Study on hygiene practice among adolescent girls with special reference to menstrual hygiene in Barpeta, Assam

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INTRODUCTION

Adolescence is the critical phase of physical, mental, and psychosocial development from childhood to adulthood and is characterized by significant hormonal changes. Adolescence is the period between 10 and 19 years of life (WHO).[1] Adolescent girls’ population is around one-fifth of the female population of the world. Menstruation is a part of the female reproductive cycle and signifies girls sexual maturity from the time of puberty. Globally, around half of the female population is in reproductive age[2] and at any given time, 25% of the female population is menstruating.[3] Menstruation is the natural phenomenon in women’s life and requires special care from physical, mental, and social point of view.[4] To get a dignified healthy and productive life for women and girls, it is essential that the menstrual bleeding is managed hygienically without social stigma and fear.[5]

Menstruation is a natural process which is linked with misconceptions and wrong practices, which results in adverse health outcomes. Hygiene-related practices during menstruation are of significant importance in terms of vulnerability to reproductive tract infections.[6] Menstrual hygiene is an important issue which is not adequately acknowledged and not received required attention in reproductive health. Hence, studies to make the issue visible to the policymakers and informed practical actions to improve the life of women, especially the adolescent girls, are very much warranted.

ABSTRACT

Background: Lack of awareness and poor hygiene practices during menstruation can lead to various gynecological problems in the reproductive life of girls. Menstruation is still considered as unclean in the Indian society. Objectives: The objective of the study is to assess the hygiene practices among adolescent girls with special reference to menstrual hygiene in urban area of Barpeta and to assess the restrictions practiced by them during menstruation. Materials and Methods: It was a community-based cross-sectional study involving 200 adolescent girls of Barpeta conducted from August 2018 to January 2019. The data were collected using predesigned and pretested proforma. Results: The study revealed that 92% of the respondents knew about menstruation before menarche. As high as 92% of the respondents believed that menstruation occurs due to natural or hormonal cause, whereas 1.5% considered it as a disease process. 81.5% girls used commercially available sanitary pads and 78.5% girls cleaned external genitalia with soap and water. All the participants avoid attending religious occasion, followed by kitchen work (57.5%), marriage party (31.5%), and 30.5% of them were sleeping separately. 46% of the respondent avoid sour food during menstruation. Conclusion: Although awareness regarding menstrual hygiene is quite satisfactory in majority of the respondents, yet false perceptions, ignorance, and unsafe practices are still prevailing in the community. Behavior change communication to bring about safe and hygienic practices during menstruation through different stakeholders will help in solving menstruation-related problems among the adolescent girls.

KEY WORDS: Menstrual Hygiene; Adolescent Girls; Menstruation; Sanitary Pad; Reproductive Tract Infection

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The first menstruation or menarche occurs around 11–15 years with a mean age of 13 years. The manner by which girls learn about menstruation and associated physical and psychological changes always has an impact to her response about the event of menarche. A girl having a good knowledge about menstrual hygiene and practices which are safe during menstruation is less vulnerable to reproductive tract infection and its consequences. Hence, healthy knowledge about menstruation, from childhood, will escalate the safe practices and will help in mitigating sufferings of millions of adolescent girls. With this background, the present study was conducted to assess the hygienic practice among adolescent girls with special reference to menstrual hygiene in Barpeta, Assam.

MATERIALS AND METHODS

Study Design

A community-based cross-sectional study was conducted among 200 adolescent girls of urban wards of Barpeta town.

Study Participants

Adolescent girls who attained menarche, residing at urban wards of Barpeta, were the study participants. However, the adolescent girls not willing to participate and whose parents did not give consent were excluded from the study.

Sample Size

The sample size was calculated using the formula (Daniel, 1999)\( n = \frac{Z^2pq}{d^2} \), where \( p = \) prevalence, \( q = (1-p) \), \( Z = 1.96 \) (considering 95% confidence interval), and \( d = \) absolute precision of 7. Considering the prevalence of unhygienic practices = 48.75%, the sample size came to be 196, which is rounded up to 200.

Data Collection

A community-based cross-sectional study was conducted to assess the hygiene practices among adolescent girls with special reference to menstrual hygiene and restrictions practiced by them during menstruation. After obtaining institutional ethics committee clearance, informed consent was obtained from adolescent girls and their parents for conducting the study.

There are 22 urban wards in Barpeta district. Ten (10) urban wards were selected randomly. The sample size was determined using proportional allocation. In the urban wards, the households were selected using systematic sampling method. From the selected household, one adolescent girl was selected randomly and included in the study. This process was repeated till the desired sample size was obtained. If selected household did not have any adolescent girl or in case of non-response, immediate next house was selected. The adolescent girls of the sampled population who were willing to take part in the study were interviewed using a predesigned and pretested proforma. Information regarding sociodemographic characteristics such as age of adolescent girl, religion, types of sanitary latrines, socioeconomic status, educational status of parents, perception about menstruation, sociocultural factor influencing menstruation, hygienic practices, and history of reproductive tract infection during menstruation were collected.

Data Analysis and Interpretation

Data were collected and entered into excel sheet for tabulation and calculation. Compiled data were analyzed using proportion and percentage.

RESULTS

Table 1 depicts that most of the respondents (51.5%) were aged between 10 and 14 years, while age range in the remaining was 15–19 years (48.5%). Majority of the respondents were Hindu (70%) by religion, followed by Muslim (30%). On the basis of socioeconomic status, most of the adolescent girls belonged to upper middle (50.5%) followed by lower middle (22%) class. Most of the respondents in the study live in nuclear family (89.5%), in pucca house (86%), and using sanitary latrine (94%). As per literacy status, majority of mothers of the respondents (30.5%) studied up to intermediate or post-high school. 3% of mothers were illiterate.

As observed in Table 2, most of the respondent (84%) attained menarche between 12 and 14 years of age. In 86.5% respondents, the duration of menstrual blood flow was found to be between 3 and 5 days, followed by <2 days in 8% and more than 5 days in 5.5%. In 66.5% adolescent girls, menstruation cycle was between 28 and 32 days followed by <28 days in 19.5% and more than 32 days in 14%. Excessive menstrual blood flow was found in 5.5% respondents. As per perception about cause of menstruation, 92% of the respondents believed that menstruation occurs due to natural or hormonal cause, and 1.5% of them thought menstruation to be a disease process. When the respondents were questioned to elicit their knowledge on menstruation and menstrual hygiene, majority of them (92%) knew about menstruation before menarche. Only 8% of them did not have knowledge about menstruation before menarche. Mother and sisters’ were the source of information about menstruation in most of the respondent (72.5%).

Regarding the practices during menstruation as shown in Table 3, most of the respondents (81.5%) used commercially available sanitary pads, followed by the use of old or reused clothes in 7.5% respondents. The frequency of change pad during menstruation was one pad per day in 12%, two pads per day in 50.5%, three pads per day in 26.5%, and more than
3 pads per day in 11%. 81.5% of the respondents disposed their used pads by sanitary method. Cleaning of external genitalia each time after changing the pad during menstruation with soap and water was found to be 78.5% and with only water in 21.5%. Most of the respondents (98.5%) took bath daily during menstruation. 93.5% of the respondents washed hand with soap and water after changing their pads and 6.5% washed hand with water only [Table 3].

Table 4 shows the sociocultural factors influencing menstruation. All the participants were not attending religious ceremonies during menstruation, followed by avoiding kitchen work (57.5%), not attending marriage party (31.5%), sleeping separately (30.5%), and restricted to attend school (21.5%). Respondents on asking about restriction of food during menstruation, almost half of them (46%) avoided sour food, followed by egg (19.5%) and banana and other food (6%).

Table 5 shows the presence of reproductive tract infection during menstruation. 10.5% of the respondents complained of burning micturition and 18% of the respondents had white discharge per vagina during last menstruation.

**DISCUSSION**

This study shows that the mean age of menarche was 13 ± 1 years, which was similar to a study conducted by Banerjee et al. (13 ± 1 years),[7] Cakir et al. (12.8 ± 1.3 years),[11] and Singh et al. (12.5 ± 1.52 years).[12]

The result revealed that 92% of the respondents had knowledge about menstruation before menarche. A similar cross-sectional study done in Nepal by water aid reported that a large majority of respondents (92%) had knowledge about menstruation before their menarche.[13] In a cross-sectional study done among 160 adolescent schoolgirls in West Bengal by Dasgupta and Sarkar, it was observed that 108 (67.5%) study participants were aware about menstruation before attaining menarche.[10]
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Sarkar in a cross-sectional study done among adolescent girls in field practice area of Singur, West Bengal, where 86.25% girls believed menstruation as physiological, 6.25% of the girls believed it as a curse of god, 5% of the respondent considered it as a disease process, and 2.5% believed it to be due to some sin. However, in another study done in Rajasthan by Khanna et al., nearly 70% of the respondent did not consider menstruation as a natural process. In our study, it was observed that 1.5% of the respondent believed menstruation as a disease process.

In this study, regarding the practices during menstruation, most of the respondents (81.5%) used commercially available sanitary pads, followed by the use of old or reused clothes in 7.5% respondents. Similarly, Arumugam et al. conducted a community-based cross-sectional study among women of reproductive age found that 72.5% of the respondents used sanitary pads during menstruation, 37% cleaned external genitalia with soap and water, and 6% of them with clean water and antiseptics. Khanna et al. study stated that 68% girls used sanitary pads. However, the use of sanitary pads was found to be very low in some studies. Dasgupta and Sarkar study showed that only 11.25% of the respondents used sanitary pads during menstruation. In another study done by Singh et al. in married women of Dehradun stated that only 13% of the respondent used sanitary pads, 13.5% of the respondents used homemade pads, whereas rest of the respondents (73.5%) used clean cloths. In this study, 78.5% of the respondents cleaned external genitalia each time changing the pad during menstruation with soap and water and water only in 21.5%. Similarly, Nair et al. found that 78% of the respondents’ cleaned external genitalia with soap and 15.5% cleaned with water only during pre-intervention phage.

Among different types of sociocultural factor influencing menstruation, all the participants were not attending religious occasion during menstruation, followed by avoiding kitchen work (57.5%), not attending marriage party (31.5%), and had to sleep separately (30.5%). These findings indicate the prevailing traditional beliefs and restrictions observed during menstruation in the community. Similar findings were also reported by some researchers that most of the girls were restricted from playing games and performing routine household work and attending religious ceremonies.

### Table 3: Distribution of adolescent girl as per hygienic practices

<table>
<thead>
<tr>
<th>Hygienic practices during menstruation</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of absorbent during menstruation</td>
<td></td>
</tr>
<tr>
<td>Commercially available</td>
<td>163 (81.5)</td>
</tr>
<tr>
<td>New clothes</td>
<td>5 (2.5)</td>
</tr>
<tr>
<td>Reused clothes/old clothes</td>
<td>15 (7.5)</td>
</tr>
<tr>
<td>Mixed use</td>
<td>17 (8.5)</td>
</tr>
<tr>
<td>Number of pads used per day</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>24 (12)</td>
</tr>
<tr>
<td>2</td>
<td>101 (50.5)</td>
</tr>
<tr>
<td>3</td>
<td>53 (26.5)</td>
</tr>
<tr>
<td>&gt;3</td>
<td>22 (11)</td>
</tr>
<tr>
<td>Disposal of used absorbent</td>
<td></td>
</tr>
<tr>
<td>Sanitary</td>
<td>163 (81.5)</td>
</tr>
<tr>
<td>Insanitary</td>
<td>37 (18.5)</td>
</tr>
<tr>
<td>Cleaning of external genitalia after changing the pad</td>
<td></td>
</tr>
<tr>
<td>Soap and water</td>
<td>157 (78.5)</td>
</tr>
<tr>
<td>Water only</td>
<td>43 (21.5)</td>
</tr>
<tr>
<td>Bathing during menstruation</td>
<td></td>
</tr>
<tr>
<td>Daily</td>
<td>197 (98.5)</td>
</tr>
<tr>
<td>Irregularly</td>
<td>3 (1.5)</td>
</tr>
<tr>
<td>Hand washing after changing pads</td>
<td></td>
</tr>
<tr>
<td>Soap and water</td>
<td>187 (93.5)</td>
</tr>
<tr>
<td>Water only</td>
<td>13 (6.5)</td>
</tr>
</tbody>
</table>

### Table 4: Sociocultural factor influencing menstruation

<table>
<thead>
<tr>
<th>Sociocultural factors</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restriction observed during menstruation</td>
<td></td>
</tr>
<tr>
<td>Religious occasions</td>
<td>200 (100)</td>
</tr>
<tr>
<td>Avoiding kitchen work</td>
<td>115 (57.5)</td>
</tr>
<tr>
<td>During marriage</td>
<td>63 (31.5)</td>
</tr>
<tr>
<td>Sleeping separately</td>
<td>61 (30.5)</td>
</tr>
<tr>
<td>Avoiding school</td>
<td>43 (21.5)</td>
</tr>
<tr>
<td>Restriction of food during menstruation</td>
<td></td>
</tr>
<tr>
<td>Sour food</td>
<td>92 (46)</td>
</tr>
<tr>
<td>Egg</td>
<td>39 (19.5)</td>
</tr>
<tr>
<td>Banana and others</td>
<td>12 (6)</td>
</tr>
</tbody>
</table>

NB: Multiple response

Some other studies reported contradictory observations also. A study carried out in rural set up of West Bengal by Sudeshna and Dasgupta observed that only 42% of respondents knew about menstruation before attaining menarche and another study conducted in a South Indian town by Zaidi et al. found that only 18.67% of the respondent had knowledge regarding menstruation before menarche.

It was observed in the present study that 92% of the respondents believed that menstruation occurs due to natural or hormonal cause. Similar observations also reported by Dasgupta and Sarkar in a cross-sectional study done among adolescent girls in field practice area of Singur, West Bengal, where 86.25% girls believed menstruation as physiological, 6.25% of the girls believed it as a curse of god, 5% of the respondent considered it as a disease process, and 2.5% believed it to be due to some sin. However, in another study done in Rajasthan by Khanna et al., nearly 70% of the respondent did not consider menstruation as a natural process. In our study, it was observed that 1.5% of the respondent believed menstruation as a disease process.

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Sudeshna and Dasgupta also observed that 38% of the adolescent girls were abstained from school in their last menstrual period.[14] Thakre et al. observed that a significant number of girls (26.36%) were restricted from household work and were asked to sleep in a separate bed. The same study reported that most of the respondents (71.78%) did not attend religious ceremonies or visit temples.[22]

In the present study, almost half of the respondents (46%) avoid sour food, followed by egg (19.5%) and banana and other food (6%). Sudeshna and Aparajita[23] also reported that 80% of girls avoid sour food during menstruation.

In our study, 10.5% of the respondents complained of burning micturition and 18% of the respondents developed white discharge per vagina during last menstruation. Similarly, Sudeshna and Aparajita[23] also reported that 10.5% had burning sensation during micturition and 18.4% had white discharge from vagina during menstruation. However, Srivastava[24] study carried out on adolescent girls attending the gynecology OPD at a private clinic in Bhopal found that 60% girls had burning micturition as a common problem and in 28% girls had vaginal discharge during menstruation. Nair et al.[19] study showed that 47% of the respondents had burning micturition and 56% of the respondents had vaginal discharge during menstruation which was contradictory to our study findings.

**Strength and Limitations of this Study**

The present study was conducted in urban wards of Barpeta town for the 1st time. The study will definitely help to know the baseline knowledge and practices regarding menstruation among the adolescent girls. However, the study was conducted with limited resources in a small group of population. Memory or recall bias may be anticipated.

**CONCLUSION**

This present study reveals that awareness on menstrual hygiene is quite satisfactory in majority of the respondents. However, false perceptions, ignorance, and unsafe practices during menstruation are still prevailing in a small proportion of respondents. Hence, the study findings emphasize the need to enhance safe and hygienic practices during menstruation and help them to come out from age-old misconceptions, traditional beliefs, and restrictions imposed during menstruation. Behavior change communication through different stakeholders for adopting positive attitudes toward menstruation will definitely help in solving menstruation related problems among the adolescent girls.

**REFERENCES**


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