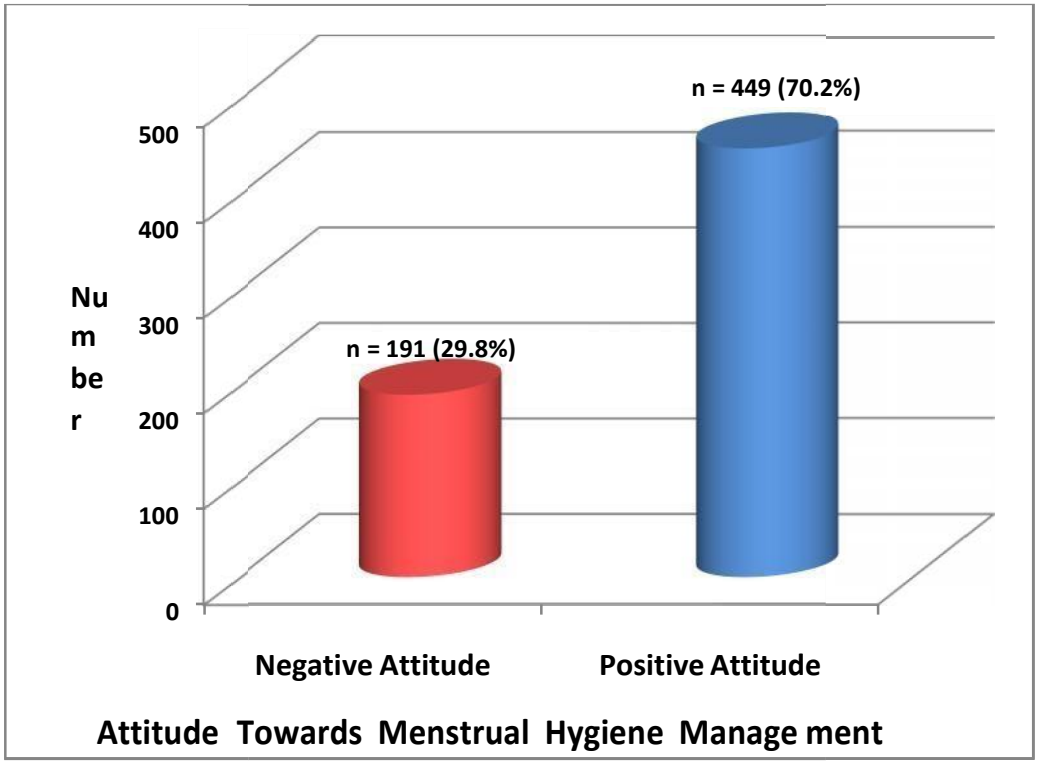


Table 3 shows only 64(10%) considered that menstrual blood is not impure. 434(67.8%) believed that females can enter kitchen during menses. 429(67%) knew that no limitation of physical activity is required by menstruating females. 432(67.5%) believed that menstrual hygiene is necessary for general well-being and health. 584(91.3%) wanted to be educated regarding menstruation. 432(67.5%) carried their regular activities during menses and only among 207 girls menstruation was discussed by their class teacher.

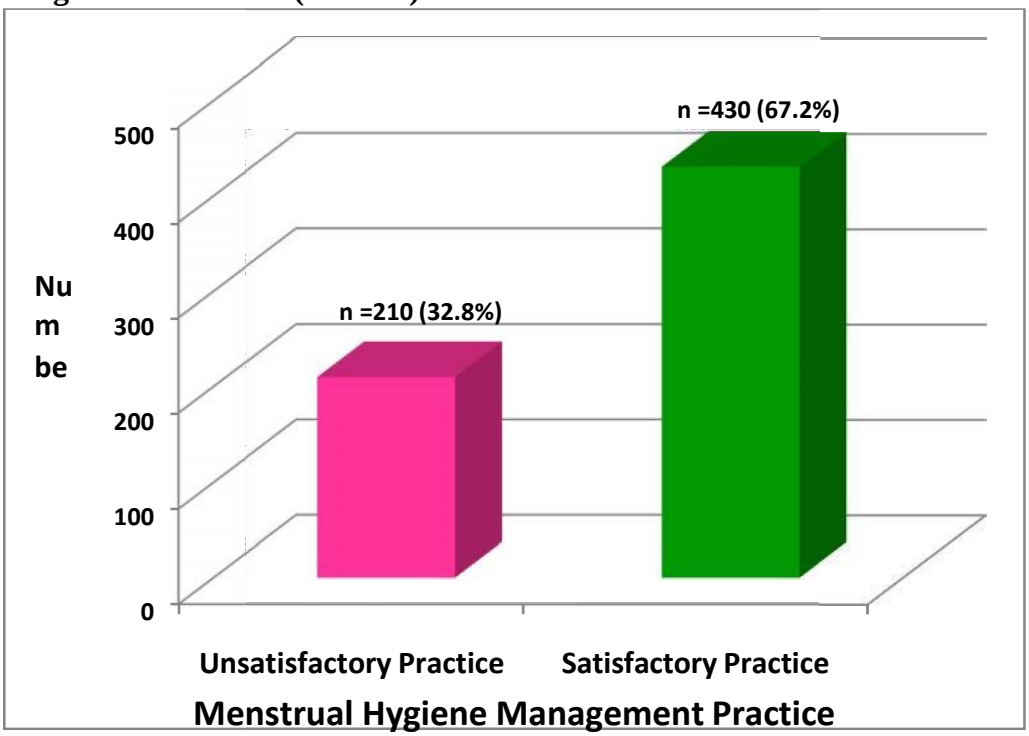
Out of total 640 school going adolescent girls 430(67.2%) had satisfactory menstrual hygiene management practices.**(figure 3)**

Table 3: **Attitude towards menstruation**

Variables	Response	N	%
Is Menstrual blood isimpure blood	1. true / Do not know	576	90
	2. false	64	10
Females should not enter kitchen during menses	1. true / Do not know	206	32.8
	2. false	434	67.8
A girl should not carry out physical activities during menses?	1. true / Do not know/true	211	33
	2. false	429	67
menstrual hygiene is necessary for maintenance of health and well being	1. false/Do not know/false	208	32.5
	2. true	432	67.5
it is necessary to give knowledge about menstruation to the girls	1. false	56	8.8
	2. true	584	91.3
A girl should not carry out her daily activities during menstruation	1. true / Do not know	208	32.5
	2. false	432	67.5
Discussion on periods by class teacher in	1. No	433	67.7

last one year	2 . yes	207	32.3

Figure 3: Distribution of Adolescent Girls according to their Menstrual Hygiene Management Practices (N = 640).



In **table 4** Binary Logistic Regression Analysis was carried out to identify possible associated factors for Knowledge regarding Menstrual Hygiene Management. The results of this analysis revealed that the risk of poor knowledge is significantly higher in age group of 10-14years as compared to higher age group 15-19 years (OR=1.49). Also, there is higher risk of poor knowledge in class 6^{th} to 9^{th} as compared to class 10^{th} – 12^{th} class (OR = 1.42) and it was found to be statistically significant. The risk of poor knowledge is 2.21 times higher among adolescent girls who belonged to OBC/SC Category as compared to General Category and it was found to be statistically significant. Socio-economic class is found to be significantly associated with knowledge regarding menstrual hygiene management. The risk poor knowledge is 3.23 times more in Lower Middle and Lower Class as compared to Upper, Upper Middle and Middle class. These factors were further taken to Multiple Logistic Regression Analysis

ISSN: 0975-3583, 0976-2833 VOL15, ISSUE 11, 2024

Table 4: Association between Socio demographic Variables and Knowledge Regarding Menstrual Hygiene Management

Socio demographic Variables		**Knowledge Regarding Menstrual Hygiene Management**		***Unadjusted Odds Ratio (95%CI) p value**
		Poor Knowledge n [%]	**Good Knowledge n [%]**	
Age	10 – 14 years n = 213	71 [33.3%]	142 [66.7%]	1.49 (1.04 – 2.14) **p = 0.028**
	15 – 19 years n = 427	107 [25.1%]	320 [74.9%]	Reference
Class of Study	6^{th} – 9^{th} Class n = 276	88 [31.9%]	188 [68.1%]	1.42 (1.00 – 2.01) **p = 0.046**
	10^{th} – 12^{th} Class n = 364	90 [24.7%]	274 [75.3%]	Reference
Religion	Hindu n = 487	134 [27.5%]	353 [72.5%]	0.94 (0.62 -1.40) p = 0.765
	Muslim n = 153	44 [28.8%]	109 [71.2%]	Reference
Social Category	OBC / SC Category n = 359	124 [34.5%]	235 [65.5%]	2.21 (1.53-3.20) **p < 0.001**
	General Category n = 281	54 [19.2%]	227 [80.8%]	Reference

ISSN: 0975-3583, 0976-2833 VOL15, ISSUE 11, 2024

# Socio Economic Status	Lower Middle and Lower Class n = 228	99 [43.4%]	129 [56.6%]	3.23 (2.26-4.63) **p < 0.001**
	Upper, Upper Middle and Middle Class n = 412	79 [19.2%]	333 [80.8%]	Reference
*Binary Logistic Regression Analysis. CI = Confidence Interval. n = Number. % =Percentage				

Table 5 shows on analysis of these factors by multiple logistic regression age, social category, socio economic status were found to be statistically significant with Adjusted Odd's Ratio (OR) of 1.57, 1.58, 1.86, and 1.92 respectively.

Table 5: Multiple Logistic Regression Analysis to find the Socio Demographic Predictor Variables for Poor Knowledge Regarding Menstrual Hygiene Management

Socio demographic Predictor Variables		***Unadjusted**		****Adjusted**	
		p value	**Odd's ratio (95% CI)**	**p value**	**Odd's ratio (95% CI)**
Age	10 – 14 years n = 213	**p = 0.028**	1.49 (1.04- 2.14)	**p = 0.020**	1.57 (1.07-2.29)
	15 – 19 years n = 427	Reference			
Social Category	OBC / SC Category n = 359	**p < 0.001**	2.21 (1.53-3.20)	**p = 0.024**	1.58 (1.06-2.33)
	General Category n = 281	Reference			
# Socio Economic Status	Lower Middle and Lower Class n = 228	**p < 0.001**	3.23 (2.26-4.63)	**p = 0.019**	1.86 (1.10-3.13)
	Upper, Upper Middle and Middle Class n = 412	Reference			
*Binary Logistic Regression Analysis. n = Number. **Multiple Logistic Regression Analysis (Method: Forward LR).					

DISCUSSION

In our study overall more than 70% of school going adolescent girls had adequate knowledge regarding menstruation and its related hygiene. Also, the present study showed significant association between menstrual knowledge and age, class, social category, socio-economic status. These findings were consensus with a study conducted among 447 Nigerian adolescents girls by Fehintola et. al., (2017)[10]. In their study conducted among age group 15- 19 years, (70%) had good knowledge about menstruation as compared to those in age group 10-14 years (36.9%) ($\chi 2$=47.68, P=0.001). A community-based cross-sectional study by Kansal et al., (2016)[11]conducted among 650 adolescent girls in Varanasi also highlighted similar results. However, these finding are contrary to a report from a systematic review on "Epidemiology of Menstrual Disorders in Developing Countries; A call for Health Education" documented by Harlow et al.[12] where lack of awareness was reported. This difference in findings in studies may be due to our study setting being schools where higher learning takes place and respondents are bound to interact with each other and get information.

Also, this study showed evidence that around 70% of adolescent girls had positive attitude towards menstruation. Almost all girls included in the study wanted knowledge related to menstruation to be a part of school curriculum but regretfully, among less than 50% of the girls the topic was discussed in their class. Most of the girls considered menstrual blood as impure. These beliefs and taboos may have remained as menstruation was not discussed and these perceptions are passed through generations, as mentioned by Thakur et. al. (2014)[13] in their study. It indicates that there is a need to provide an adequate information package that will normalize menstruation, change attitudes, and end negative social norms also pointed by Wilsom et. al (2014)[14].

As far as practice was concerned (67.2%) majority of the girls also had satisfactory menstrual hygiene management practices. Similar evidence was also shown in a study conducted in south west Delhi[15]. However, a study done in Jammu and Kashmir showed (59.9%) lower percentage of girls having satisfactory menstrual hygiene[16]. While other studies conducted in Ethopia and Northwest Nigeria showed evidence of much higher percentage of participants having satisfactory menstrual hygiene practices (90.9% and 88.7%, respectively)[17,18]. These finding suggest that with provision of adequate support, significant portion of girls can achieve satisfactory menstrual hygiene

CONCLUSION

The present study highlighted that majority of girls had adequate knowledge and positive attitude towards menstruation and its hygiene, however a slightly lower proportion of girls had satisfactory menstrual hygiene management practices. Also a higher risk of poor knowledge regarding menstruation and its hygiene was found in lower age group, in lower class of study, in OBC / SC Category and in lower Socio-economic Status.

RECOMMENDATIONS

On the basis of the finding of the study it is recommended to incorporate proper menstrual education in school curriculum. Special focus on vulnerable group like OBC / SC Category and lower Socio- economic Status is needed. Water, Sanitation and Hygiene related facilities should be made available universally for supporting Menstrual Hygiene Management. Both school and community should come together to break the silence on menstruation related topic which will help adolescent girls to identify their menstrual problems and improve their health seeking behaviour.

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