



ISSN 2278 – 0211 (Online)

Exploring Menstrual Experiences among Indian Adolescents

Minhas S.

Reader, Department of Community Medicine, Armed Forces Medical College, Pune, India

Sekhon H.

Psychiatrist & Chief Medical Officer, Composite Hospital, Central Reserve Police Force
Bantalab, Jammu, J & K, India

Abstract:

Background: Menstruation is an important phenomenon of the reproductive cycle of females that starts when the girls mature sexually at the time of puberty.

Methods: A community-based, descriptive, cross-sectional study conducted among adolescent girls in the age group of 10-19 years, residing in a rural (village) and urban (slum) of Maharashtra in India.

Results: More number of girls residing in the urban area attained menarche at a younger age compared to the girls from rural area. A variety of restrictions are imposed on the girls during menstruation. A huge gap in the knowledge, attitude and practices of the girls has been observed with respect to menstruation.

Conclusion: Although, on the whole, the girls coming from urban areas have better practices during menstruation, compared to the rural girls, there are lot of misconceptions and superstitions associated with this physiological process in both the communities. School based counselling of the adolescent girls can be useful for their empowerment with various options for managing menstruation and the inconvenience and discomfort that they experience due to this reason. Better reproductive health educational programmes focusing on menstruation are needed for female adolescents.

Key words: Menstruation, adolescents, Indian, school, communication

1. Introduction

Adolescence is the period in life cycle characterized by physical, psychological, and social changes in an individual. It is the period between childhood and adulthood, marked by enhanced basal metabolic activities and endogenous processes like hormonal secretions with their influence on the various organ systems (WHO 2001)¹. WHO has defined adolescence as the age range of 10 – 19 years? Adolescent girls constitute about one-fifth of the total female population in the world¹. In India, adolescent girls account for a little more than one-fifth of the population (21.4%)¹. Menstruation is part of the reproductive cycle of females that starts when the girls mature sexually at the time of puberty². It is a phenomenon that is unique to the females. During a menstrual period, a female bleeds from the uterus via her vagina. The menstrual period generally lasts from three to seven days. Each period commences every 28 days, approximately, if the woman does not get pregnant during a given cycle³. Menarche or time of onset of menstruation for most girls is from 10 to 14 years³. Amongst various studies conducted, many have revealed a huge gap in the knowledge, attitude and practices of the girls, e.g., an inadequate knowledge (40.6%) and practices (12.9%) regarding menstrual hygiene; only few (4.6%) use soap and water to clean their genitalia^{1,3,4}. A rural – urban divide has also been observed, with the urban girls being more aware and having better access to hygienic amenities. Isolation and certain restrictions imposed during menstruation are likely to incorporate negative attitude towards the phenomenon in girls^{3,4}. WHO's focus is on making existing health facilities - more 'friendly' to adolescents^{5,6}. Lack of adequate privacy and sanitation of toilets for school girls; make them vulnerable to mental, emotional and physical problems especially during their menstruating days. It is a proven fact that there is gross lack of information on menstrual preparedness and management among adolescent girls, a situation made worse by the shyness and embarrassment with which discussions about menstruation is treated^{7,8}. Mental stress is also common, particularly due to constant worry that others may know about their menstruation. Seclusion and exclusion practices are also widespread⁷.

The major determinants of good menstrual hygiene have been found to be literacy of the mothers, educational status of the adolescent girls, and regular exposure to mass media in the form of advertisements promoting the use of sanitary pads, prior knowledge regarding menstruation and presence of proper sanitary latrine at home⁷. A key priority area for the females is to have the necessary knowledge, required facilities, and the cultural environment to manage menstruation hygienically, while maintaining dignity^{9,10}. The possible role for menstruation in limiting school attendance has received significant attention in popular media, nearly all of which argues that

menstruation is likely to be significant factor in schooling^{11,12}. Social prohibitions and conservative attitude of parents in discussing issues openly, has blocked the access of adolescent girls to scientific information¹³. Girls need some good information about the physiology of menstrual cycle and all the other related changes that puberty brings³. It is felt that the girls should be educated about the significance of this period of adolescence so that they can discuss freely about their thoughts, fears and doubts without hesitation³. Menstrual hygiene and its management is an issue which is acknowledged insufficiently and has not received the desired attention. Several small scale studies have been undertaken with the objective of determining the prevailing knowledge and experiences of menstrual hygiene and management, and their implications, among adolescent schools girls in rural and urban settings^{6,7}. The period of menarche needs special attention because menstruation in adolescent girls is often associated with related problems and poor practices³. Similar problems were found in both the rural and urban area selected, when a pilot study was conducted there. It was felt that we could make a difference in the perception and practices of the population in both the areas, with respect to menstruation, by educating them and improving their awareness. Hence, the present study was undertaken to explore the menstrual experiences among adolescent girls in a rural (village) and urban (slum) areas of Maharashtra in India.

2. Aims & Objectives

The present study was undertaken to explore menstrual experiences among Indian adolescents of rural and urban areas and study the psycho-social co-relates of their behaviour.

3. Material and Methods

• Ethics Statement

This study complies with the guidelines of the 1964 Declaration of Helsinki. Informed consent of all the participants was taken and their anonymity was maintained. No photographs of the subjects were taken during the study.

• Participants

Demographic details are summarized in table 1. The present study was a community-based, descriptive, cross-sectional study conducted among adolescent girls in the age group of 10-19 years, residing in the rural (village) and urban (slum) areas of Maharashtra, India. All the adolescent girls in the age group of 10-19 years, residing in the rural and urban field practice areas of the medical college during the period of the study were included. Any girl in this age group who had a known gynecological or psychiatric disorder, or any chronic ailment, was excluded from the list before starting. Informed consent of the study participants was taken.

• Procedure

Data was collected by administering a pre-tested and validated, self-administered questionnaire. Participants answered a questionnaire that had 3 parts: general data, questions related to menstrual practices and their experience. They were also administered a questionnaire about menstrual attitudes. Age of the study subjects was recorded to the nearest completed year (6 months and above being rounded off to the next year and less than six months to the previous year) as per the official records of the school/ birth certificate. Educational status of the subject was recorded as the class in which she was studying at the time of data collection or the last class passed (in case of drop-outs). Data was analyzed using appropriate statistical software, keeping in view the aims and objectives of the study.

4. Observations & Results

On completion of the study and analysis of the results, the following observations were made:

The mean age of the total study population was 16.9±1.75 years.

On studying the distribution of study population by religion, it was observed that a little over two-third (76.66%) of the girls in the urban area came from Hindu families while Muslims constituted a little less than one-third. Results in the rural population were also quite similar as shown in table - 1.

RELIGION	FREQUENCY		TOTAL (60)
	URBAN (30)	RURAL (30)	
HINDU	23(76.66)	22(73.33)	45 (75.0)
MUSLIM	7(23.33)	8(26.66)	15 (25.0)
TOTAL	30 (100.0)	30 (100.0)	60 (100.0)

*Table: 1 Distribution of Study Population by Religion
Note: Numbers in Parenthesis Correspond to the Respective Percentages*

Distribution of study population by type of family (table - 2) showed a predominance of three generation families in urban area (53.33%), while in the rural area, there was more number of joint families (36.66%).

TYPE OF FAMILY	FREQUENCY		TOTAL (N=60)
	URBAN (n=30)	RURAL (n=30)	
NUCLEAR	8 (26.66)	8 (26.66)	16 (26.66)
JOINT	6 (0.20)	16 (53.33)	22 (36.66)
THREE GENERATION	16 (53.33)	6 (0.20)	22 (36.66)
TOTAL	30 (100.0)	30 (100.0)	60 (100.0)

*Table: 2 Distribution of Study Population by Type of Family
Note: Numbers in Parenthesis Correspond to the Respective Percentages*

On studying the distribution of study population by age at attainment of menarche (table - 3), it was observed that majority of the girls attained menarche at 12 to 13 years of age – whether they were from rural or urban area. However, more number of girls residing in the urban area attained menarche at a younger age compared to the girls from rural area.

AGE (IN YEARS)	FREQUENCY		TOTAL (N=60)
	URBAN (n=30)	RURAL (n=30)	
<12	6 (20)	1 (3.33)	7 (11.66)
≥12 to <14	22 (73.33)	17 (56.66)	39 (65)
≥14 to <16	2 (6.66)	10 (33.33)	12 (20)
>16	0	2 (6.66)	2 (3.33)
TOTAL	30 (100.0)	30 (100.0)	60 (100.0)

*Table: 3 Distribution of Study Population by Age at Attainment of Menarche
Note: Numbers in Parenthesis Correspond to the Respective Percentages.*

All the girls from the urban area use company made branded sanitary napkins available in market (table - 4), while only about 46.66% of the rural girls use these. This is an important reflection on the knowledge, attitude and practices of the female population in the rural area, as well as the availability and affordability of the sanitary napkins.

TYPE OF PADS USED	FREQUENCY		TOTAL (N=60)
	URBAN (n=30)	RURAL (n=30)	
Home-made disposable pads	0(0)	2(6.66)	2(3.33)
Home-made reusable pads	0(0)	14(46.66)	14(23.33)
Company made sanitary napkins available in market	30(100)	14(46.66)	44(73.33)
TOTAL	30 (100.0)	30 (100.0)	60 (100.0)

*Table: 4 Distribution of Study Population by Type of Pads Used During Menstruation
Note: Numbers in Parenthesis Correspond to the Respective Percentages*

While all the urban girls claimed to change the used pads as and when required, only 30.0% of the rural girls followed this practice, as shown in table - 5.

FREQUENCY OF CHANGING PADS	FREQUENCY		TOTAL (N=60)
	URBAN (n=30)	RURAL (n=30)	
1 pad only/ period	0(0)	1(3.33)	1(1.66)
Once a day during period	0(0)	20(66.66)	20(33.33)
Depending on requirement to change	30(100)	9(30)	39(65)
TOTAL	30 (100.0)	30 (100.0)	60 (100.0)

Table: 5 Distribution of Study Population by Frequency of Changing Pads during Menstruation

Note: Numbers in Parenthesis Correspond to the Respective Percentages

During menstruation, 66.66% of the urban girls slept at their usual place while 33.33% were told to sleep in a separate room by their families (table - 6). On the contrary, 86.66% of the rural girls slept in their usual places during menstruation. It was found out that the main reason for this was lack of space in the village houses.

SLEEPING QUARTERS	FREQUENCY		TOTAL (N=60)
	URBAN (n=30)	RURAL (n=30)	
At same place as usual	20(66.66)	26(86.66)	46(76.66)
In a separate room	10(33.33)	4(13.33)	14(23.3)
TOTAL	30 (100.0)	30 (100.0)	60 (100.0)

Table: 6 Distribution of Study Population by Sleeping Quarters during Menstruation

Note: Numbers in Parenthesis Correspond to the Respective Percentages

When asked about the methods adopted for the disposal of used pads, almost all the urban girls told that they disposed them off in the dustbins. On the other hand, the rural girls adopted various other methods of disposal, as shown in table – 7. The latter clearly highlights the fact that they are taught to keep this aspect of their physiology hidden from the people around.

MODE OF DISPOSAL	FREQUENCY		TOTAL (N=60)
	URBAN (n=30)	RURAL (n=30)	
Dustbin	29(96.66)	6(20.0)	35(58.3)
Bury it in mud	0(0)	9(30.0)	9(15.0)
Burn it	0(0)	6(20.0)	6(10.0)
In latrine	1(3.33)	0(0)	1(1.7)
In a river nearby	0(0)	9(30.0)	9(15.0)
TOTAL	30 (100.0)	30 (100.0)	60 (100.0)

Table: 7 Distribution of Study Population by Mode of Disposal of Used Pads during Menstruation

Note: Numbers in Parenthesis Correspond to the Respective Percentages

About 36.66% girls from the urban area stated that they were not allowed by their families to enter the kitchen area during menstruation, while only 10.0% of the rural girls gave similar statement (table - 8). It was found out that the reason for more number of rural girls being allowed in the kitchen during these days was that the family needed working hands and could not afford to do otherwise.

ENTERING KITCHEN & COOKING FOOD DURING PERIODS	FREQUENCY		TOTAL (N=60)
	URBAN (n=30)	RURAL (n=30)	
NO	11(36.66)	3(10.0)	14(23.3)
YES	19(63.33)	27(90.0)	46(76.7)
TOTAL	30 (100.0)	30 (100.0)	60 (100.0)

*Table: 8 Distribution of Study Population by Practise of Not-Entering the Kitchen during Menstruation
Note: Numbers in Parenthesis Correspond to the Respective Percentages*

It was interesting to note (table - 9) that almost half of the urban girls stated that anybody coming in contact with them while they were menstruating, cleaned up by having bath (43.33%), or at least spraying water on themselves (30.0%). On the contrary, more than half of the rural people did nothing after contact since they have comparatively less time and resources to indulge in this practice.

ON TOUCHING DURING PERIODS	FREQUENCY		TOTAL (N=60)
	URBAN (n=30)	RURAL (n=30)	
SPRAY WATER	9(30.0)	10(33.33)	19(31.7)
HAVE BATH	13(43.33)	0(0.0)	13(21.7)
TOUCH COW	0(0.0)	2(6.66)	2(3.3)
NOTHING	8(26.66)	18(60.0)	26(43.3)
TOTAL	30 (100.0)	30 (100.0)	60 (100.0)

*Table: 9 Distribution of Study Population by Practise of Other People Cleaning Up Themselves after Coming in Contact during Menstruation
Note: Numbers in Parenthesis Correspond to the Respective Percentages*

A variety of restrictions are imposed on the girls during menstruation. The common ones found in this study were as shown in table – 10.

RESTRICTIONS DURING MENSTRUATION	FREQUENCY		TOTAL (N=60)
	URBAN (n=30)	RURAL (n=30)	
SOUR FOOD	11(36.66)	7(23.33)	18(30.0)
RICE, CURD, CUCUMBER	16(53.33)	21(70.0)	37(61.7)
VISITING TEMPLES	3(10.0)	2(6.66)	5(8.3)
TOTAL	30 (100.0)	30 (100.0)	60 (100.0)

*Table: 10 Distribution of Study Population by Restrictions during Menstruation
Note: Numbers in Parenthesis Correspond to the Respective Percentages*

No difference was found in the school attendance of the study population from both the groups during menstruation, as shown in table - 11.

GOING TO SCHOOL DURING PERIODS	FREQUENCY		TOTAL (N=60)
	URBAN (n=30)	RURAL (n=30)	
NO	1(3.33)	1(3.33)	2(3.3)
YES	29(26.66)	29(26.66)	58(96.7)
TOTAL	30 (100.0)	30 (100.0)	60(100.0)

*Table: 11 Distribution of Study Population by School Attendance during Menstruation
Note: Numbers in Parenthesis Correspond to the Respective Percentages*

5. Discussion

In our study, on studying the distribution of study population by religion, it was observed that a little over two-third (76.66%) of the girls in the urban area came from Hindu families while Muslims constituted a little less than one-third. However in another study, among all these girls, 74 (92.5%) were Hindus, and 6(7.5%) were Muslims¹⁶. This was an important finding since it is a fact that religion influences the thinking, customs and practices of people to a great extent.

On studying the distribution of study population by age at attainment of menarche it was observed that majority of the girls attained menarche at 12 to 13 years of age – whether they were from rural or urban area. However, more number of girls residing in the urban area attained menarche at a younger age compared to the girls from rural area. In another study, the age of menarche of girls ranged from 11 to 15 years and maximum numbers of girls were between 13 and 14 years of age¹⁵. In another study, the maximum numbers of girls (72.77%) have attained menarche in the age ranged between 12-14 years¹⁷. Therefore, we see that the results of our study are comparable to that of the others.

In our study the mean age of menarche was found to be 13.45. In another study, the mean age at menarche was found to be 13.65 years, whereas the mean age for menarche was calculated to be 12.8 and 13.2 years, as reported by Khanna A, et.al⁸ and Dasgupta A⁸. In yet other studies, the mean age of menarche of the adolescent school girls was 13^{16,18}. This finding of our study was also found comparable to that of the other studies.

Distribution of study population by type of family in our study (table - 3), showed a predominance of three generation families in urban area (53.33%), while in the rural area, there were more number of joint families (36.66%). In a similar study, the family structure showed 72.2 per cent (n=195) in the urban and 73.6 per cent (n= 206) from rural areas lived in nuclear family¹⁹. This is important since we know that the young girls seek advice at home from the elder ladies in the household. Hence, the presence as well the awareness of the elder ladies is an important influencing factor.

All the girls from the urban area use company made branded sanitary napkins available in market (table - 4), while only about 46.66 per cent of the rural girls use these. In a similar study, 70.4 per cent of adolescent girls were using sanitary napkins as menstrual absorbent, while 25.6 per cent were using both cloth and sanitary napkins¹⁹. In yet another study, 53 per cent of the women interviewed reported using cloth during menstruation and 42 percent reported using sanitary napkins²⁰. Another study showed that amongst the adolescent girls that developed Reproductive Tract Infection (RTI), 66.7 per cent used cloth and only 12 per cent used sanitary napkins. However, using cloth in itself does not increase chances of RTI. The concern arises from the methods of use: prolonged use of the same cloth, not washing the cloth properly, and not drying the cloth in the sun. All these contribute to the development of infections²⁰. Yet another study reveals that significantly more (60.6%) urban girls were using sanitary pads as compared to rural (30.8%) girls²⁰; 11.2 -20% girls using sanitary pads^{21,23}; 53.7 per cent girls using sanitary pads during menstruation²². 34.63 per cent girls have reported use of old clothes during menstruation¹⁷. In general, the percentage of usage of market available sanitary napkins was found to be more in urban girls 56 (60%) compared to rural girls 6 (06%) whereas the homemade sanitary napkins were used by 87 (94%) rural girls & 38 (40%) urban girls¹⁸. 70% of the girls in another study used old clothes which can be unhygienic and results in biological disorders²².

While all the urban girls claimed to change the used pads as and when required, only 30.0 per cent of the rural girls followed this practice in the present study. In another study, the median number of absorbents used during the last menstrual period was 8 (3.18) by each subject (range, 1-18), and was not significantly different between rural and urban girls²¹.

Absenteeism from school has been observed amongst girls during menstruation^{24,25,26}. In the present study, no difference was found in the school attendance of the study population from both the groups during menstruation. Another cross-sectional study from India found that 17 per cent of adolescent girls reported missing school classes due to dysmenorrhoea, while 60 per cent reported disruption of their daily activities³. Rate of absenteeism in rural participants was more²⁰. In yet another study, 156 (83%) adolescent girls attended school during menstruation; out of which 67 (72%) rural adolescent girls attended school during menstruation whereas in urban area the figure was 89 (94%)¹⁸. In a similar study conducted in Chandigarh, India, absenteeism attributed to dysmenorrhoea was reported in 25.8% girls²⁴.

A variety of restrictions are imposed on the girls during menstruation. The common ones found in this study were – not being allowed to go to a place of worship, not allowed to cook or serve food, not allowed to eat and sleep with the rest of the family. In a similar study, 78.99 per cent girls were not allowed to attend religious occasions; 22.97 per cent and 20.63 per cent girls respectively were

restricted from doing routine household work and playing¹⁶, while another study showed that 26.6% practised dietary modifications²⁴. In yet another study, out of 187 adolescent girls, 130 (70%) girls were doing household work during menstruation; in rural area 45 (48%) were doing household work during menstruation whereas amongst the urban girls this figure was 85 (90%)¹⁸. This also reflects upon the communication between the girls and their family members, especially the mothers, who have an important role in preparing the former for this physiological phenomenon; as also shown in a study conducted in Mexico to explore the impact of this communication between mothers and daughters²⁷.

In the present study, during menstruation, 66.66 per cent of the urban girls slept at their usual place while 33.33 per cent were told to sleep in a separate room by their families (table - 6). On the contrary, 86.66 per cent of the rural girls slept in their usual places during menstruation. The main reason for rural girls being allowed to sleep in the same place was lack of space in the house. In a similar study it was found that almost half the girls had to sit separately during menses²². Another study showed that the separate sitting of adolescent girls followed during menstruation was 50 (27%); in rural area it was 36 (39%) whereas in urban area it was only 14 (15%)¹⁸. In yet some other studies, regarding menstrual attitudes, adolescents scored highest on Negative Feelings and Secrecy rather than on Positive Feelings²⁷ and that menstrual attitude and practices were positively correlated²⁸.

6. Conclusion

The present study was a cross-sectional descriptive study aimed at exploring menstrual experiences among Indian adolescents from rural and urban areas. Although, on the whole, the girls coming from urban areas have better practices during menstruation, compared to the rural girls, there are lot of misconceptions and superstitions associated with this physiological process in both the communities. The educational and the economic status of the family have an important role to play in this matter. Thus, the findings of the present study reinforce the requirement felt to encourage safe as well as hygienic practices among the adolescents and help them come out of traditional beliefs, prevalent misconceptions and various restrictions regarding menstruation. It also reveals that the aspect of menstrual hygiene is far from satisfactory amongst a large proportion of adolescent girls. Ignorance, false perceptions, certain unsafe practices regarding menstruation are widely prevalent. Reluctance of the mothers to educate their daughters on this matter is also quite common. This is quite proportional, directly, to the degree of discomfort felt by the adolescent girls and the reduction in the quality of their lives. School based counselling of the adolescent girls will be useful for empowering them with various options for managing menstruation as well as the discomfort that they experience because of this reason. Better reproductive health educational programmes focusing on menstruation are needed for female adolescents.

7. Acknowledgements

The authors acknowledge the co-operation and support by all the participants of the study.

8. Funding Statement

The authors have no support or funding to report.

9. Conflicts of Interest

None identified.

10. References

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