

## Original Research Article

# Awareness and practices regarding menarche in adolescent school going girls of Thrissur educational district

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### ABSTRACT

**Background:** Menarche is one important milestone in during adolescence. Many of girls experience menarche even before they are considered as adolescents. Unfortunately, many parents do not provide adequate information to the girls prior to menarche, because they consider it culturally inappropriate.

**Methods:** A cross sectional study was conducted among 432 adolescent girls in high school classes of Thrissur educational district. The participants were selected from six schools, two each of government, private and aided schools. A Self-Administered structured questionnaire was used for data collection after validation by pilot study. Data was collected on socio-demographic variables and awareness and practices regarding menarche Statistical analysis was done using SPSS statistical software version 23.

**Results:** The age of attaining menarche ranged 7 to 14 years, with the mean age being 12.06 years SD=0.972. More than one-fourth of the girls 28.7% did not have prior knowledge about menstruation at the time of menarche. The major source of information about menstruation was the mother 68.8%, followed by friends 19.2%. Majority 61.3% of the subjects had correct knowledge regarding the cause of menstruation. More than half of the respondents 53.7% missed school days during menarche.

**Conclusions:** The knowledge regarding menstruation was good for adolescent girls when compared to other studies in India. Awareness programs on adolescent girls must be developed and promoted at an early age prior to menarche. Mothers should be educated as they are an important source of information to their daughters.

**Keywords:** Adolescent girls, Awareness, Menarche, Practices, School going girls

### INTRODUCTION

Menstruation is a phenomenon unique to females with monthly occurrence in healthy woman of reproductive age group.<sup>1</sup> Adolescence is a critical period in second decade of life of a girl in which she goes through major physical and psychological changes.<sup>2</sup> Menarche is one important milestone in during adolescence. In normal pubertal development, the appearance of breast buds takes place between 8 and 13 years and menstrual cycle typically begin 2-2.5 year later around the peak in height velocity.<sup>3</sup> Early menarche can be attributed to high

standards of health and nutrition.<sup>4</sup> Much of the variation in the timing of menarche is mostly due to environmental conditions, family size, body stature, body mass index, level of education socio-economic status and genetic factors with heritability estimates of 50-80%.<sup>5,6</sup>

Menarche is the most accurately remembered event of puberty among girls. Many of girls experience menarche even before they are considered as adolescents.<sup>7</sup>

Adolescent girls should be made aware of menstruation at least a little ahead of its occurrence. Unfortunately, many

parents do not provide adequate information to the girls prior to menarche, because they consider it culturally inappropriate. Furthermore, the girls are at risk of getting misinformed from sources that are not reliable. Several studies have found that girls who are adequately prepared to face menstruation take their initial experiences more positively.<sup>8</sup>

While there are studies regarding practices related to menstruation, very few focus on the aspect of awareness, especially about menarche. This study was conducted to understand the awareness regarding menarche among adolescent girls studying in schools of Thrissur educational district.

**METHODS**

A cross sectional study was conducted among adolescent girls in high school classes of Thrissur educational district, over a period of 2 years from November 2016 to October 2018. Sample size was calculated to be 432 based on a study conducted in North Kerala about menstruation in adolescent girls.<sup>9</sup>

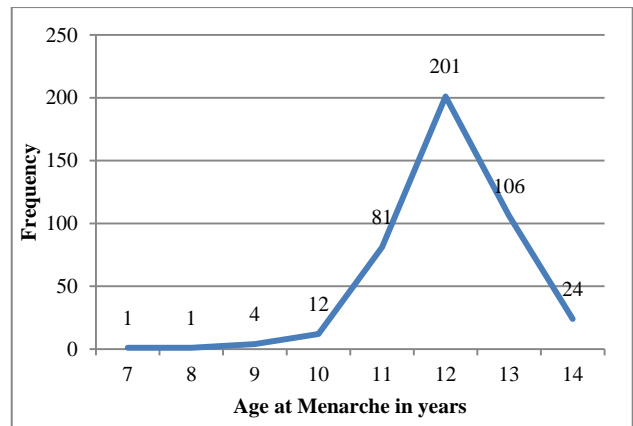
The schools were stratified into clusters based on their management into government, aided and unaided schools. Six schools were selected by stratified random sampling, two each from government, aided and unaided schools. From each school, 72 female students were selected, 24 each from 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> classes by stratified random sampling. Only those who had attained menarche were taken into the study.

Institutional Research Committee and Ethical committee clearance were obtained prior to starting the study No: AIMSIEC/37/2016 dated 05.12.2016. After obtaining prior permission from the District Educational Officer, Thrissur and the school authorities, dates were scheduled for data collection. A self-administered structured questionnaire was used for data collection after validation by pilot study. Data was collected on socio-demographic variables and restrictions practiced during menstruation. Statistical analysis included descriptive statistics, Chi-square test and Fisher exact test using SPSS statistical software version 23.

Ethical committee clearance was obtained prior to starting the study No: AIMSIEC/37/2016 dated 05.12.2016.

**RESULTS**

The mean age of study participants was 13.88±0.992 years. Of the 432 adolescent girls who participated in the study, 52.5% were Hindus, 26.9% were Christians and 20.6% were Muslims. Most of the participant’s 51.2% were above poverty line, 37% were below poverty line and 11.8% don’t know their type of ration card. Majority of the girls 72% were from a nuclear family.



**Figure 1: Distribution of the study subjects based on age at menarche.**

The age of attaining menarche ranged 7 to 14 years, with the mean age being 12.06 years SD=0.972. There were six girls who attained menarche before the age of 10 years. Two of the girls could not recollect the age of menarche (Figure 1).

**Table 1: Distribution of the study subjects based on source of knowledge about menstruation.**

Source of knowledge about menstruation	Frequency	Percentage (%)
Mother	297	68.8
Friend	83	19.2
Teacher	27	6.3
Sister	20	4.6
Father	3	0.7
Aunt	1	0.2
Television	1	0.2
Total	432	100.0

More than one-fourth of the girls 28.7% did not have prior knowledge about menstruation at the time of menarche. The major source of information about menstruation was the mother 68.8%, followed by friends 19.2%. For a few, the source of knowledge was teachers 6.3%, sister and aunt. One respondent mentioned Television as the source of information. For three 0.7% of the subjects, the source of information was their father (Table 1).

**Awareness and attitude towards menstruation at the time of menarche**

In this study 61.3% of the subjects had correct knowledge regarding the cause of menstruation; they believe it as a normal process. But 29.9% of them were unaware of the cause of menstruation. Six of the study subjects 1.4% believed it as a curse of God and four 0.9% of them were of the opinion that the menstrual bleeding was due to injury (Table 2).

**Table 2: Distribution of the study subjects based on cause for menstruation according to the participants.**

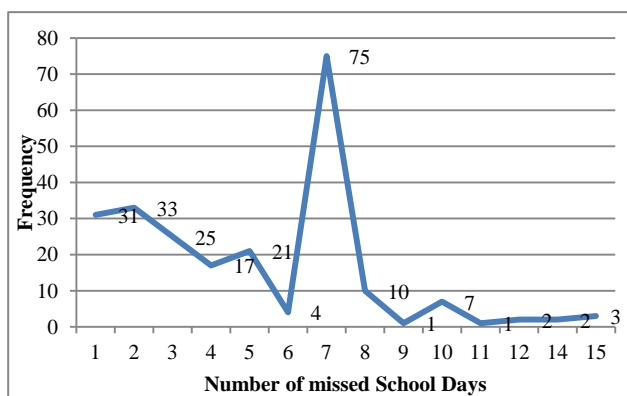
Cause for menstruation according to the participants	Frequency	Percentage (%)
Normal process	265	61.3
Disease	28	6.5
Curse of God	6	1.4
Injury	4	0.9
Don't know	129	29.9
Total	432	100.0

**Table 3: Distribution of the study subjects based on Feeling at time of first menstruation.**

Feeling at time of first menstruation	Frequency	Percentage (%)
Fear	164	38.0
Anger	70	16.2
Anxiety	55	12.7
Shy	43	10.0
Happy	15	3.5
Nothing	85	19.7
Total	432	100.0

Most of the subjects 38% were fearful at the time of first menstruation. Only 3.5% felt happy during first menstruation. Some of them 16.2% felt angry during first menstruation (Table 3).

More than half of the respondents 53.7% missed school days during menarche; 13.7% of them had their Menarche during vacation and hence their schooling was not affected. The median number of school days missed at menarche was five. Eight 3.5% of them missed more than 10 school days. Among the study subjects who missed school days, 71.1% of them didn't go to school as they were asked not to go and 28.9% missed school days as they were not feeling well. More than half 52.5% the girls had ritualistic function at menarche.



**Figure 2: Distribution of the study subjects based on number of missed school days during menarche.**

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## DISCUSSION

In the present study the average age of menarche among the study population are 12.06±0.972 years with the age ranging from 7-16 yrs. An office based study conducted in United states also showed similar result with 62% of African –American girls and 35% of white girls had attained menarche between ages 12 and 13 respectively and the average age of occurrence of Menarche in United States is 12.5years.<sup>5,10</sup> In similar studies done in Aligarh, Raichur and Kerala the mean age of menarche was 12.52±1.415, 12.64±1.01 and 13 years respectively.<sup>11,12,9</sup>

The findings of the present study have shown that 71.3% of the respondents had a fairly good knowledge/ awareness on menstruation. Previous study done in an urban slum of Mumbai revealed that only 20.3% of the female adolescents were aware of it<sup>13</sup> and only of 36.95% of the respondents were aware regarding menstruation before menarche in a study done at Nagpur district.<sup>14</sup>

In a study conducted in Pacific, it was found that often many of the girls do not know about menarche, and report feeling frightened, ashamed and embarrassed.<sup>15</sup>

Mothers were the main source of information portrayed that health workers and teachers, are not adequately providing the knowledge about menstruation and menstrual hygiene to the girls. Only very few opined teachers and health workers are their primary source of information. This was in line with studies done in Nigeria, Malaysia and in Central India wherein the major source of information was mother.<sup>16-18</sup> Attitude of mothers and teachers in discussing the menstruation related issues are barriers to the right kind of information, especially in the rural areas.<sup>19</sup>

## CONCLUSION

In this study the mean age of menarche was 12.06 years. The knowledge regarding menstruation was good for adolescent girls when compared to other studies in India. The major source of information about menstruation was mother followed by friends. Most of the subjects were

fearful at the time of first menstruation. More than half of the respondents missed school days during menarche.

### **Recommendations**

Campaigns by means of different educational media need to be employed to increase knowledge and awareness regarding menstruation among adolescent girls. Reproductive and menstrual health and hygiene should be added as a part of health sciences in school curriculum. Awareness programs on adolescent girls must be developed and promoted at an early age prior to menarche. Mothers should be educated as they are an important source of information to their daughters.

### **Limitation**

Since data was collected by self-reporting, some bias in answering may be present.

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