

## Original Research Article

# A study to assess the knowledge and practices of menstruation among rural adolescent girls

Bhavana R. Hiremath\*, Deepti Shettar

Department of Community Medicine, SDM College of Medical Sciences and Hospital, SDM University, Dharwad, Karnataka, India

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**\*Correspondence:**

Dr. Bhavana R. Hiremath,

E-mail: bhavana.13@gmail.com

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### ABSTRACT

**Background:** Adolescence is phase of maturations where an individual experiences drastic changes in growth and development. Age group 10-19 years is defined as adolescent age by World health organization. In developing countries, this is the period when many children drop-out of school and miss out on education. Among adolescent girls' menstruation is a major life changing event. We conducted this study among rural adolescent girls to know their knowledge, attitude and practices towards menstruation. We also educated all girls on physiology and hygienic practices during menstruation.

**Methods:** A cross-sectional study was conducted among adolescent girls attending our out-patient clinic in the rural area. All girls were interviewed to assess their knowledge and practices towards menstruation. Informed consent was taken from all girls before stating the study. Data presented in form of frequency, percentages. Chi-square test was applied to analyze for association.

**Results:** 87% were students, 88% adolescent girls belonged to Below Poverty Line (BPL) families. 98% adolescent girls had attained menarche before 15 years of age, 27% adolescent girls had dysmenorrhea presenting as pain in abdomen region. Sanitary pad was being used by only 64% adolescent girls, of whom, 59.4% change sanitary pad twice daily, 75% dispose it by burning. Overall, 36% adolescent girls used cloth, of whom, 41.7% changed cloth twice a day, 69.4% adolescent girls wash and burn the cloth. Among adolescent girls still studying in school 71.2% used sanitary pads which was statistically significant.

**Conclusions:** Education is essential to empower girls to take informed decisions. On receiving adequate information on menstruation, girls were willing to adapt healthy hygienic practices. Hence, health education activities should be started at all schools so as to inculcate good practices early in life.

**Keywords:** Adolescent health, Hygiene, Menstruation

### INTRODUCTION

The World Health Organization (WHO) has defined adolescence as the age group of 10-19 years.<sup>1</sup> It is the time of transition from childhood to adulthood. Adolescents undergo sudden and rapid changes in growth and development attaining various physical and mental milestones. Adolescence in girls has been recognized as a special period which signifies the transition from girlhood

to womanhood. It is the important period preceding motherhood. Menstruation is a crucial part of this period and is associated with innumerable social prohibitions. Onset of menstruation (menarche) is a special event in the life of every girl. But in our society, many still consider it unclean and a taboo. It is associated with misconceptions and restrictions which lead to adverse health effect and in some cases even cause death. Incomplete and inadequate knowledge regarding menstruation and hygienic practices

have a neglect implication on health of the adolescent girl. Poor hygiene-related practices of girls during menstruation increases their vulnerability to reproductive tract infections (RTI).<sup>2</sup> Among the determinants for reproductive morbidity, practices during menstruation appear to be a dominant factor.

Inhibitions of parents and elders in the family to discuss matters of reproduction and menstruations with adolescent girls have created a negative perception regarding the same, especially in rural areas.<sup>3</sup> Government has introduced national programmes and schemes to emphasize the importance of adolescent health and hygienic practices. Adolescent girls having better knowledge regarding menstrual hygiene practices are less vulnerable to RTI and its consequences.<sup>4</sup> It was therefore decided to conduct a study to assess the level of knowledge and practices regarding menstrual hygiene among the adolescent girls.

## METHODS

A cross-sectional study was conducted among adolescent girls in the rural area of Dharwad to assess knowledge, attitude and practice regarding menstrual hygiene. Adolescent girls who attended the out-patient clinic of our health center were included in the study. The study was conducted for a period of four months. The adolescent girls were informed regarding the objective of the study, nature of information which was required to be furnished by them in local language (Kannada). After obtaining an oral informed consent from them, they were included in the study. Non-probability purposive sample of 100 adolescent girls was selected. Details regarding their socio-demographic characteristics, knowledge, attitude and practice towards menstrual hygiene were collected. They were assured that confidentiality would be maintained. Their identity would not be revealed under any circumstance. After building a good rapport with them, they were interviewed using a pre-designed and pre-tested questionnaire. A pilot study was initially conducted to validate the questions and necessary corrections were made. Following the interview, all subjects were given education regarding menstruation and hygiene.

Descriptive statistics was used for data analysis. The collected data was analyzed, with regard to the information given by the subjects according to the set questionnaire items using a standard statistical package. The analyzed data is presented in the form of graphs and tables. Results are presented as frequency and percentages. Chi-square test was applied to ascertain association between practice and other variables.

## RESULTS

### Socio-demographic characteristics

Majority adolescent girls (98%) in our study area were between age 10-15 years. 79% were Hindu by religion while remaining 21% were Muslims. 87% were students

while 13% were school drop-outs, they worked for daily wages as agriculturist or stayed at home. 77% had education up to high school while 23% had primary school education. 88% adolescent girls belonged to Below Poverty Line (BPL) families while remaining 12% were from Above Poverty Line (APL) families (Table 1).

**Table 1: Socio-demographic characteristics of women.**

Sociodemographic characteristics	Frequency	Percentage
Age (years)	10-15	98
	15-19	2
Occupation	Student	87
	Drop-outs	13
Religion	Hindu	79
	Muslim	21
Education	Primary school	24
	High school	76
Socio-economic status	Below poverty line	88
	Above poverty line	12

**Table 2: Menstrual characteristics of women.**

Menstrual characteristics	Frequency	Percentage
Age at menarche (years)	10-15	98
	16-20	2
Duration of menstrual cycle (days)	≤5	95
	>5	5
Menstrual cycle frequency (days)	20 - 25	4
	25 - 30	93
	>30	3
Regularity of menstrual cycle	Regular	98
	Irregular	2
Dysmenorrhea	Present	27
	Absent	73
Passage of clots	Present	6
	Absent	94
What material is used during menstrual cycle	Sanitary pad	64
	Cloth	36
Do you bathe every day during cycles	Yes	100

### Menstrual history

98% adolescent girls had attained menarche before 15 years of age while only remaining 2% had attained menarche after 15 years age. Duration of bleeding during menstrual cycle was within 5 days for majority adolescent girls (95%) in our study. 98% adolescent girls had regular menstrual cycles. Regarding frequency of menstrual cycles, 93% adolescent girls had cycles once in 25-30 days,

4% had once in 20-25 days while 3% had once in >30 days. 27% adolescent girls had dysmenorrhea presenting as pain in abdomen region. 6% complained passage of clots during menstrual cycles. 4% adolescent girls had some form of cultural practices during menstrual cycle. They were made to sit in a separate room during those days. It is fortunate to note that in spite of such cultural practices, all adolescent girls bathe regularly and maintain hygiene (Table 2).

Sanitary pad was being used by only 64% adolescent girls in spite of being made available free of cost by the government. The remaining 36% adolescent girls used cloth. All of them preferred using cotton cloth than any other material. All 36 adolescent girls reuse the cotton cloth during menstrual cycles. 41.7% changed cloth twice a day and 58.3% changed cloth thrice a day. 61.1% dispose the cloth once a month while the remaining 38.9% dispose cloth once in two months. 69.4% adolescent girls wash and burn the cloth while 30.6% wash and throw in waste (Table 3). All girls who used cloth would wash and dry the cloth indoors. They were hesitant to hang it outdoors under the sun as it was considered a taboo. When asked why these girls preferred using cloth instead of sanitary pad, most common answers were always used cloth since menarche, difficulty in disposing, unwillingness of family members to allow use of sanitary pad, unawareness of presence sanitary pad. Among those girls who use sanitary pad,

59.4% change sanitary pad twice daily, 39% change thrice daily while 1.6% change only once a day. 75% dispose sanitary pad by burning while 25% dispose by throwing in general waste.

Only 51.6% adolescent girls acquire sanitary pads through government supply while remaining 48.4% acquire it through out-of-pocket expenditure from private pharmacy store (Table 4). The most common source of information regarding sanitary pads was from school teachers, anganwadi workers, television and newspaper advertisements. Restrictions were seen among majority girls. All girls were restricted from entering god's room during menstruation, 74% were restricted from entering the kitchen while 58% girls did not leave home during menstruation.

Among adolescent girls still studying in school 71.2% used sanitary pads while 28.8% used cloth. Among school drop-outs girls 15.4% used sanitary pads while 84.6% used cloth. This was statistically significant with  $X^2=12.998$  (after applying Yates correction) p value=0.00031. 68.8% girls with secondary school education used sanitary pads more. Majority girls in our study belonged to BPL families, among them 66% used sanitary pads while remaining 34% used cloth though this was not statistically significant (Table 5).

**Table 3: Characteristics of adolescent girls using cloth during menstrual cycles.**

Characteristics	Frequency (n=36)	Percentage
<b>Why do u prefer cloth</b>	Always used to cloth	83.3
	Not aware of sanitary pad	16.7
<b>Which material cloth do you prefer</b>	Cotton	100
<b>How frequently do you change cloth</b>	Twice a day	41.7
	Thrice a day	58.3
<b>Do you reuse cloth</b>	Yes	36
<b>How do you dispose cloth</b>	Wash and burn	69.4
	Wash and throw in waste	30.6
<b>How frequently do you dispose cloth</b>	Once a month	61.1
	Once in two months	38.9

**Table 4: Characteristics of adolescent girls using sanitary pads during menstrual cycles.**

Characteristics	Frequency (n=64)	Percentage
<b>How frequently do you change sanitary pad in a day</b>	Once a day	1.6
	Twice a day	59.4
	Thrice a day	39
<b>How do you dispose sanitary pad</b>	Burn	75
	Throw in waste	25
<b>Where do you buy sanitary pad</b>	Government supply	51.6
	Private pharmacy store	48.4
<b>Do you bathe every day during cycles</b>	Yes	100

**Table 5: Association of dysmenorrhea and education status with material used during menstruation.**

Characteristic	Material used during cycles			P value
	Sanitary pad N (%)	Cloth N (%)	Total	
<b>Occupation</b>	Student	62 (71.2)	25 (28.8)	$\chi^2=12.998$ p=0.00031*
	School drop-out	2 (15.4)	11 (84.6)	
<b>Education</b>	Primary school	11 (47.8)	12 (52.2)	$\chi^2=3.39$ p=0.065
	Secondary school	53 (68.8)	24 (31.2)	
<b>Socioeconomic status</b>	Below poverty line	58 (66)	30 (34)	$\chi^2=1.16$ p=0.28
	Above poverty line	6 (50)	6 (50)	
	Total	64	36	100

Health education was imparted to all adolescent girls after the interview. Post health education all adolescent girls were aware of physiology of menstruation and correct hygienic practices to be followed during menstruation. The girls had a positive attitude towards health education imparted and were willing to adopt the practices. They were also eager to share this message among their friends and family.

## DISCUSSION

In our study 98% adolescent girls had attained menarche before 15 years age which is comparable to study done by Kamath et al where age at menarche of the participants ranged between 11 to 15 years (88.5%).<sup>5</sup> The study conducted by Khanna et al who reported the mean age at menarche to be 13.2 years and a study conducted in by Jain et al where mean age at menarche was noted to be 13.16 years.<sup>5-7</sup> Sanitary pad was being used by only 64% adolescent girls in our study which is similar to study done in Udipi where it was observed that use of sanitary napkin in rural participants was 65%. This can be attributed to the lack of awareness and literacy of the mothers. 59.4% change sanitary pad twice daily in our study while in a study done in Patle et al where 52.43% change pads being 2-3 times per day.<sup>8</sup> Similar findings were found by study done in Nepal.<sup>9</sup>

In our study cotton cloth was used by 36% adolescent girls, lack of knowledge and ignorance regarding sanitary pads was the most common cause for this. Similar findings are seen in other studies done by Balla et al where 13.4% girls have reported use of old clothes during menstruation.<sup>10</sup> 88.7% girls used cloth in a study conducted by Dasgupta et al.<sup>4</sup> Another study done in Rajasthan by Khanna et al has found similar results regarding use of cloth during menstruation and ignorance towards sanitary pads. 4% adolescent girls had some form of cultural practices during menstrual cycle. They were made to sit in a separate room during those days. Such restriction is very less when compared to study done in Nagpur where restriction was imposed on 73.6% girls. Such similar finding was found in study by Dasgupta et al.<sup>4</sup> Among the 64 girls who used sanitary pads, 53 (82.81%) were educated upto secondary

level showing the importance of education in inculcating good practices. A study conducted by Santra et al found that, with increasing literacy status prevalence of sanitary pad use was high (36.4% among illiterate versus 88.9% among those educated higher secondary and above).<sup>11</sup>

## CONCLUSION

Education of women is important while considering knowledge, attitude and practice regarding menstrual hygiene. Practice of hygiene is more likely to be followed when better knowledge with proper attitude is present. Many women were unaware of physiology of menstruation and its importance. On receiving health education and gaining knowledge their attitude towards menstruation became positive.

## Recommendation

Improving female literacy remains an important tool for improving menstrual practices and inculcating positive attitude in the young minds. Anatomy of female reproductive system and physiology of menstruation should be taught at schools for all children. School teachers should be trained through workshops to enable them to impart adequate menstrual and reproductive hygiene practices. Continuous and complete health education by means of Behavioural Change Communication (BCC) activities and strengthening health services will help in increasing the knowledge and thereby practices regarding menstruation.

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