



## A COMMUNITY BASED STUDY ON KNOWLEDGE AND PRACTICES OF MENSTRUAL HYGIENE AMONG THE ADOLESCENT GIRLS IN RURAL SOUTH INDIA

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### ABSTRACT

**Background:** Adolescence is a transitional phase of life linking childhood to adulthood during which major physical, psychological and social changes occur. The objective of the study was to find out the knowledge regarding menstrual hygiene and practices during menstruation among adolescent girls

**Methods:** A community based cross sectional study in Nandivargam sub centre. The study included all girls in the mid and late adolescent period i.e., age group 14-19 years. We used simple random sampling technique to select 20 girls from 12 villages, so as to compensate the non response. An interview schedule was prepared for data collection. The data was entered in MS excel and analyzed in Statistical Package for Social Sciences 21.0 version (SPSS). Data was expressed in proportions and percentage.

**Results:** A total of 240 girls were involved and the mean age was 17± 1.6 years. The knowledge about menstruation was 208 (86.6%) agreed as natural phenomenon, 126 (52.5%) and 118 (49.1%) said anemia and malnutrition leads to delayed attainment. Majority 141 (58.7%) responded breast enlargement as the primary change and 68 (28.3%) as voice change 54 (22.5%) as physical growth and 58 (24.1%) as changes in the hair. More than one fourth said that a hormonal change was the cause of menstruation. More than 50% responded painful periods as the problem during menstruation. Almost half 116 (48.3%) of the people sought no treatment during menstruation and more than half 129 (53.7%) were used sanitary pads and majority 224 (93.3%) of them were throwing outside.

**Conclusion:** There is a need to equip the adolescent girls with knowledge regarding safe, hygienic practices to enable them to lead a healthy reproductive life. Menstrual hygiene is a vital aspect of health education for all adolescent girls as it related with health consequences.

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### INTRODUCTION

Adolescence is a transitional phase of life linking childhood to adulthood during which major physical, psychological and social changes occur. According to the WHO Expert Committee, adolescence is defined as the period between 10-19 years. <sup>[1]</sup> Adolescent period is further classified into three stages: early adolescence-10-13 years, mid adolescence-14-15 years and late adolescence-16-19 years. <sup>[2, 3]</sup> Adolescents constitute 18-25% of the population in South-east Asia region. <sup>[4]</sup> By the year 2025, in developing countries, the proportion of children and adolescents will be even more. <sup>[5]</sup> The health related experiences, attitudes and behavior of these youth are intimately linked to their social, educational and economic aspirations and options. Menstruation is a normal physiological process indicating beginning of reproductive

life but sometimes it is considered as unclean phenomenon in the Indian society. Isolation of the menstruating girls and restrictions being imposed on them in the family, have reinforced a negative attitude towards this phenomenon. There is a substantial lacuna in the knowledge about menstruation among adolescent girls. The results of the study will be used to develop a Community intervention in the villages. All participants were given advice regarding basic reproductive health and maintenance of personnel hygiene

### METHODOLOGY

The objective of the study was to find out the knowledge regarding menstrual hygiene and practices during menstruation among adolescent girls in villages under the rural field practice area of Community Medicine. The study design was a community based cross sectional study which was done in the villages comes under Nandivargam sub centre in the rural field practice area of Community Medicine. The

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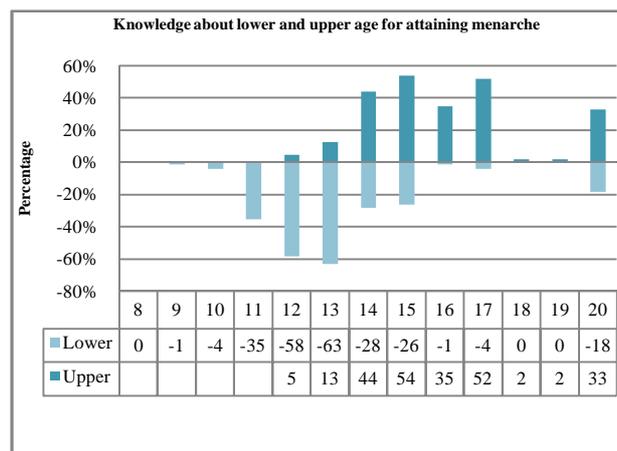
inclusion criteria for the study was all girls in the mid and late adolescent period i.e., age group 14-19 years. This age group was included because we assumed that by this age most of the girls would have attained menarche, as many questions were related to menstruation. Those who are not willing to participate were excluded. The sample size was calculated by using the formula  $4pq/d^2$  with the prevalence of 67% [6] and relative error of 10% the minimum sample size was 217. There are about 12 villages in that sub centre; we used simple random sampling technique to select 20 girls from each of the selected village by house to house visit following left hand thumb rule, so as to compensate the non response rate. Ethical clearance was obtained from the institute ethics committee. Prior to obtaining data we explained about the study and informed consent was taken from the participants and from the guardian. The study period was 1<sup>st</sup> January to 31<sup>st</sup> March 2017. An interview schedule was prepared for data collection. It was an adaptation of the HEADS assessment taken from WHO Adolescent Job Aid. It was first prepared in English and translated into Telugu and then back translated. The girls selected for enrolment were approached in their homes. The data was entered in MS excel and analyzed in Statistical Package for Social Sciences 21.0 version (SPSS). Data was expressed in proportions and percentage.

**RESULTS**

A total of 240 adolescent girls were participated in the study. Amongst them 104 (43.3%) belong to early and 136 (56.7%) participants belonged to late adolescent group. The mean age of the participants was 17± 1.6 years. Seventeen (6.2%) of them were already married even though all of them were below 19 years. All except three girls had attended school, at least till primary class out of them 104 (43.3%) were studying or studied till high school and 105 (43.8%) had studied till higher secondary. Among 240 participants who ever attended school, almost half of them 63 (26%) had dropped out of school. Out of those remaining 160 participants, who were currently attending school, 86 (35.9%) were going to co-education school and 74 (30.9%) of them were attending all girls school.

**Table 1** Age, marital status and Educational status of study participants (n = 240)

Variable	Frequency	Percentage
Mid adolescent (14-15)	104	43.3
Late adolescent (16-19)	136	56.7
<b>Marital status</b>		
Unmarried	223	92.9
Married	17	7.1
Total	240	100
Mean (SD)	Mean-17 years ± 1.6	
<b>Type of school currently enrolled</b>		
Primary school (upto 7 <sup>th</sup> grade)	28	11.7
High school (8 <sup>th</sup> -10 <sup>th</sup> grade)	104	43.3
Higher secondary (11 <sup>th</sup> and 12 <sup>th</sup> grade)	105	43.8
Never went to school	3	1.2
Total	240	100
<b>Type of schooling</b>		
Co-education	86	35.9
Girls only	74	30.9
Discontinued education	63	26.2
Never went to school	17	7.0
Total	240	100



**Fig -1** Knowledge about lower and upper age for attaining menarche among adolescent girls (n=240). (Frequencies in box)

**Table 2** Knowledge about Menstruation, body changes occurring during puberty, cause of menstruation and common problems faced among adolescent girls\* (n=240)

Statements	Agreed	Percentage
Menstruation is a natural phenomenon	208	86.6
Malnutrition leads to delayed attainment of menarche	118	49.1
Anemia is related to menstruation	126	52.5
Missing menstrual periods is normal phenomenon in adolescent age	98	40.8
Those who miss periods are pregnant	65	27.1
<b>Changes during puberty</b>		
Breast enlargement	141	58.7
Voice change	68	28.3
Physical growth	54	22.5
Change in hair distribution	58	24.1
Don't know	86	35.8
<b>Cause of menstruation</b>		
Hormones produced in the body	68	28.3
Body heat	82	34.1
Don't know	75	31.3
Others*	15	6.3
<b>Problems faced during menstruation</b>		
Painful periods	126	52.5
Discomfort/Excessive bleeding	18	7.5
Weakness/loss of appetite/vomiting	15	6.2
No problem	81	33.8
<b>Total</b>	240	100

**Table 3** Practices related to menstrual hygiene among adolescent girls (n=274)

Treatment sought for menstrual problems	Frequency	Percentage
No treatment	116	48.3
Over counter drugs	28	11.6
Private doctor	16	6.6
Household remedy	7	2.9
Government doctor	14	5.8
No problem	59	24.5
<b>Total</b>	240	100
<b>Use of absorbent</b>		
Only pad	129	53.7
Only new cloth	57	23.7
Both pad and cloth	42	17.5
Both old and new cloth	12	5.1
<b>Disposal of pad/cloth</b>		
Throw outside/Dumping	146	60.8
Flush in the toilet	78	32.5
Reuse(cloth)	16	6.7
<b>Cleaning of perineal area during menstruation</b>		
Soap and water	196	81.6
Water with dettol	26	10.8
Water only	18	7.5
<b>Total</b>	240	100

Almost all the participants had attained menarche and the mean age at attainment of menarche were  $14.2 \pm 1.4$  years ranging from 10-18 years. Only 10 girls had no information about menstruation prior to menarche and the rest 230 (96%) had been informed about menstruation. The most common source was their mothers and sisters (67.1%), friends (24.8%) and very few i.e., 4.7% got to know from teachers. In Figure-1 the possible lower age for attainment of menarche, majority of the participants reported the lower age at attainment of menarche to be between 12-16 years. The minimum and maximum age reported was 8 and 18 years respectively. The minimum age of 11 years and maximum age was 20 years. Most of the responses were observed within the age group 13-17 years and 33 participants reported that they did not know the upper age of attaining menarche. The knowledge about menstruation (Table-1) 208 (86.6%) participants agreed that menstruation was a physiological phenomenon associated with hormones, 118 (49.1%) of them thought that malnutrition can lead to delay in attaining menarche.

More half of them (52.5%) believed that anaemia was related to menstruation. Less than half of the participants (40.8%) thought that missing periods during adolescent age was normal. One fourth of them (27.1%) believed that those girls who miss their periods would be pregnant. The knowledge about physical and physiological changes (Table-1) during menstruation breast enlargement, as a change in puberty was reported 141(58.7%), followed by change in voice (28.3%), change in the bodily distribution of hair (24.1%) and growth spurt (22.5%). More than one third (35.8%) didn't know about changes occurring during puberty. One third of the participants (28.3%) reported hormones produces in the body causes menstruation and an additional third felt it was because of increased bodily heat (34.1%).

The common problems faced by participants during menstruation 126 (52.5%) suffered from dysmenorrheal episodes followed by excessive bleeding/ discomfort 18 (7.5%) and fifteen girls reported weakness/loss of appetite/vomiting as some of the problems and the remaining 81 (33.8%) didn't faced any problem. The treatment practices (Table-2) followed during any menstrual problem, 116 participants (48.3%) did not seek any medical advice/treatment. Only 28 (11.6%) took over the counter drugs, mainly pain killers for dysmenorrhoea and 30 (12.5%) consulted any doctor (government or private) and 7 (2.9%) others resorted to household remedy. To capture the hygienic practices, type of absorbent used, disposal of absorbent and cleaning during menstruation. More than half 129 (53.7%) were using sanitary napkin as absorbent during menstruation and almost one fourth of them 57 (23.7%) reported that they were using a new cloth every time, 42 (17.5%) were using both cloth and sanitary pads according to the availability and 12 of them (5.1%) reported to be using both old and new cloth. Majority of them 224 (93.3%) disposed off the used cloth/pad by dumping it outside the house, more than one third will flush in the toilet and the remaining will reuse it. Overall maintenance of menstrual hygiene was considered to be satisfactory in most of them. 196 were using soap along with water (81.6%) or dettol (10.8%) for cleaning perineum during menstruation. Only 18 participants (7.5%) used only water for this purpose.

## DISCUSSION

One of the major changes that take place in adolescent girls is that of puberty and onset of menstruation. But the awareness of girls is low mainly because of lack of parental advice and also because of apprehension linked with such culturally tabooed communication. This has been proven by many studies from India and other developing countries. In the present study, 96% of girls had been informed about menstruation prior to attaining menarche as compared to 67% in a previous study in West Bengal.<sup>[6]</sup> Most of them received information from family members, usually mother and sister. The mean age of attaining menarche in this random sample of girls came to be 14.2 years (95% CI 14.1- 14.5) with a minimum of 10 years. The studies done at different setting across India<sup>[6, 7, 8, 9, 10]</sup> reported a mean age at menarche ranging between 12-14 years. In the present study, 86.6 % of participants considered menstruation as a physiological phenomenon. 58.7% were aware about the changes occurring during puberty and half of them told breast enlargement is a sign. In a study done in Kalamboli about 86.25% considered menstruation as physiological process other study vadodara 66% and west Bengal 86.2% in school going girls<sup>[6, 11]</sup> considered menstruation as normal phenomenon 50% told that breast enlargement as a sign of puberty and any one change occurring during puberty with breast enlargement, as a change in puberty was being reported by half of them. Some of the menstrual characteristics, such as irregularity in the menstrual cycle, premenstrual pain and discomfort at the time of menstrual discharge and heavy menstrual discharge, may affect the general and/or reproductive health of adolescents, and also their productivity. Some studies from India also have concluded that dysmenorrhoea is a common problem. A number of studies from different parts of the world, including India, show that a large proportion of women (both young and adult) experience these problems which remain mostly unattended by medical experts. These problems lead to skipping of school/colleges and also work absenteeism. In the present study, out of 240 participants, 159 (66.2%) had ever faced any problem during menstruation and the most common problem was dysmenorrhoea with four out of five girls suffering from it. Similar finding has been reported from various other Indian studies<sup>[14,22]</sup> reported that (44.6%) suffered from various menstrual problems, commonest being dysmenorrhoea (40.7 & 79%); irregular menses (2.3%); (0.8%) menorrhagia.

In the present study almost half (48.3%) of them sought no treatment and one fourth (26.9%) took treatment from doctor or home remedies. Similar studies<sup>[12, 13]</sup> reported as 5.2% consulted a doctor, less than one fourths took medications from the chemist shops or took herbal medicines from traditional medical practitioner and apart from over the counter drugs the second choice was home remedy for such problems. The present study too reported almost same results. This has implications in terms of academic performance of adolescent girls. There is a need to address menstrual health problems through adolescent friendly clinics which sensitize adolescent community towards these problems. Almost half of the study participants (53.3%) agreed that anaemia is related to irregular periods. In one study done by *M M Singh et al* to see the impact of health education on knowledge and practices about menstruation done it was seen that at baseline more than two thirds of the study subjects (79%) felt that hot and cold foods

influences menstrual flow and around 12.9% felt that excessive bleeding leads to anaemia<sup>[12]</sup>. In any community most of the adolescent girls suffer from anaemia. According to NFHS-3 report 56% of adolescent girls were anemic.<sup>[14]</sup>

#### Menstrual hygiene

In the present study among 240 participants majority 129 participants (53.7%) were using only sanitary napkin as absorbent during menstruation and almost one fourth (23.7%) reported that they were using only new cloth every time and 42 of them (17.5%) reported to be using both cloth and sanitary pads according to the availability. Overall maintenance of menstrual hygiene was satisfactory in most of them with majority using soap along with water for cleaning perineum during menstruation. In a study from Nigerian<sup>[15]</sup>, use of unhygienic material as menstrual absorbent and unacceptable methods of disposal for menstrual absorbents were more common in girls who did not have pre-menarcheal training and Ethiopia<sup>[16]</sup> 38% of girls used sanitary pad. In a study done in West Bengal half the girls were ignorant about the use of sanitary pads.<sup>[6]</sup> One of the reasons for this may be poverty when girls cannot buy sanitary pads. A study in Wardha district of Maharashtra<sup>[17]</sup> among unmarried rural adolescent girls (12-19 years) which showed that practice of using ready-made pads increased significantly from 5% to 25% and reuse of cloth declined from 85% to 57% after suitable intervention. The limitation of the study was during the interviews some of the adolescent girls were accompanied by their mother or grand- mother who might have influenced the response of the participants, particularly those questions dealing with marriage and menstruation. Since this was a community based study, so the girls who had dropped out of school were also included in the study. The subjects were selected by simple random sampling to reduce selection bias. Apart from increased awareness it is also because of reduced cost of sanitary napkins which is increasing the affordability to young women In June 2010, the Government of India proposed a new scheme towards menstrual hygiene by a provision of subsidized sanitary napkins to rural adolescent girls. But there are various other issues like awareness, availability and quality of napkins, regular supply, privacy, and water supply, disposal of napkins, reproductive health education and family support which needs simultaneous attention for promotion of menstrual hygiene.<sup>[18]</sup> There is urgent need to strengthen the adolescent friendly clinics in the peripheral health institutes with the aim to conduct atleast weekly outpatient services for adolescent girls.

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