



Original Article

## Who Knows Better? A Comparative Study of Menstrual Hygiene Knowledge among Rural and Urban School-going Adolescent Girls in Guntur, Andhra Pradesh

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### ABSTRACT

**Background:** Menstrual hygiene is an essential component of adolescent health. However, awareness and hygienic practices related to menstruation often differ between rural and urban school-going adolescent girls.

**Methodology:** This was a comparative, cross-sectional study among school-going adolescents of urban and rural areas of a tertiary care teaching hospital. The study sample includes adolescent girls from government sponsored school from rural area and private school in urban area. A total of 200 students were taken from both the schools (100 from each school) by using simple random sampling. The data collected was entered into Microsoft Excel sheet and results were analysed using Statistical Package for Social Sciences (SPSS) Version20.

**Results:** The mean age of study participants was 13.4 years and 14.54 years among urban and rural schools respectively. In view of menstruation 83% of urban and 73% of rural adolescent girls thought it as normal physiological process, 5% and 13% thought it as curse of God respectively and remaining 10% and 14% have no idea about menstruation. In view of menstrual hygiene 43% of urban adolescent girls 45% of rural adolescent girls have knowledge of menstrual hygiene before menarche. Among urban adolescent girls, 92% and 78% rural adolescent girls know about frequent change of sanitary pads. 46% of urban and 67% rural adolescent girls show absenteeism due to improper menstrual hygiene. 92% urban and 88% rural girls use disposable sanitary pads during their menstruation, 12 rural and 2 urban girls use cloth as absorbent.

**Conclusion:** To conclude, the present study revealed that rural adolescent girls had more knowledge regarding menstrual hygiene. Knowledge on menstrual hygiene and provision of facilities is significantly high in rural adolescent girls compared to urban adolescent girls. There was higher absenteeism during menstruation among rural adolescent girls as compared to urban adolescent girls. This can be prevented by providing sanitary pads and pain medication at school. There is need for creating

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more awareness on menstruation and its hygiene, elimination of taboos through IEC activities at schools which help in improving the quality of life among adolescent girls during menstruation.

**Keywords:** Menstrual hygiene, school, adolescent girls, urban, rural, knowledge.

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## INTRODUCTION

Adolescent girls play an important role as they are building blocks of society and maintain proper stability in the community. According to WHO “age period between 10 -19 years for both sexes” is known as adolescence <sup>[1]</sup>. Among adolescent girls, a health concern of significant importance is menstrual hygiene. Menstruation is a physiological cycle involving bleeding due to shedding of endometrium <sup>[2]</sup>. It takes place at approximately 28-day intervals between menarche and menopause <sup>[3]</sup>. There is need of maintenance of hygiene during the time of menstruation. In developing countries like India, there is poor menstrual hygiene and discussion about menstruation itself it is considered as taboo. Menstruating girls are considered as unclean and dirty and are denied access to not only religious, cultural activities but also to the kitchen. Thus, they face a lot of discrimination and discomfort during their menstrual cycles. <sup>[4]</sup>

School girls had difficulties managing their menstrual periods at school leading to absenteeism during their menstrual periods <sup>[5]</sup>. Menstruation was found to negatively affect the academic performance as reported by many studies <sup>[6]</sup>. There are certain studies on menstrual hygiene in various places across different states in India. However, there is a paucity of information in the selected area of study. Hence, this study has been taken up to find the differences in the knowledge on menstrual hygiene among rural and urban school going adolescent girls at Guntur.

## AIM

The present study aims to compare the knowledge regarding menstrual hygiene among rural and urban school going adolescent girls.

## OBJECTIVES

- 1) To assess the knowledge on menstrual hygiene among rural and urban school going adolescent girls.
- 2) To compare the level of knowledge on menstrual hygiene among them.

## MATERIALS AND METHODS

**Study Design:** A Comparative, Cross-sectional study

**Study setting:**

The study was conducted in two schools of Guntur, the first school is a government sponsored higher secondary school SNRR ZPHS in Chirumamilla (rural area) and the second school is a private school located in the city Little Flower High School at Vidyannagar (urban area).

**Study period:** September to November 2021.

**Sample size:**

The estimated prevalence according to previous studies = 67.5%<sup>[7]</sup>

sample size was calculated by using formula,

$$n = \frac{z^2 pq}{d^2}$$

$$n = 4 \times 67.5 \times 32.5 / 6.75 \times 6.75$$

$$= 8775 / 45.56$$

$$= 193 \text{ rounded off to } 200$$

Where  $q = 100 - p = 100 - 67.5 = 32.5$

$d$  = relative precision of 10%

100 students from each school were included in study for comparison.

**Sampling technique:** Simple random sampling

**Inclusion criteria:**

School going adolescent girls of classes 8th, 9th, 10th and of age group 11-16 years who had attained menarche. Students who were willing to participate in the study and had given assent for the study.

**Exclusion criteria:**

- Adolescent girls who completed their schooling and school dropouts.
- Adolescent girls who were absent on the day of conduction of study.

**Study tool:**

A self – designed, semi structured questionnaire regarding menstrual hygiene was administered to the students.

**Ethical considerations:**

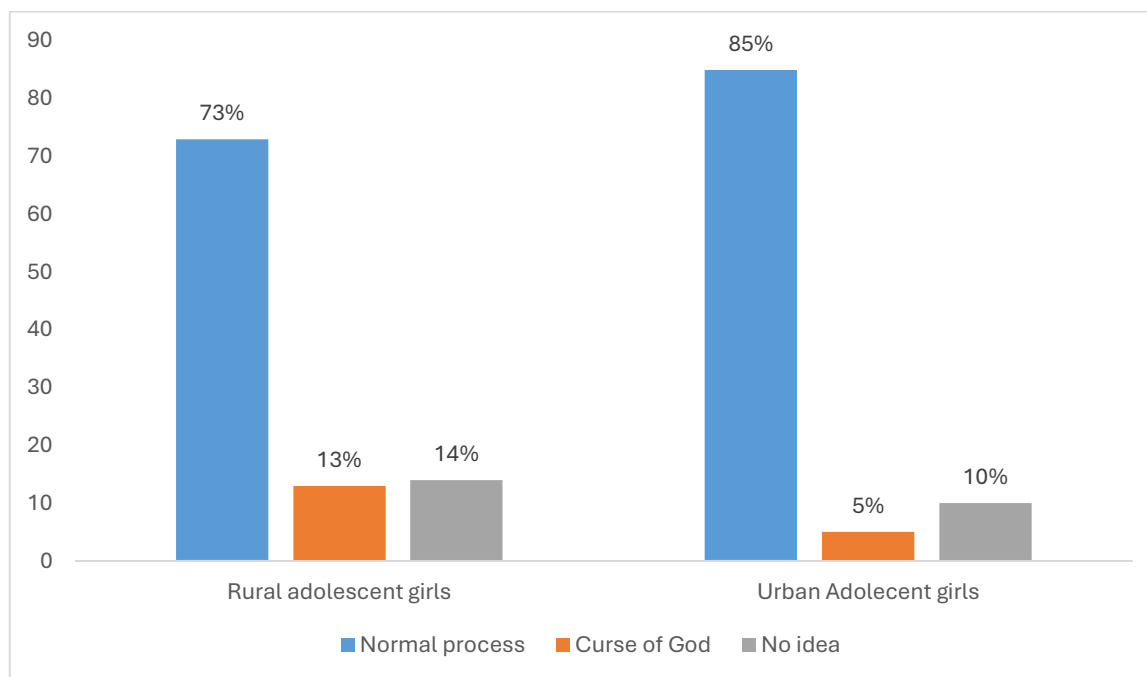
The study was obtained from Institutional Ethics Committee of Katuri Medical College and Hospital, Guntur

### Data analysis:

The data was entered in Microsoft Excel and analysis was done using SPSS version 20 for descriptive statistics and chi-square tests.

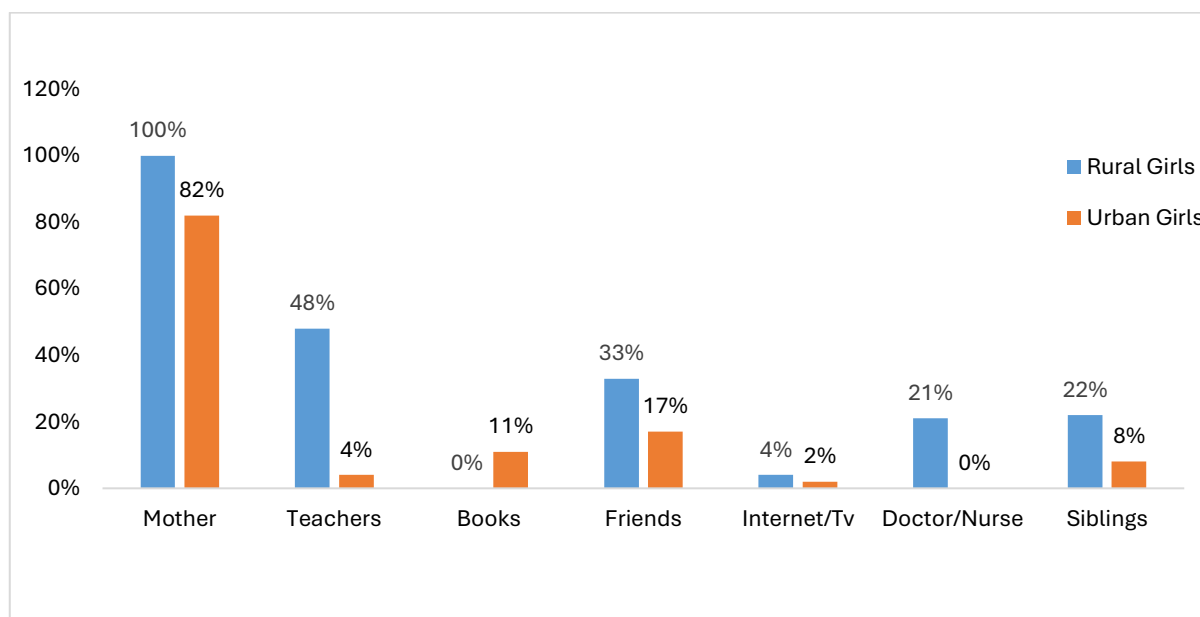
### RESULTS

In this study, the mean age of participants is 13.4 years and 14.54 years in urban and rural adolescent girls respectively. The mean age of menarche in urban adolescent girls is 12.18 years and 12.56 years in rural adolescent girls.



**Figure 1 Knowledge on menstruation**

Figure 1 interprets that, menstruation was considered as a normal physiological process by 73% and 85% of rural and urban adolescent girls respectively. It was stated as a curse of God by 13% and 5% of rural and urban adolescent girls respectively, and 14% of rural girls and 10% of urban girls have no idea about menstruation.



**Figure 2: Source of information**

**Table 1: View On Menstrual Hygiene**

| SL No | Response          | Rural adolescent girls | Urban adolescent girls | p value |
|-------|-------------------|------------------------|------------------------|---------|
| 1     | Normal process    | 73(73%)                | 85(85%)                | 0.37    |
| 2     | Illness of female | 0(0%)                  | 0(0%)                  | 0.00    |
| 3     | Curse of God      | 13(13%)                | 5(5%)                  | 0.48    |
| 4     | No idea           | 14(14%)                | 10(10%)                | 0.38    |

Table 1 shows that, 48% of 100 respondents in rural girls think menstrual hygiene is good and 49% of urban girls also think it is a good thing, 34% and 36% of rural and urban adolescent girls don't know about menstrual hygiene respectively, 7% and 5% of rural and urban girls think menstrual hygiene as a sin. 11% of rural and 10% of urban girls think the menstruation process as bad process of phenomena respectively. There is a statistical significance regarding perception that menstruation is a illness of the female among rural and urban adolescent girls.

**Table 2: Knowledge Of Menstrual Hygiene among rural and urban adolescent girls**

| S No | Regarding level of knowledge                                         | Rural |     | Urban |     |
|------|----------------------------------------------------------------------|-------|-----|-------|-----|
|      |                                                                      | Yes   | No  | Yes   | No  |
| 1    | Knowledge of menstrual hygiene before menarche                       | 45%   | 55% | 43%   | 57% |
| 2    | Is menstrual hygiene a female matter & should be confined to them    | 57%   | 43% | 55%   | 45% |
| 3    | Frequent change of sanitary pads                                     | 78%   | 22% | 92%   | 8%  |
| 4    | Is menstrual hygiene important in girls                              | 100%  | 0%  | 96%   | 4%  |
| 5    | Absenteeism due to improper menstrual hygiene                        | 67%   | 33% | 46%   | 54% |
| 6    | Effect of menstruation on academic performance                       | 52%   | 48% | 59%   | 41% |
| 7    | Availability of disposal bins in schools                             | 100%  | 0%  | 86%   | 14% |
| 8    | Is data about menstrual hygiene enough in text books                 | 81%   | 19% | 32%   | 68% |
| 9    | Provision of facilities and programs in schools on menstrual hygiene | 100%  | 0%  | 17%   | 83% |

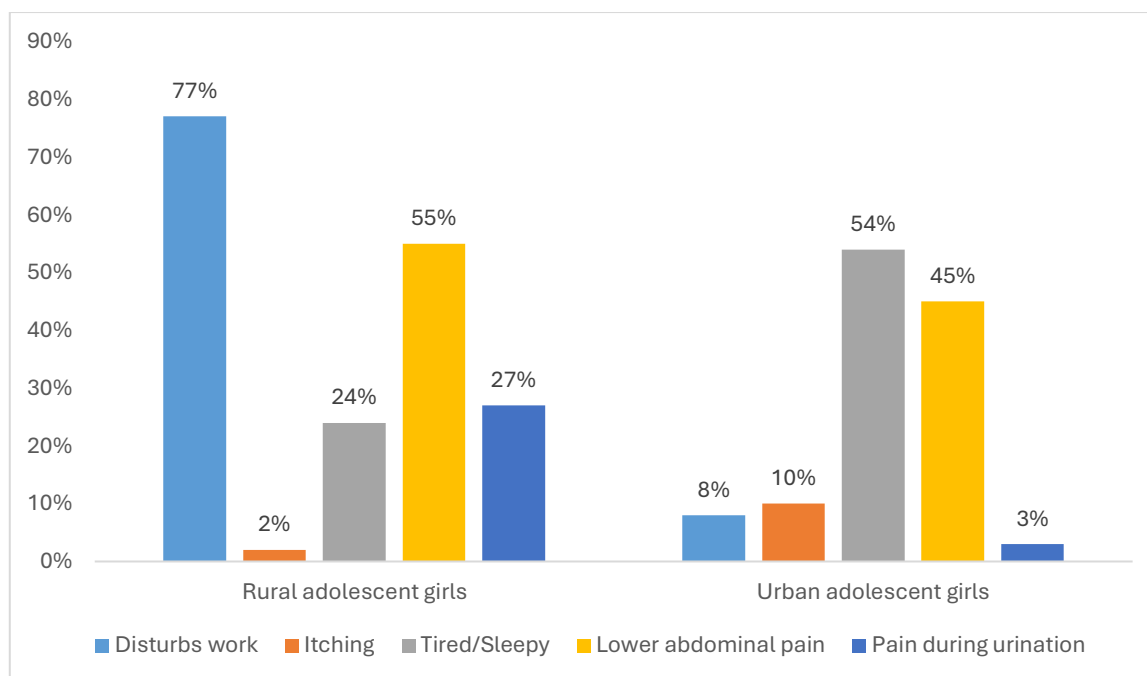
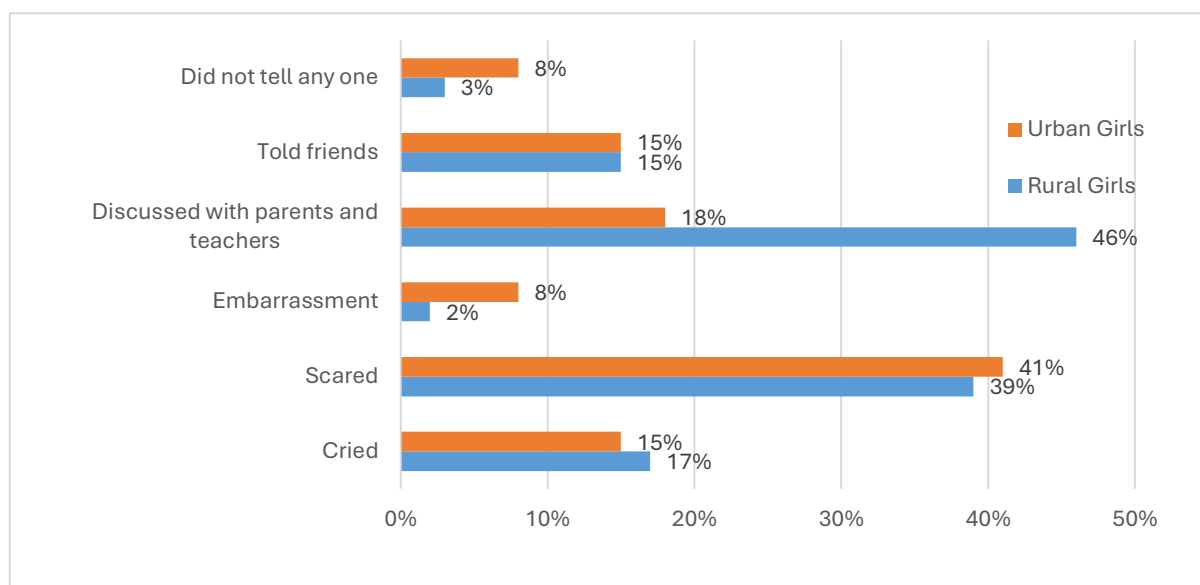
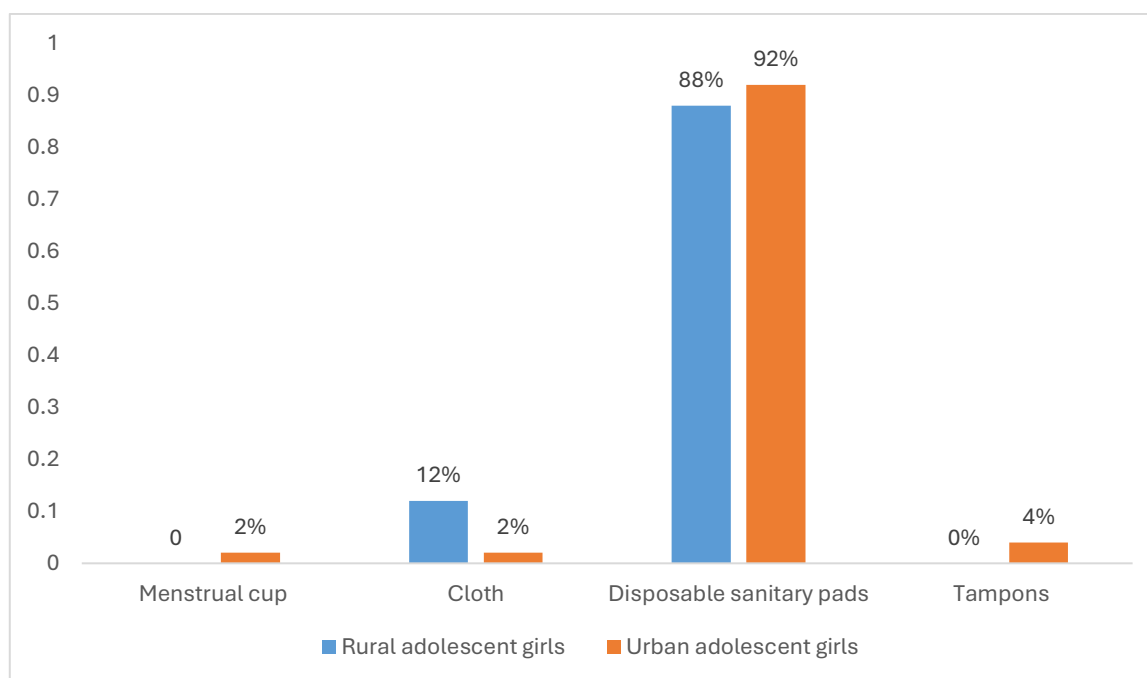
**Figure 3: Implications of inadequate menstrual hygiene and menstruation**

Figure 3 interprets that, 55 rural girls of 100 and 45 urban girls out of 100 responded that they felt pain at lower abdomen and 77 of rural girls complained itching, 54 of urban girls felt tired or sleepy and 81 of rural and 45 of urban had back pain due to inadequate hygiene management and menstruation, 17 and 14 of urban and rural girls complained of headache respectively.



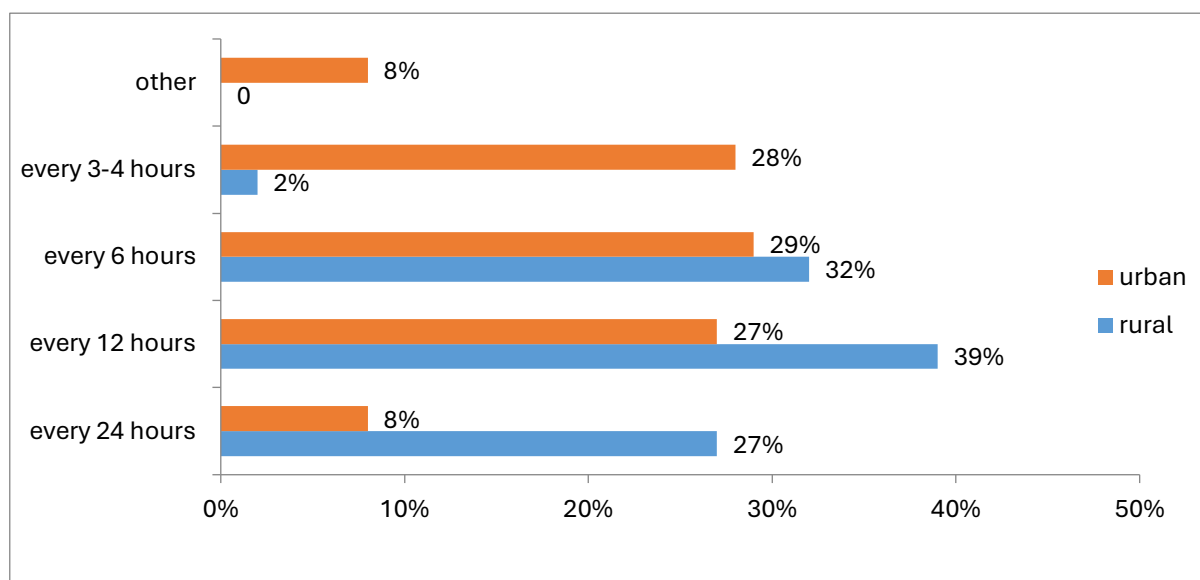
**Figure 4: Perception of students on first experience of menstruation**

Figure 4 shows that, 15 out of 100 urban respondents and 17 out of 100 rural respondents cried during their first menstruation and 41 of urban girls, 39 of rural girls felt scared. 46 rural girls out of 100 discussed with their parents and teachers, 15 urban adolescent girls and 15 rural adolescent girls told their friends about their first experience of menstruation. Majority felt scared and very few girls did not tell anyone and confine it to themselves.



**Figure 5: Use of Absorbents**

Figure 5 shows that, 92 urban and 88 rural girls use disposable sanitary pads during their menstruation as absorbent. 12 rural and 2 urban girls use cloth as absorbent and 2 out of 100 urban girls use menstrual cups. 2 urban girls use cloth as absorbent and 2 out of 100 urban girls use tampons.



**Figure 6: Frequency of change of sanitary pads**

Figure 6 shows that 39% of rural and 27 % of urban adolescent girls change their sanitary pads every 12 hours, 32% of rural and 29% of urban girls change pads every 6 hours respectively. 28% of urban girls change their pads every 3-4 hours.

**Table 3: Knowledge On Hygiene Material**

| S No | Hygiene material            | Rural Girls (100) | Urban Girls (100) | p value |
|------|-----------------------------|-------------------|-------------------|---------|
| 1    | Reusable sanitary pads      | 39(39%)           | 49(49%)           | 0.15    |
| 2    | Tampons                     | 3(3%)             | 17(17%)           | 0.0009  |
| 3    | Menstrual cups              | 49(49%)           | 26(26%)           | 0.0007  |
| 4    | Disposable sanitary napkins | 54(54%)           | 80(80%)           | 0.00009 |

Table 3 interprets that, 80 girls out of 100 urban respondents and 54 out of 100 rural respondents have proper knowledge on disposable sanitary napkins and 49 out of 100 urban girls, 39 out of 100 rural girls have knowledge on reusable sanitary pads. 26 urban girls have proper knowledge on menstrual cups and 17 urban girls and 3 rural girls have enough knowledge on tampons. There is a statistical significance regarding tampons, menstrual cups, disposable sanitary napkins among rural and urban girls.

**Table 4: Knowledge On Ill Effects Due To Improper Menstrual Hygiene:**

| S.No | Response | Rural(100) | Urban(100) | p value |
|------|----------|------------|------------|---------|
| 1    | Yes      | 16(16%)    | 36(36%)    | <0.001  |
| 2    | No       | 84(84%)    | 64(64%)    | <0.001  |

Table 4 shows that, 84% of rural adolescent girls and 64% of urban adolescent girls don't know the ill effects caused due to improper menstrual hygiene management. There is a statistical significance regarding the knowledge on ill effects due to improper menstrual hygiene among rural and urban adolescent girls.

## DISCUSSION

The present study showed that 45% of rural adolescent girls and 43% of urban adolescent girls had knowledge on menstrual hygiene before the attainment of menarche. In a study conducted in Haryana, it was stated that knowledge about menstruation before attainment of menarche was 69% in urban and 58.9% in rural [8] Similar study conducted in Nagpur between urban and rural adolescent girls showed awareness regarding menstruation was more in urban adolescent girls (63.38%) as compared to rural girls (47.57%) [9].

In the present study, mothers had been the main source of information for adolescent girls (100%) in rural girls and (82%) in urban adolescent girls. In a study conducted at Nagpur, 71.33% of girls reported that mother was their first informant and other sources of information were friends, sisters, teachers etc [10]. Contrary findings were found in a study conducted at West Bengal by A Dasgupta and M Sarkar where it was only 37.5% [7].

In this study, 73% of rural adolescent girls and 85% of urban adolescent girls thought menstruation as a normal physiological process and 13% of rural, 5% of urban thought it as a curse of god and 14% and 10% of rural and urban had no idea on menstruation. In a study conducted among adolescent girls at Nepal, only 6% girls knew that menstruation was

a physiological process<sup>[11]</sup>. In a study conducted at Bangladesh it was reported that only 30.3 % of girls knew about menstruation as a physiological process and 2.9% believed it as a curse of god<sup>[1]</sup>.

In the present study, 57% of rural adolescent girls and 55 % of urban adolescent girls felt that menstruation and menstrual hygiene was a matter pertaining to females. Corroborative findings were found in a study conducted at rural Gambia where girls felt that boys need not be taught about menstruation and hygiene management<sup>[12]</sup>.

In this study, results showed that 88% of rural adolescent girls and 92% of urban adolescent girls used disposable sanitary pads as absorbents during menstruation and 12% of rural girls and 2% of urban girls used cloth as absorbent. Findings were contrast to the study conducted at Nagpur showed that 76.49% of girls were aware of sanitary pads usage, 49.35% of girls used sanitary pads during menstruation and 45.74% of girls use old pieces of cloth as absorbent during menstruation.

The use of sanitary pads increased with provision of sanitary pads by schools in both rural and urban areas. In a study conducted among adolescent girls at Nepal, it was found that 94% of them used sanitary pads during menstruation. Only 11.3% were disposing them properly<sup>[11]</sup>. In a study conducted at Nigeria, 63.3% of girls used insaniary pads as menstrual absorbent<sup>[13]</sup>.

In the present study, 67% of rural adolescent girls and 46% of urban adolescent girls could not attend classes due to menstruation. In a study conducted by Sivakami M et al, 6% girls reported that menstruation affected their school attendance and concentration.

In the present study, 52% of rural adolescent girls and 59% of urban adolescent girls reported that menstruation and its management affected their academic performance. Corroborative findings were reported in a study conducted at northeast Ethiopia where 58% of girls reported that their school performance had declined after they attained menarche<sup>[14]</sup>.

In this study, results showed that 83% of urban adolescent girls reported that there are no proper facilities and programs on menstrual hygiene management whereas rural girls were provided with sanitary pads and were taught about menstruation and its effect including its management and many health care programs were conducted by school and government. 96% of urban adolescent girls and 100% of rural adolescent girls responded that menstrual hygiene is important to girls. Both rural and urban adolescent girls reported that lessons in their textbooks did not provide adequate information on menstruation.

## CONCLUSION

To conclude, the present study revealed that rural adolescent girls had more knowledge regarding menstrual hygiene. Knowledge on menstrual hygiene and provision of facilities is significantly high in rural adolescent girls compared to urban adolescent girls. There was higher absenteeism during menstruation among rural adolescent girls as compared to urban adolescent girls. This can be prevented by providing sanitary pads and pain medication at school. There is need for creating more awareness on menstruation and its hygiene, elimination of taboos through IEC activities at schools which help in improving the quality of life among adolescent girls during menstruation.

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