



A Comprehensive Study on the Knowledge, Attitude, and Practice of Menstrual Hygiene Management Among Adolescent Girls in a Rural Area

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ABSTRACT

Background: Adolescent girls frequently lack knowledge about menstruation and other aspects of reproductive health, which may be due to sociocultural barriers in their home communities. To deal with issues associated with menstruation, girls nowadays need the right information, education, and a supportive environment. Therefore, the purpose of this study was to assess the knowledge, attitudes, and menstrual hygiene practices among adolescents in rural areas.

Objectives: To assess the knowledge, attitude, and practice of menstrual hygiene among adolescent girls of rural areas in and around B G Nagar, Mandya, Karnataka.

Methods: After gaining informed consent, the study—which is cross-sectional and community-based—was carried out over six months among secondary or high school students in and around B.G. Nagara, Mandya District, Karnataka, using a predesigned questionnaire. The appropriate statistical methodology was used to determine the sample size. 585 students participated in this study, which used a standardized questionnaire. Overall KAP findings and differences in KAP were analyzed by transformed data to SPSS statistics version 25 for further statistical analysis.

Result: In our study, the majority of students had knowledge about menstruation before menarche 72.00% had no basic knowledge about menstruation. 503 (86.0%) women are using sanitary pads. Many students believed that item 252 (43.10%), which is dairy and sour, is acceptable for menstruation women to eat. The majority of the 360 students (61.50%) are unaware of the correct way to dispose of utilized menstrual hygiene products. The study discovered that pupils only have 48.29% correct knowledge, 60.61% attitude, and 50.05% good practice.

Conclusion: The study pointed out the impact of health education in improving knowledge attitude and practice hence more Health education strategies and awareness programs have to be framed for better health of adolescent girls.

Keywords: Adolescent girl, Menarche, menstrual absorbent, Sanitary pad.

INTRODUCTION

Any person between the ages of 10 and 19 is considered an adolescent by the WHO ¹. The age between adolescence and adulthood is referred to as the adolescent stage. Puberty, a period of physical, psychological, and emotional growth brought on by a series of endocrine changes and resulting in the development of sexual maturity and reproductive capacity, marks the start of teenage ².

The reproductive phase of a woman's life begins with menarche. It marks the start of several physical, physiological, and psychological changes in girls' lives³. Menstrual hygiene management (MHM) is the term used to describe the unique hygiene and health needs of girls and women during menstruation, including the knowledge, information, resources, and facilities required to manage menstruation successfully and privately⁴. Insufficient water, sanitation, and hygiene (WASH) facilities, particularly in public settings like college campuses and hostels, can present a serious problem for women and girls in terms of the capacity to wash their hands and dispose of their menstrual products safely ⁵.

According to research from low- and middle-income nations, 50% of girls and women practice insufficient MHM because of external factors such as social constraints, ignorance of menstruation, and a lack of menstrual hygiene supplies and facilities ⁶. When adolescent girls and women are unable to properly practice MHM, it has a profoundly negative effect on their lives, limiting their mobility, preventing them from attending events like school and community meetings and jeopardizing their safety ⁷.

According to empirical data, 68 million of the 113 million teenage girls attend one and a half million schools, with bad menstrual hygiene management (MHM) habits and cultural taboos being seen as obstacles to their attendance⁸.

Although the value of adolescent health counseling has just come to light, there are currently no extensive community-based studies that measure Indian adolescent girls' knowledge of menarche and reproduction. There has been a long-standing need to openly discuss this significant sanitation issue because it has been kept in the shadows. Therefore, the purpose of this study was to evaluate



menstrual hygiene practices among adolescent girls in the rural Mandya district.

METHOD

The Department of Pharmacy Practice at Adichunchanagiri Hospital and Research Center carried out a cross-sectional survey at schools. The study took place for six months in and around B.G. Nagara, Nagamangala Taluk, Mandya District, Karnataka, among secondary schools and high school girls.

The study protocol was presented before the institutional ethical committee (IRC) and consent was obtained. After considering inclusion criteria (Female students of age between 12 to 19 years and had attained menarche, Female students present on the day of study, Female students who are willing to participate.) and exclusion criteria (Those whose Principal / School authorities did not give consent, Female student who had not attained menarche)

To collect data, a self-administered questionnaire was employed by using a data collection form. The questionnaires were adopted after evaluating pertinent literature and obtaining the author's consent to use it. The study involved 585 students in total.

A predesigned questionnaire was distributed to the girls and were asked to fill it. A health talk regarding the physiology of menstruation, menstrual hygiene, eating habits, dressing sense, and other vital issues was given and girls were advised to seek medical advice when needed.

Data was entered in a Microsoft Excel sheet systematically. Categorical data was analyzed. Statistics were taken out in

percentages for all the variables using SPSS statistics version 25.

RESULTS

Table 1: Age distribution

		N	%
Age group	14 years	180	31.4%
	15 years	187	32.6%
	16 years	114	19.9%
	below 14 years	83	14.5%
	Above 16 years	10	1.7%

180 students belonged to the 14-year age group, 187 students belonged to the 15-year age group, 114 belonged to the 16-year age group, 83 belonged to the below 14yr, and the rest belonged to the above 16yrs age group.

585 participants based on grade level. The number of students belonging to different grades 8th, 9th, and 10th groups were 204 (35.50%), 169 (29.40%), and 201(35.10%) respectively.

Table 2: Grade distribution

	Grade	Frequency	Percentage
Grade Level	8	204	35.50%
	9	169	29.40%
	10	201	35.00%

Table 3: Distribution of Knowledge-based questionnaire and answers

Questionnaire	Answer	N	%
1. Heard about menstruation before menarche	No	189	32.30%
	Yes	396	67.70%
2. Source of information about menstruation before menarche	No one	182	31.10%
	Friend	39	6.70%
	Health	51	8.70%
	Mother	285	48.70%
	Others	2	0.30%
	Teacher at school	26	4.40%
3. Freely discuss menstruation issues with parents	No	305	52.40%
	Yes	280	47.60%
4. Reason for not discussing menstruation with parents	Not habitual	177	30.30%
	Because of the shamefulness	106	18.10%
	Discussed with parents	257	43.90%
	Privacy or secrecy issue	45	7.70%
5. Knows the average age at which girls commence menses	No	367	62.80%
	Yes	218	37.20%
6. Causes of menstruation	I do not know	375	64.10%
	Is a cure of God	44	7.50%



	Pathologic process	29	5.00%
	Physiologic process	137	23.40%
7. Source of menstrual blood	Bladders or abdomen	31	5.30%
	I do not know	277	47.40%
	Uterus	136	23.20%
	Vagina	141	24.10%
8. Absorbent that should be ideally used during menstruation	Disposable sanitary pad	539	92.10%
	Rag or pieces of cloth	12	2.10%
	Reusable & washable cloth pads	34	5.80%
9. Knew the normal menstrual bleeding duration	No	277	47.40%
	Yes	308	52.60%
10. Knew the normal duration of the menstrual cycle	No	345	59.00%
	Yes	240	41.00%
11. Girl can go to school during menstruation	No	128	21.90%
	Yes	457	78.10%
12. Knew that menstrual blood is unhygienic	No	272	46.50%
	Yes	313	53.50%
13. Knew that it is foul-smelling during menstruation	No	197	33.70%
	Yes	388	66.30%
14. Knowing pain during menstruation does not mean someone is sick	No	256	43.80%
	Yes	329	56.20%
15. Good overall knowledge about menstruation	No	412	72.00%
	Yes	164	28.00%

23.40% of respondents who were asked about their knowledge of menstrual hygiene management believed that menstruation is a physiological process. The age of menarche was known to 37.30% of the respondents. 92.1% of the participants were aware that Absorbent is best utilized during menstruation. Only 23.20% of students believed that the uterus was the source of blood. Most students believed that menstrual blood was unhygienic. Approximately 66.30% of students believed that menstrual blood would be foul-smelling while they were having their menstrual period. Only 28% of pupils had an adequate knowledge of menstruation.

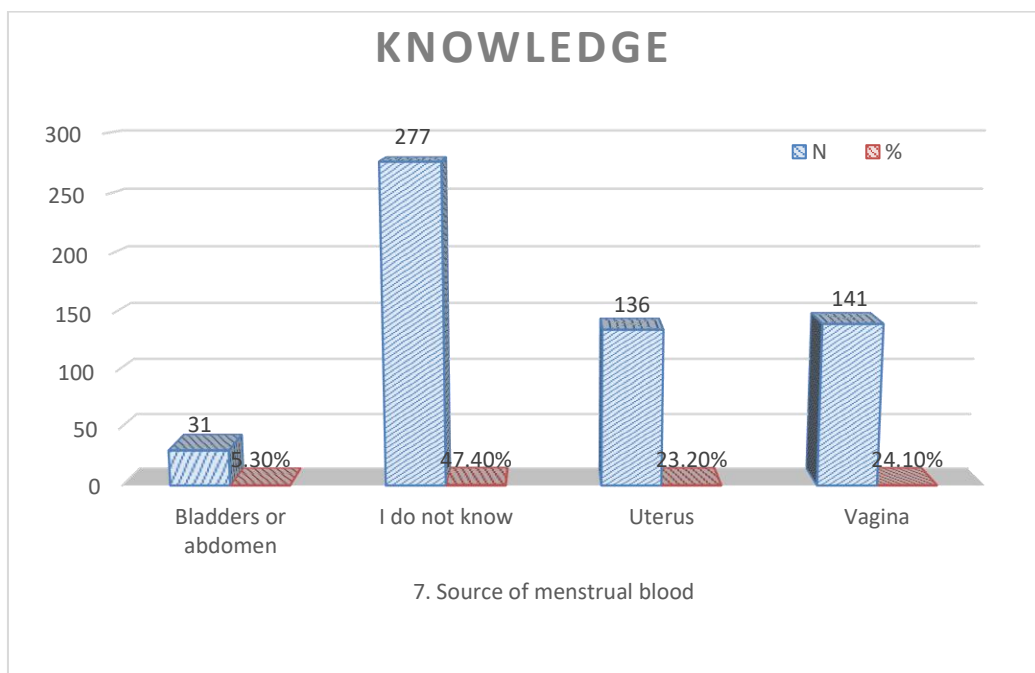


Figure 1: Source of menstrual blood.

Table 4: Distribution of attitude-based questionnaire and answers

Questionnaire	Answer	N	%
1. Restriction in household tasks during menstruation is not significant	No	300	51.30%
	Yes	285	48.70%
2. Self-esteem increases after menarche	No	225	39.00%
	Yes	350	61.00%
3. Menarche signals the body is functioning normally	No	198	33.80%
	Yes	387	66.20%
4. God will not curse family members if cultures/taboo aren't followed during menstruation	No	284	49.10%
	Yes	301	51.50%
5. An increase in supplementation of nutritious food is necessary during menstruation.	No	157	26.80%
	Yes	428	73.20%
6. Men will not become sick when menstruating females touch them	No	345	59.00%
	Yes	240	41.00%
7. Menstruating females should take a bath	No	80	13.70%
	Yes	505	86.30%
8. Menstruating females can eat dairy and sour item	Yes	252	43.10%
	No	323	56.90%

Regarding MHM-related concerns, 48.29% of the respondents had a positive attitude. Data revealed that 48.70% of respondents believed that it is important to place restrictions on performing household duties when menstruating. The majority of respondents 73.20% believed that an increase in supplementation of nutrients/food is necessary during menstruation. 86.30% of respondents agreed that menstruating females should take baths. Only 43.10% of respondents agreed that menstruating females can consume dairy and sour food items. Though menstruation is a natural process, it is linked with several misconceptions and poor menstrual practices that can result in adverse health outcomes.

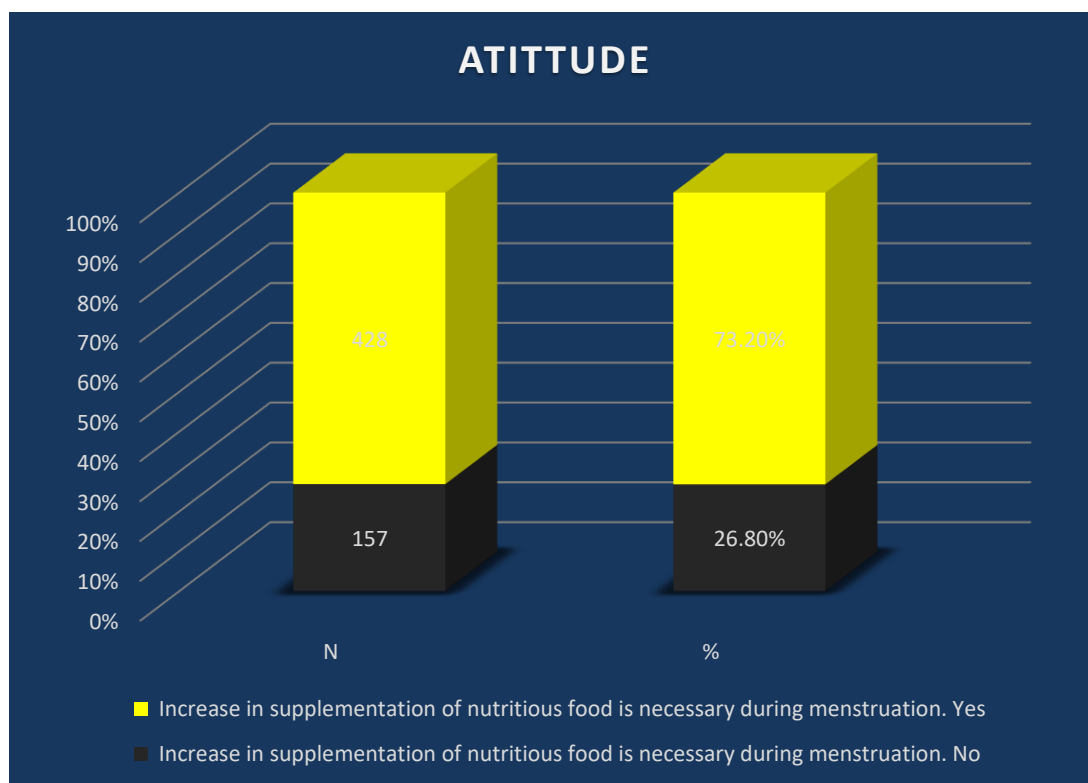


Figure 2: An increase in the supplementation of nutritious food is necessary during menstruation.

Table 5: Distribution of practice-based questionnaire and answers

Questionnaire	Answer	N	%
1. Sanitary materials used during menstruation	Disposable piece of rags	48	8.20%
	Disposable sanitary pads	503	86.00%
	Paper/toilet tissue	2	0.30%
	Rag or pieces of cloth	1	0.20%
	Reusable & washable cloth	1	0.20%
	Reusable sanitary pads	19	3.20%
	Underwear	3	0.50%
	Uses no sanitary material	8	1.40%
2. Genital cleaning material used during menstruation	Not used any	16	2.70%
	Only water	286	48.90%
	Plain paper	10	1.70%
	Soap and water	273	48.70%
3. Washing genitals twice or more times per day during menses	No	106	18.10%
	Yes	479	82.90%
4. Taking ≥ 2 baths during menstruation per day	No	313	53.50%
	Yes	272	46.50%
5. Frequency of changing sanitary material during menses per day	1 or 2 times	364	62.20%
	Could not change it	34	5.80%
	Three times or more	187	32.00%
6. Proper disposal of used menstrual hygiene materials	No	360	61.50%
	Yes	225	38.50%
7. Overall adequate MHM practice	No	470	80.30%
	Yes	115	19.70%

Hygiene-related practices of women during menstruation are of considerable importance, as it has a health impact in terms of increased vulnerability to reproductive tract infection. Therefore, increasing knowledge of menstruation from childhood may escalate safe practice and may help in mitigating the suffering of millions of women. Even though the study was done in a remote region, the majority of adolescent girls (86% of them) reported using sanitary napkins during their periods. However, the frequency of pad changes was twice daily, which is not a desirable menstrual hygiene practice. Women should change their pads 3-5 times every day for excellent practice. Around 18.10% of respondents don't clean their genitalia during menstruation, while others simply use water, which increases the risk of infection and the growth of germs in the genital area, which increases the risk of gynecological health issues in adolescent girls. Only 19.70% of students are familiar with MHM procedures.

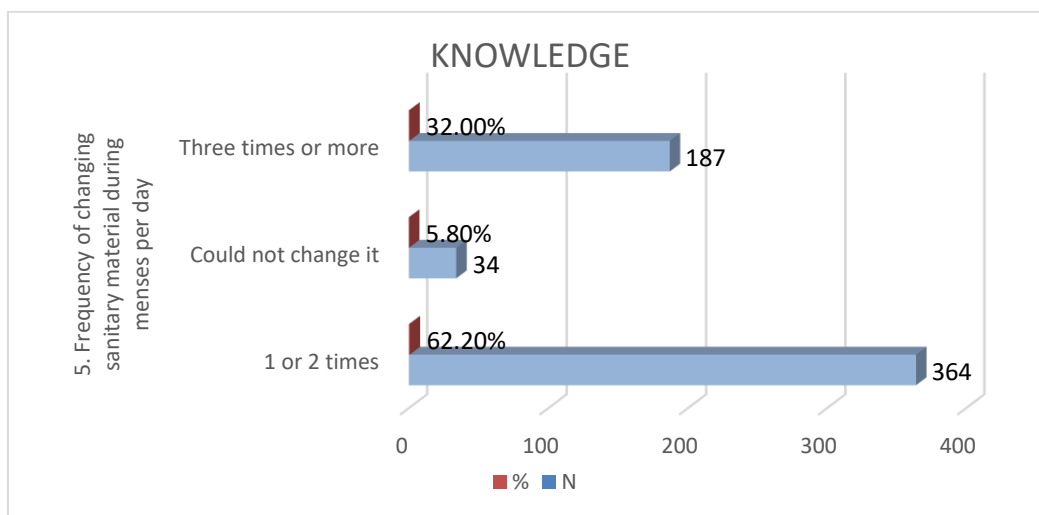


Figure 3: Frequency of changing sanitary material during menses per day

DISCUSSION

Nearly 40% of girls have heard of menstruation before menarche, according to Prajapati J et al.⁹. According to the study by Ade A et al., 69% of adolescent girls in Raichur's rural areas were aware of menstruation before they first experienced it, and nearly one-third of the girls had never heard of it¹⁰. These results are nearly identical to those of our study, which had a 67.7% success rate.

In several studies, including our own^{9,10}, mothers were the most frequent sources of information. About half of the girls cited their mothers as their primary information sources, followed by friends and family, and 4.4% mentioned other sources such as teachers at school.

These results are comparable to those of other studies conducted in Delhi, where the majority of the young girls were previously unaware that it would occur and little information is provided to them. Similar results have been observed in other Indian states, including Rajasthan, West Bengal, Andhra Pradesh, and Varanasi^{11,12}. Mothers, sisters, and friends are typically the main sources of information, according to these Indian studies^{13,14}. Similar conclusions were drawn from studies conducted in various parts of the world, including Egypt and Pakistan, where it was discovered that the young girls received either insufficient or subpar information from unreliable sources^{12,15}.

Menstrual behavior and attitude are known to be influenced by many variables, with residence (urban vs. rural), culture, and religious beliefs being notable ones. Girls' reactions to menarche may be influenced by how they are taught about menstruation and the changes it causes. Participants in this study expressed discomfort or fear in response to their first period. This was a conclusion that matched one from research done in Nigeria (in a tribal area)¹⁶. There are many myths and beliefs about menstruation, as well as behavioral changes in family members that create pain. Due to the social stigma associated with menstruation, women typically conceal their periods from others, which leads many girls and women to engage in dangerous hygienic practices¹⁷.

In a study by Maji S, the majority of the subjects utilized sanitary pads, with one-third of them utilizing old clothes that they mostly reused¹⁸. Only 52.3% of females in rural Gulbarga were utilizing sanitary napkins, compared to a greater number of 73.6% who were exclusively using sanitary pads¹⁹, according to Dabade KJ et al. The majority of the adolescent females in our survey lacked a basic understanding regarding how to dispose of menstrual waste which was also observed in the study among rural school-going females by Chauhan P et al.²⁰. According to Dabade KJ et al., about 75% of the girls cleansed their private regions with soap and water every day, which is greater than the findings of our study¹⁹.

Limitations

Due to the sensitive nature of the topic, school girls may feel hesitant to discuss their menstrual experiences and

practices. The sample size of the survey may not be representative of the entire population of school girls, which may lead to potentially biased results.

CONCLUSION

The study concluded that the students have deficient knowledge, various misconceptions, and inadequate practices regarding menstruation and its management. Effort has to be made to ensure, that adolescent girls are well knowledgeable on the meaning of menstruation significance of good menstrual hygiene practice. An effort must be taken to bring about change in myths, misconceptions, restrictions, and traditional taboos concerning menstruation, to further develop and promote menstrual hygiene and practice.

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