

## Original Research Article

# Menstrual hygiene and practices among adolescent girls in rural Visakhapatnam: a cross-sectional study

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### ABSTRACT

**Background:** Adolescent girls constitute 1/5<sup>th</sup> of total female population in the world. Poor personal hygiene and defective menstrual management practices among adolescents give rise to repeated reproductive tract infections (RTIs) which are otherwise preventable. So the present study was undertaken to study the knowledge, status of hygiene and practices regarding menstruation among adolescent girls. The objectives of the study were to study the knowledge and practices of menstrual hygiene among study population and to identify beliefs, perception regarding menstruation and menstrual practices among the study population.

**Methods:** A cross-sectional study was done in the month of November 2017 in the rural field practice area of the Department of Community Medicine, Andhra Medical College, Visakhapatnam. The study was done in a high school selected by simple random sampling among 400 adolescent girls who had attained menarche and were present in the schools during the days of survey after obtaining Institutional Ethics Committee approval, permission from the school authority and informed consent was taken from study participants. The sample size was calculated Using 4PQ/L<sup>2</sup> with 5% absolute precision (p=36% from previous studies).

**Results:** Mean age of study participants was 14.2yrs ±1.05. About 206(48.4%) knew about menstrual cycle before their menarche. Majority of study participants (78.3%) used sanitary pad as protective material. Regarding hygienic practices during menstruation 78.8% had daily bath.

**Conclusions:** Awareness about menarche before its onset was still poor in rural areas.

**Keywords:** Adolescent, Cloth, Menstrual hygiene, School, Sanitary pads

### INTRODUCTION

Menstruation is a phenomenon unique to the females.<sup>1</sup> The first menstruation (menarche) occurs between 11 and 15 years with a mean of 13 years.<sup>2</sup> Menstrual hygiene is an issue that is insufficiently acknowledged and has not received adequate attention in the reproductive health and water, sanitation and hygiene (WASH) sectors in developing countries including India and its relationship with and impact on achieving many Millennium Development Goals (MDGs) is rarely acknowledged. Studies that make the issue visible to the concerned

policymakers and inform practical actions are very much warranted.<sup>1</sup>

Although menstruation is a natural process; it is linked with several misconceptions and practices, which sometimes result into adverse health outcomes. The reaction to menstruation depends upon awareness and knowledge about the subject. The manner in which a girl learns about menstruation and its associated changes may have an impact on her response to the event of menarche.<sup>3</sup>

Menstrual hygiene is a routine physiological process that every adolescent girl pass through with in her life. Menstrual hygiene is still a problem for adolescent girls especially in low and middle income countries particularly when attending school. Menstrual hygiene and management will directly contribute the Millennium Development Goal (MDG-2) on universal education and MDG -3 on gender equality and women empowerment. Hygiene related practices of women during menstruation are of considerable importance, especially in terms of increased vulnerability to reproductive tract infections (RTI).<sup>4</sup> The interplay of socio-economic status, menstrual hygiene practices and RTI are noticeable. Women having better knowledge regarding menstrual hygiene and safe practices are less vulnerable to RTI and its consequences.<sup>5</sup>

Therefore, increased knowledge about menstruation right from childhood may escalate safe practices and may help in mitigating the suffering of millions of women. In spite of available data, poor knowledge, practices and information regarding optimal menstrual hygiene still needs to be explored in rural geographies. With this background the present study was undertaken to assess the knowledge, beliefs, and source of information regarding menstruation among the adolescent school girls of the secondary school and also to identify the status of menstrual hygiene among them.

### Objectives

- To study the knowledge and practices of menstrual hygiene among study population.
- To identify beliefs, perception regarding menstruation and menstrual practices among the study population.

### METHODS

A community based cross sectional observational study was undertaken among adolescent school girls in the month of November 2017 in the rural field practice area of the Department of Community Medicine, Andhra Medical College, Visakhapatnam. Out of the 5 schools, one high school for girls with strength of 828 was selected by simple random sampling method.

### Inclusion criteria

Adolescent girls who had attained menarche and who were present in the school during the days of survey.

### Exclusion criteria

Adolescent girls who had not attained menarche and who were absent in the school during the days of survey.

### Ethical considerations

After obtaining approval from Institutional Ethics Committee study was initiated. Permission from the

school authority, the class teacher and students was obtained after explaining the purpose of study and rapport was built up with the girl students and informed consent was taken before collecting the data.

### Method of data collection

Data was collected with the help of pre-designed, semi-structured, closed ended questionnaire by a face-face interview. Questionnaire includes information regarding menstruation, hygiene practices during menstruation and restrictions practiced. At the end of the study health education regarding menstruation and healthy practices was imparted to the study participants through lectures, one to one interaction was done wherever it was needed and their queries were answered.

### Sample size calculation

From previous studies awareness regarding menstrual hygiene =36%

Using  $4PQ/L^2$  with 5% absolute precision

$$N = \frac{4 \times 36 \times 64}{25} = 368 \text{ (rounding off) } = 400 \text{ sample (adolescents).}$$

Data was entered in MS Excel sheet and was analyzed by using Epi Info™ Version. Relevant statistical tests were applied to the test the statistical association.

### RESULTS

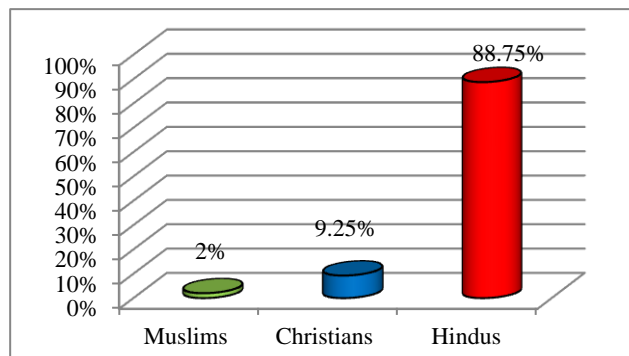
Mean age of study participants was 15.5 yrs with a SD of  $\pm 1.18$ . Majority (88.75%) of the students were Hindus. Mean age of the study participants at menarche was 12.79yrs with a SD of  $\pm 1.23$ . About half (51.5%) of the study participants knew about menstruation before menarche.

**Table 1: Age wise distribution of study participants.**

Age in years	No (%)
11	6 (1.5)
12	18 (4.5)
13	71 (17.75)
14	125 (31.25)
15	159 (39.75)
16	17 (4.25)
17	4 (1)

In most of the study participants (77.6%) first informant was their mother. Only few (8.7%) got to know about it from their friend. Regarding practices majority (78.25%) of the study participants were using sanitary pad. Only 11.5% were using cloth. Majority 93.5% were disposing off the absorbent (sanitary pad, cloth) used and 3% are reusing the cloth after washing. Regarding frequency of

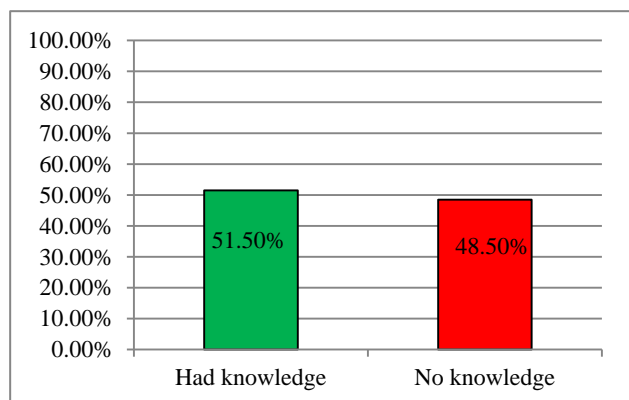
change of absorbent used, during menstruation, almost 95% were changing their absorbents 3 and more than 3 times a day. Regarding hygienic practices during menstruation 78.8% had daily bath. Others felt bathing should be restricted in the first two days of menstruation as bathing increases the menstrual flow.



**Figure 1: Distribution of study participants according to their religion.**

**Table 2: Distribution of students according to menstrual pattern.**

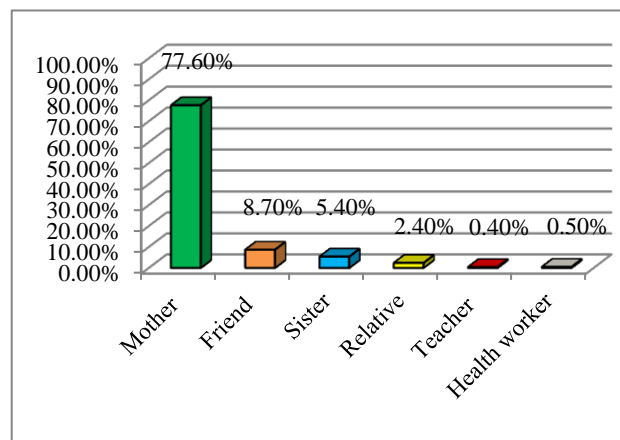
Age at which menarche attained in yrs	Percentage (%)
<12	11
12-14	80
>14	9
Duration of blood flow in days	
<2	4.5
2-5	70.75
>5	24.75
Length of cycle in days	
<28	21
28-32	59
>32	20



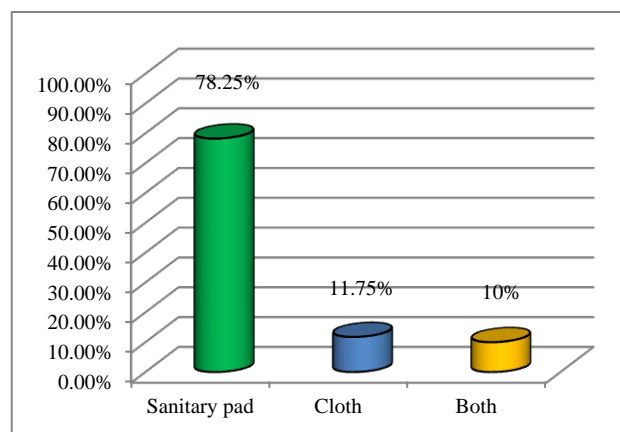
**Figure 2: Distribution of students according to knowledge about menstruation before menarche.**

Almost 95.5% of the study participants followed restrictions at home in one or other form during

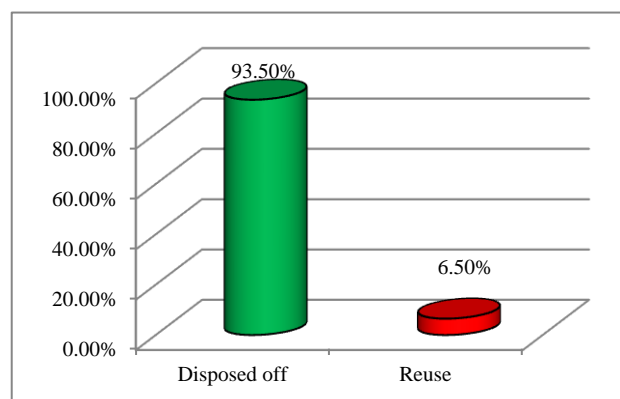
menstruation. Majority (89%) of the study participants wrap the protective material and throwing it in dust bin. Dust bins are available in all the wash rooms and wash rooms are provided with sufficient amount of water in school.



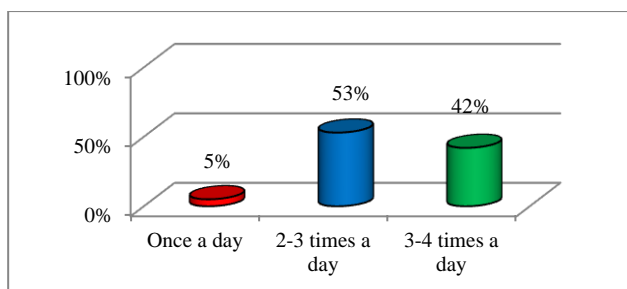
**Figure 3: Distribution of students according to source of information about menstruation before menarche.**



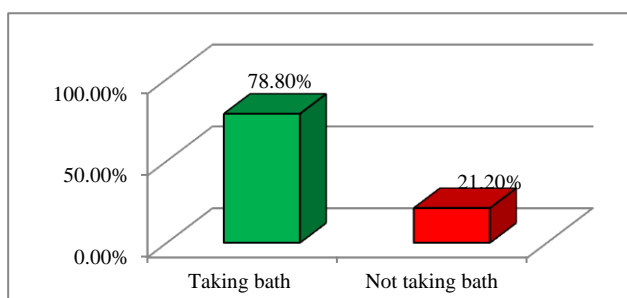
**Figure 4: Distribution of students according to type of absorbent used.**



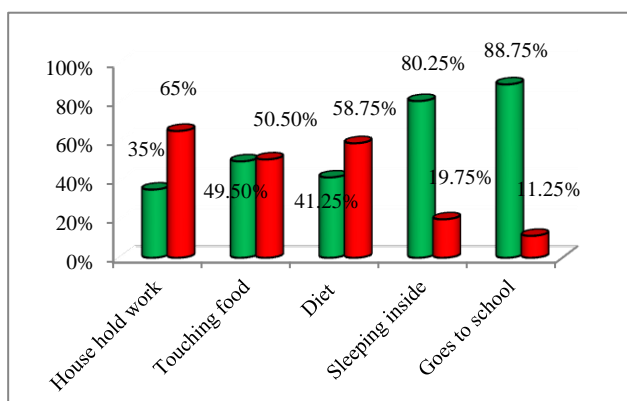
**Figure 5: Distribution of students according to frequency of change of absorbent used during menstruation.**



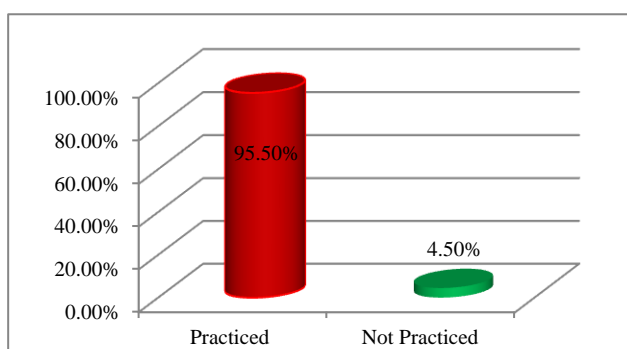
**Figure 6: Distribution of students regarding restrictions (hygienic practices) practiced during menstruation.**



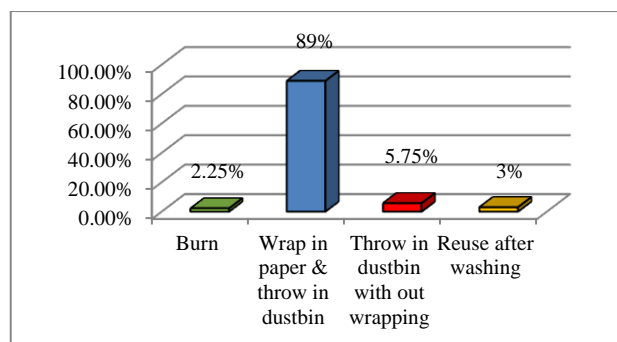
**Figure 7: Distribution of students regarding restrictions practiced (bath) during menstruation.**



**Figure 8: Distribution of students regarding restrictions practiced during menstruation.**



**Figure 9: Distribution of students regarding practices of hygiene during menstruation.**



**Figure 10: Distribution of students regarding practices practiced pertaining to method of disposal of absorbent used during menstruation.**

## DISCUSSION

In the present study, the mean age of menarche of the study participants was 15.5 yrs was found to be high when compared to the studies conducted by Yasmin in west Bengal (11.95 yrs) and 13.2 yrs in Rajasthan in 2005 by Khanna et al.<sup>6,7</sup>

In the present study unfortunately only half (51.5%) of the study participants knew about menstruation before menarche. Our study findings correlate with that of a study conducted in west Bengal by Yasmin et al.<sup>6</sup> Another study conducted by Deo et al reported that 55.4% rural girls were aware about menstruation prior to attainment of menarche.<sup>8</sup> These study results show that only 50% of the students knew about menstruation before menarche.

Most of the times (77.6%) first informant was mother. Only few (8.7%) got to know about it from their friend. Other sources of information were sisters, relatives, teachers and health workers.

In this study it was observed that (78.25%) of the study participants were using sanitary pad. Only 11.5% of the study participants are using cloth. This shows that the usage of sanitary pads was good in the present study when compared to a study conducted in West Bengal by Yasmin et al (63.3%), in a rural community of Rajasthan by Khanna et al, three-fourths of the girls were using cloth and only one-fifth reported using sanitary pads and only 11.25% girls were using sanitary pads in a study done by Dasgupta et al.<sup>6,7,9</sup>

## CONCLUSION

Awareness about menarche before its onset was still poor in rural areas. Lack of appropriate and sufficient information about menstrual hygiene can be attributed to cultural and religious beliefs and taboos. The findings showed a number of myths, taboo, and misconceptions among them and follow social isolation and restrictions during menstruation.

### Recommendations

- This study indicates that there is an urgent need of health educational activities among adolescent girls, their parents and teachers for improving menstrual hygiene and removing myths and misconception 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 source of information. Therefore, there is a need for the provision of comprehensive family life education for the parents also.
- Use of sanitary napkins to be enhanced by social marketing and installing sanitary vending machines in both government and private schools to be made mandatory.
- Health education should be developed to empower young women with sufficient knowledge so that they shift to appropriate health-taking behaviors.

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*Conflict of interest: None declared*

*Ethical approval: The study was approved by the Institutional Ethics Committee*

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