## **Original Research Article**

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# Menstruation: gap in knowledge, belief and practice among adolescent girls in an urban area of Belagavi

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#### **ABSTRACT**

**Background:** The period of adolescence, beginning with the onset of puberty, is a crucial transition into adulthood. There is a substantial lacuna in the knowledge, belief and practice about menstruation. This study addresses the gap in knowledge, belief and practice regarding menstruation among adolescent girls.

**Methods:** A community based cross sectional study was conducted over a period of one year, in an urban area of Belagavi among 625 adolescent girls in the age group of 16–19 years. Data was collected by house to house visit using a predesigned, pretested questionnaire.

**Results:** The mean age ( $\pm$ SD) at menarche was found to be  $12.8\pm1.73$  years. Our study showed that as the knowledge increased, there was increase in the use of sanitary pad (p<0.001) and increase in the number of girls practicing cleaning of external genitalia during menstruation (p<0.01). However, it was found that 276 (50.5%) and 175 (37.7%) of the girls did not use sanitary pads and practice cleaning of external genitalia during menstruation even after having correct knowledge showing a gap in knowledge and practice. Similarly, among the 494 girls who knew that menstruation is a natural process, 93 (18.8%) girls wrongly believed she shouldn't sleep in the same place as usual, 124 (25.1%) said she shouldn't enter the kitchen, 186 (37.7%) believed that certain foods should be avoided and only 37 (7.5%) rightly believed that girls could go to place of worship during menstruation showing a gap in knowledge and belief.

**Conclusions:** The study reported a gap in knowledge, belief and practice among adolescent girls. To bridge this gap causes have to be identified and addressed.

Keywords: Adolescent girls, Menstruation, Menstrual hygiene, Knowledge gap

### INTRODUCTION

Adolescents constitute perhaps the healthiest group in the population, having the lowest mortality and morbidity when compared with other population age groups. However, the period of adolescence, beginning with the onset of puberty, is a crucial transition into adulthood. Among adolescents, girls constitute a more vulnerable

group, particularly in developing countries, where they are traditionally married at an early age and exposed to greater risk of reproductive morbidity and mortality. The onset of menstruation marks one of the most important changes occurring among girls during the adolescent years. Menstruation is the cyclical shedding of the inner lining of the uterus, the endometrium, under the control of hormones of the hypothalamopituitary axis. Most of the adolescent girls go through this phase with little or no

knowledge and thus, remain ignorant of the scientific facts and hygiene practices which sometimes result into adverse health consequences. Reproductive morbidities such as dysmenorrhoea, pre-menstrual syndrome, irregular menses, excessive bleeding during menstruation etc. are common in adolescent girls. In spite of this, health care seeking for reproductive morbidities is very low. Most of the adolescent girls remain silent without seeking any health care.3 India is home to 243 million adolescents; young people in the age group of 10-19 who comprise 21% of the country's population (Census, 2011).<sup>4</sup> Within this paradigm of population and development related issues, the role of adolescents cannot be overlooked. There is a substantial lacuna in the knowledge, belief and practice about menstruation among adolescent girls. Thus this study was planned to know the knowledge, belief and practice and also the gap in knowledge, belief and practice regarding menstruation among adolescent girls.

#### **METHODS**

A community based cross-sectional study was conducted over a period of one year from 1<sup>st</sup> January to 31<sup>st</sup> December 2014 among late adolescent girls (16-19 years) in Ashoknagar, an urban area of Belagavi. The sample size was calculated by using the formula n=4 pq/d² where, p=39% (prevalence of knowledge about menstruation).<sup>5</sup>

A total of 625 adolescent girls were interviewed by visiting every 3<sup>rd</sup> house, after obtaining a written informed consent/assent from every participant. All adolescent girls between the age group of 16-19 years, residing in Ashoknagar at least for the period of one year were included in the study and the girls who had not attained menarche were excluded from participating in the study. A detailed questionnaire was prepared and was pretested and validated during the pilot study. It included information on socio-demographic variables, age of menarche, knowledge and belief about menstruation, menstrual hygiene and practices among late adolescent girls. Data was entered in Excel sheet after coding. SPSS (trial version) 21.0 soft-ware was used for analysis of the data. Numerical variables were analysed as means and standard deviations. Categorical data were summarized using percentages. Chi-square test was used to test the association between various study variables.

#### **RESULTS**

In our study, the mean age ( $\pm$ SD) of the respondents was 17.4 $\pm$ 1.09 years and median was 17.5 years. Majority 530 (84.8%) of the adolescent girls were studying and 95 (15.2%) of them had stopped studying at the time of our study. The mean age ( $\pm$ SD) of menarche was 12.8 $\pm$ 1.73 years. Majority 494 (79%) of the adolescents said that menstruation was a natural cyclical process and 416 (66.6%) of girls were aware regarding menstruation before the onset of menarche and the sources of information were; 185 (44.5%) from mothers, 75 (18.0%)

from teachers, 67 (16.0%) from sister, 51 (12.3%) from friend, 22 (5.3%) from relative and 16 (3.9%) of them acquired information through mass media. About 271 (43.4%) of the adolescent girls used sanitary pads, 207 (33.1%) used cloth, 139 (22.2%) used both sanitary pads and cloth as per the availability and 8 (1.3%) used tampon. Among the 346 cloth users, 218 (63.0%) were using reused cloth and 128 (37.0%) used fresh cloth every cycle. Regarding perineal hygiene during menstruation, 464 (74.3%) girls knew that poor perineal hygiene predisposes to RTI.

Our study showed that 228 (36.5%) of adolescent girls had one or the other menstrual problem. Among them 129 (20.6%) of them had dysmenorrhoea, 64 (10.3%) had oligomenorrhoea, 24 (3.8%) had menorrhagia, 9 (1.5%) had polymenorrhagia and 2 (0.3%) had polymenorrhoea. Of the 228 study subjects, 50 (21.9%) girls approached a gynaecologist for treatment, 45 (19.8%) of them took self-treatment, 29 (12.7%) approached a qualified doctor other than gynaecologist, 2 (0.9%) sought the help of anganwadi worker and 102 (44.7%) of the girls did not do anything for the menstrual problem (Table 1).

Table 1: Distribution of late adolescent girls according to menstrual problem and treatment seeking behaviour.

Variables	No.	Percentage (%)				
Menstrual problem						
Yes	228	36.5				
No	397	63.5				
Menstrual problem (N=228)						
Dysmenorrhoea	129	20.6				
Oligomenorrhoea	64	10.3				
Menorrhagia	24	3.8				
Polymenorrhagia	9	1.5				
Polymenorrhoea	2	0.3				
Treatment seeking behavior (N=228)						
Gynaecologist	50	21.9				
Self treatment	45	19.8				
Doctor other than gynaecologist	29	12.7				
Anganwadi worker	2	0.9				
No treatment	102	44.7				
Total	625	100				

Significant association was found between knowledge and practice regarding the ideal material to be used during menstrual cycle and the use of sanitary pads during menstruation (p<0.001) and also in number of girls practicing cleaning of external genitalia who were having correct knowledge regarding perineal hygiene predisposing to RTI (p<0.01). But, among the subjects who had correct knowledge regarding the ideal material to be used during menstrual cycle almost equal number of girls, 271 (49.5%) of them used it and 276 (50.5%) of them did not use it even after knowing it should be used showing a gap in knowledge and practice. Also, it was

found that 289 (62.3%) of the study participants who had correct knowledge practiced cleaning external genitalia

and 175 (37.7%) of them did not practice which shows a gap in knowledge and practice (Table 2).

Table 2: Association between knowledge and practice during menstruation.

Practice	Correct practice (%)	Incorrect practice (%)	Total (%)			
Material used during menstruation						
Correct knowledge	271 (49.5)	276 (50.5)	547 (100)	2 (0.2) 10 1		
Incorrect knowledge	0 (0)	78 (100)	78 (100)	$\chi^2 = 68.2$ ; df=1 p<0.001		
Total	271 (43.4)	354 (56.6)	625 (100)	– p<0.001		
Cleaning of external genitalia during menstruation						
Correct knowledge	289 (62.3)	175 (37.7)	464 (100)	.2 (50.451		
Incorrect knowledge	41 (25.5)	120 (74.5)	161 (100)	$\chi^2 = 65.0$ ; df=1 p<0.01		
Total	330 (52.8)	295 (47.2)	625 (100)	P<0.01		

Table 3: Association between knowledge and belief during menstruation.

Belief	Right belief (%)	Wrong belief (%)	Total (%)			
Sleeping place during menstruation						
Correct knowledge	401 (81.2)	93 (18.8)	494 (100)	$\chi^2 = 80.6$ ; df=1 p<0.001		
Incorrect knowledge	55 (42)	76 (58)	131 (100)			
Total	456 (73)	169 (27)	625 (100)			
Helping mother in the kit	chen during menstruation	l				
Correct knowledge	370 (74.9)	124 (25.1)	494 (100)	$\chi^2 = 71.0$ ; df=1 p<0.001		
Incorrect knowledge	47 (35.9)	84 (64.1)	131 (100)			
Total	417 (66.7)	208 (33.3)	625 (100)			
Going to place of worship						
Correct knowledge	37 (7.5)	457 (92.5)	494 (100)	$\chi^2$ =10.4; df=1 p=0.001		
Incorrect knowledge	0 (0)	131 (100)	131 (100)			
Total	37 (5.9)	588 (94.1)	625 (100)			
Avoid certain food during	g menstruation					
Correct knowledge	308 (62.3)	186 (37.7)	494 (100)	$\chi^2=33.0$ ; df=1 p<0.001		
Incorrect knowledge	45 (34.4)	86 (65.6)	131 (100)			
Total	353 (56.5)	272 (43.5)	625 (100)			

With regards to knowledge and belief, there was significant increase in right belief regarding sleeping place (p<0.001), helping the mother in kitchen (p<0.001), going to the place of worship (p=0.001) and not avoiding certain food (p<0.001) during menstruation in adolescent girls with correct knowledge that menstruation is a natural cyclical process as compared to girls with incorrect knowledge regarding the same. Among the 494 girls who knew that menstruation is a natural process 401 (81.2%) rightly believed that girls should sleep in the same place during menstruation but still 93 (18.8%) girls believed she shouldn't sleep in the same place. and 370 (74.9%) rightly believed that girls could go to kitchen to help their mother's during menstruation. However, only 37 (7.5%) believed that girls could go to place of worship during menstruation. Similarly, 308 (62.3%) believed that girls need not restrict any kind food during menstruation. Whereas, 186 (37.7%) believed that certain foods should be avoided during menstruation showing a gap in knowledge and belief (Table 3).

Of the 272 study participants, who believed that certain foods should be restricted during menstruation, 88

(32.4%) believed that hot foods like eggs and meat should be avoided, 74 (27.2%) believed spicy food, 68 (25%) sour foods and 42 (15.4%) believed fatty foods should be avoided during menstruation (Figure 1).

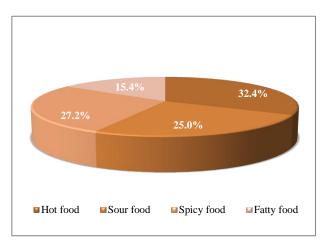


Figure 1: Distribution of late adolescent girls according to type of food restricted during menstruation (n=272).

#### **DISCUSSION**

In the present study, 625 late adolescent girls aged 16-19 years were included; their mean age (±SD) was 17.4±1.09 years and median was 17.5 years. A similar study conducted in Udupi among girls aged 16-19 years reported that maximum of the study participants were in the age group of 16-17 years with a mean age of 16.47 years. Majority, 530 (84.8%) of adolescent girls were studying and 95 (15.2%) of them had stopped studying at the time of study. Government policy of free education has resulted in this favourable outcome. Studies conducted at Tamil Nadu and Ratnagiri reported literacy rate of 75% to 90% with 8% to 23% dropouts.<sup>7,8</sup> The mean age (±SD) at menarche was 12.8±1.73 years and majority of the adolescent girls, 167 (26.7%) and 144 (23%) were 13 and 12 years old respectively when they attained menarche. A study conducted in Belgaum reported the mean age at menarche to be 13.62±0.91 years which is slightly higher than our study. 9 Majority, 494 (79.0%) of the adolescents knew that menstruation was a natural cyclical process. Similarly a study conducted in Udupi showed that 72.2% of the girls knew menstruation as a natural process.<sup>6</sup> Studies conducted in Rajasthan and Mumbai revealed that 60.0% and 63.9% of the girls respectively knew that menstruation is a natural process which is less when compared to our study.<sup>5,10</sup> Majority 547 (87.5%) of the adolescent girls knew that sanitary pads were ideal material to be used during menstruation which is higher when compared to a study conducted in Mumbai were 72.5% knew sanitary pads as ideal material. Among the 416 (66.6%) adolescent girls who were aware about menstruation before menarche, major source of information were mothers (44.5%), teachers (18%), sisters (16%) and friends (12.3%). A similar study conducted in East Delhi reported that 45.7% of the girls who had attained menarche and 29% of pre pubertal subjects had prior knowledge about menstruation and mothers (41%) were the most common source of information about menstruation, followed by elder sisters (22.4%) and friends (21%). 11 Regarding perineal hygiene, 464 (74.3%) girls knew that poor perineal hygiene predisposes to RTI which is slightly more when compared to the study conducted in Bangladesh were 68.3% of the girls knew about it.12

About 228 (36.5%) of the adolescent girls had menstrual problems and the most common complaints were dysmenorrhoea (20.6%) and oligomenorrhoea (10.3%). Of these girls, 50 (21.9%) approached gynaecologist for treatment, 45 (19.8%) took self-medication, 29 (12.7%) approached a qualified doctor and 102 (44.7%) did not seek any treatment. A high prevalence of dysmenorrhoea 53.6% was found among adolescent girls in a study conducted in Nagpur. <sup>13</sup>

Our study reported that increase in knowledge, lead to increase in correct practice. With increase in knowledge both use of sanitary pads and cleaning of external genitalia during menstruation increased significantly. However, even after having correct knowledge regarding menstruation, 276 (50.5%) of girls did not use sanitary pads and 175 (37.7%) did not clean external genitalia during menstruation showing a gap in knowledge and practice. Study also showed that with increase in correct knowledge regarding menstruation there was significant increase in right belief regarding sleeping place, helping mother in kitchen, going to place of worship and avoiding certain food during menstruation. However, not all the girls who had correct knowledge had right beliefs' regarding the restrictions during menstruation showing a gap in knowledge and belief among adolescent girls. In some parts of India, some strict dietary restrictions are also followed during menstruation such as sour food like curd, tamarind, and pickles are usually avoided by menstruating girls. 14,15 It is believed that such foods will disturb or stop the menstrual flow.<sup>16</sup>

The present community based cross-sectional study reported good knowledge among the late adolescent girls regarding menstruation. But there was a gap in knowledge, belief and practice among adolescent girls which needs to be addressed. The challenge now is to bridge this gap between knowledge, belief and practice among adolescent girls. Adolescent are not a homogenous group and the existing intra-cultural differences in our nation calls for the urgent need which can identify the underlying cause and design an appropriate programme to address them.

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