

Original Article:

Knowledge, attitude and practices related to menstruation among adolescent girls in Chennai

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ABSTRACT

Background: Adolescence in girls is a special period which signifies the transition from girlhood to womanhood. Lack of good hygienic practices has increased the vulnerability to reproductive tract infections. Due to societal attitude, girls also associate a variety of negative physical and psychological changes on their body with menstruation. The objective of this study was to assess the knowledge, practices and attitude related to menstruation.

Methods: This cross-sectional study was carried out among 500 school going adolescent girls. A pre-tested questionnaire was administered to the study population after obtaining written consent.

Results: In our study 69% of the girls attained menarche at 11 to 13 years; 40 % of the girls knew about menstruation before menarche with mother being the informant in 47.7% of the subjects. Most of the girls felt scared on first menstruation (59%). All the girls in the study practised one restriction or the other.

Conclusions: The study has highlighted the needs of the adolescents to have accurate and adequate information about menstruation and its appropriate management. Immense efforts are needed to curb myths about menstruation among the adolescent school going girls.

Key words: Adolescent, Menstrual Hygiene, Students, Females

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INTRODUCTION

Adolescence in girls has been recognized as a special period which signifies the transition from girlhood to womanhood. Menarche is one of the most important developmental milestones during adolescence.¹ A major significant qualitative event in a woman's life is the commencement of the first menstrual period marking the attainment of a major functional state. Menstruation, and the menstrual cycle are characterized by variability in volume, pattern and regularity, which at the earlier stages of the development of the adolescent can create emotional discomfort, particularly to the poorly informed girl.

Lack of good hygienic practices such as repeated use of unclean napkins or the improperly dried cloth napkins results in harbouring of micro-organisms, thereby, increasing the vulnerability to reproductive tract infections.² Social prohibitions and the negative attitude of parents in discussing the related issues has lead to a tendency for girls to associate a variety of negative physical and psychological changes on their body with menstruation.³

Exclusion of menstrual hygiene in most of the hygiene education packages, the lack of appropriate and adequate sanitation facilities in school (most of the school sanitation

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programs do not address menstrual management in latrine design and construction) prevent girls from attending school, particularly when they are menstruating. Due to the indirect effects of menstruation on gender discrepancy and school absenteeism, poor menstrual hygiene and management may gravely hamper the realization of Millennium Development Goal (MDG)-2 on universal education and MDG-3 on women empowerment and gender equality.⁴

Hardly few studies have discussed the detailed aspects of the menstrual practices among adolescent girls. A study conducted at Karnataka has shown that about 75% of the girls did not have prior knowledge about menstruation.⁵ It is therefore considered relevant to investigate the menstruation related knowledge, attitude and practices among the adolescent girls. The main objective of the study was to assess the knowledge, attitude and practices related to menstruation among school-going adolescent girls.

MATERIAL AND METHODS

After getting approval from the Institutional Ethics Committee of Government Stanley Medical College, Chennai this cross-sectional study was conducted in five government schools located in North Chennai among school going adolescent girls who have attained menarche, during the period June to August 2012. Considering 67% knowledge regarding menstruation as reported in an earlier study,² applying a non-response rate of 10% the sample size was calculated to be 496 using the formula $n = (Z\alpha^2pq)/d^2$; where n=sample size; $Z\alpha=1.96$; $p=67\%$; d =relative precision 6.5% of p ; $q=(1-p)=33\%$. A convenience sample of 500 was chosen from among school going adolescent girls aged 12-17 years, studying in classes VIII to XII standard.

A pre-tested questionnaire pertaining to socio-demographic profile of the girls, knowledge,

attitudes and practices related to menstrual cycle was administered to the study population after getting written consent from the school authorities, the parents and the students

Statistical analysis

Continuous variables are summarized as mean \pm standard deviation. Categorical variable are summarized as percentages. Data analysis was done with the help of EPI info (Centers for Disease Control and Prevention, Georgia) and Microsoft Excel (Microsoft Corporation, Redmond, USA).

RESULTS

The mean age of our study population is 14.5 ± 1.9 years while their age range was 12-17 years. Out of 500 students, 5.6% were in class VIII, 40.8% in class IX, 19.2% in class X, 14.4% in class XI and 20% in class XII.

In our study 69% of the girls attained menarche at 11 to 13 years. The mean age at menarche was 12.1 ± 1.5 years. The majority (56%) of girls with mothers who were at least graduates, had prior knowledge of menarche as compared to only a minority of the girls (32%) who had illiterate mothers. However, majority (69%) of girls whose mothers have studied up to higher secondary were unaware about menstruation before menarche. As the education level of the mothers increased adolescent girls were better informed about menstruation (χ^2 for linear trend = 6.13; $p=0.013$). (Figure 1).

Only 40 % of the girls knew about menstruation before menarche with mother being the informant in 47.7 % of the subjects. Other informants were friends (39.5%), sisters (6.1%), teachers (4.5%) and electronic media (2%). Most of the girls had inadequate knowledge about the causes of menstruation. 76.2% believed that menstruation is the removal of impure blood from the body. Only 8.8% were aware that menstruation is due to hormonal changes. Others were not aware (14.6%) and very few thought that it was a

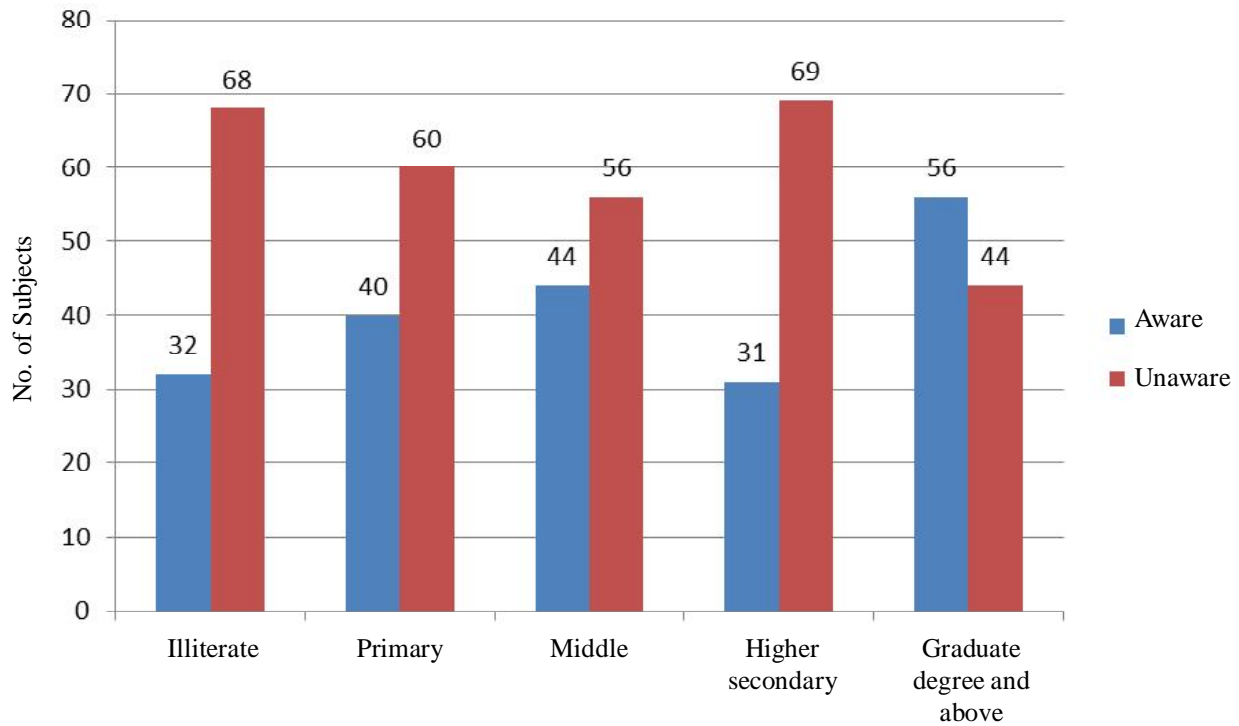


Figure 1: Comparison of mother's education and awareness about menstruation before attaining menarche

disease (0.8%). Source of bleeding was not known to 53%; 26% believed that it was the vagina and 20% were aware that uterus was the source of blood in menstruation. The normal interval between two cycles was 20-40 days was known to 52% while 41% and 7% of the girls said that the interval was <20 days and >40 days respectively. Only 26% were aware of all the changes in puberty; reported that there is only increase in height while 15% felt that there is only breast enlargement (Table 1).

Hygienic practices during menstruation were quite satisfactory. Sanitary pads as absorbents during menstruation were used by 92.6%, other absorbents being new cloth (5%) and old cloth (0.6%). About 1.6% used a combination of all of these. Washing their genitals more than two times a day was noted in 77%. Water was used to clean their genitals by 47.6% of the girls studied. Methods of disposal of absorbents included dustbins (72.6%), flushing in toilets (12.2%), burning (3.6%) and washing and reusing (1.8%). Methods other than those

mentioned above were adopted by 9.8% of the girls (Table 2).

Majority (59%) of the girls felt scared on first menstruation while 14% were disgusted, 18% felt indifferent and 9% reported discomfort (Table 3). All the girls in the study practised one restriction or the other. Restrictions followed were not doing household work (55.7%), not sleeping on routine bed (51.8%), not touching family members (48.4%), not attending school (9.2%), not attending religious functions (92.4%), not touching stored food (43.5%). Restrictions were mainly imposed by family members (79.2%). Others were either self imposed (17.6%) or by friends (3.2%) (Table 4).

Table 1: Knowledge about menstruation

Knowledge about	Awareness (%)
Menstruation before menarche	39.8
Cause of menstruation	8.8
Source of bleeding	20
Normal interval between two cycles	52
Changes occurring during puberty	26

DISCUSSION

During the pubertal phase girls first experience menstruation which is marked by anxiety and eagerness to know about this natural phenomenon. However, they do not possess the appropriate knowledge. Open discussion on these issues is forbidden in the traditional Indian society. Empowering adolescent girls with knowledge about menstrual problems and encouraging health seeking behavior will aid in planning programmes for this vulnerable group.

The mean age of our study population is 14.54 years (SD 1.87) while their age range was 12-17 years. The mean age in one study⁴ was 14.1 years. 39.8% were aware of menstruation before menarche. In a study significant number

Table: 2 Practices followed during menstruation

Practices	No. (%)
Absorbent used during menstruation	
Sanitary pad	464 (92.8)
New cloth	25 (5)
Reused old cloth	3 (0.6)
Alternate use of all of the above	8 (1.6)
Frequency of change of absorbents	
1 to 2 times day	140 (28.0)
2 to 3 times day	172 (34.4)
3 to 4 times day	188 (37.6)
Frequency of washing external genitalia during menstruation	
Never	9 (1.80)
At least once a day	106 (21.2)
At least twice or more per day	385 (77)
Ablution of external genitalia during menstruation	
Only water	238 (47.6)
Soap and water	187 (37.4)
Water and antiseptic	75 (15)
Disposal of used absorbents	
Burning	18 (3.6)
Dustbin	363 (72.6)
Flushing in toilets	61 (12.2)
Wash and reuse it again	9 (1.8)
Others	49 (9.8)

of girls did not have prior knowledge about menarche which is similar to the findings of the present study.

About 47.7% obtained information from their mother, 39.4% from friends, 6% from sisters, 4.5% from teachers and 2% from print or electronic media in our study. Similarly, in another study mothers were the most important source of information about menstruation⁴. According to our study, mother's education influenced knowledge about menstruation before menarche. However, 68.8% weren't aware about menstruation even when their mothers had studied up to 12th standard. This can be attributed to the reduced amount of quality time mothers spend with their children.

In contrast, teachers were the main source of information in the rural areas (27%) in another study². A teaching programme conducted from V to X standard in the rural school could be a possible reason for their awareness about menarche.

Table 3: Attitude towards menstruation

Attitude	No. (%)
Scared	295 (59)
Discomfort	45 (9)
Disgusted	70 (14)
Indifferent	90 (18)

Table 4: Restrictions practiced

Nature of restriction	No. (%)
Doing household work	278 (55.7)
Sleeping on routine bed	259 (51.8)
Touching family members	242 (48.4)
Going to school	46 (9.2)
Attending religious functions	462 (92.4)
Touching stored food	220 (44.0)
Family	396 (79.2)
Friends	16 (3.2)
Self imposed	88 (17.6)

Of our study subjects 14.6% were not aware about the cause of menstruation. Only 8.8% of the girls identified it as due to hormonal changes. In a survey in Nepal³, 81% recognized menstruation as normal physiological process, 55% recognized the cause of menstruation to be hormones and only 2% mentioned disease or curse/sin as the cause of menstruation.

In a study from Navi Mumbai⁴, only 33.6% girls correctly reported uterus as the source of bleeding where as 52.1% girls reported urethra. In our study, only 20% identified uterus as the source of bleeding while 53.6% did not know the source and 26.4% thought vagina to be the source of bleeding.

One study³ reported 9.25% of the girls had correct knowledge regarding secondary sex characters. In our study, however, 36.2% adolescent girls had accurate knowledge about secondary sex characters and 26% could identify the three major changes, namely increase in height, breast enlargement and growth of pubic and axillary hair.

Menstrual hygiene frequently emerges as a concern with mothers. Often the daughter does not know when to change a pad. Soiling can be a source of embarrassment that prompts young girls to withdraw from the issue. Primary clinicians should discuss menstrual management with their patients and be aware of the range of products that are available.

In the present study 92.8% of girls used sanitary pads, 5% used new cloth, 0.7% reused cloth and 1.6% alternatively used cloth and pad. Shanbhag et al⁴ reported that during menstruation, 34.7% of the girls used cloth, 44.1% used sanitary pad and 21.2% used both cloth and sanitary pad. This may be due to the urban setting of our population.

In our study 37.6% changed the pads 3 to 4 times a day, 34.4% 2-3 times a day and 28% 1-2 times a day. Study by Shanbhag et al⁴ showed

that 39.8% changed sanitary pad or cloth twice a day, 29.5% three times a day and 21.7% once a day.

In a study⁵ from West Bengal reported, almost all the girls cleaned their genital organs twice a day, 68.9% used “normal water” only, and 30.0% used “soap and normal water” for cleaning.

In our study, 47.6% used only water and 37.4% girls used soap and water. 77% of our study population clean their external genitalia more than twice a day and 21.2% at least once a day. Personal hygiene practices were unsatisfactory in the study population.

Methods used for the disposal of sanitary pads, cloths and other menstrual items include-burying, incineration or burning, disposal into a regular waste management collection and disposal system, disposal into a pit latrine, composting. A range of incinerators are available for disposing sanitary pads and cloths which may be stand alone or attached to the latrine block - this solves discrete collection and transfer issues and prevents embarrassment especially in schools and work places⁶. In a study in Navi Mumbai⁹, 96.38% girls disposed off the sanitary pads in the house-dustbin while 3% and 0.6% girls disposed it off by the roadside and latrine respectively. In our study, 3.6% disposed off pads by burning, 72.6% in dustbin and 12.2% flushed in toilets.

According to our study, 58.6% of girls were scared during their first menstruation, 18.4% felt indifferent, 9.4% felt discomfort and 13.6% were disgusted. Similarly in some studies^{3,7} most of the girls said that they were scared at the onset of their first menstrual cycle while a majority felt uncomfortable with menarche according to another study.⁸

Girls usually share their parents' customs and beliefs. Some traditional practices are useful while others are harmful, ignorance of

culturally divergent beliefs may lead to failure in health care delivery.

In our study population, 92.4% didn't attend religious functions and 9.2% didn't attend school. A study from Gujarat⁹ showed that, more than two thirds of respondents (36.2%) reported that social restrictions are still observed in their family: the custom of not allowing them to hold prayers, go to the temple or enter the kitchen. A few girls reported that food restrictions are also imposed on them during menstruation, which do not allow them to consume spicy or non-vegetarian foods. Until relatively recently, separation of menstruating women from the rest of the population was common, and it is still practiced in some areas of the world. "Beliefs or superstitions about dangers inherent in menstruation" and the rituals that accompany them, are extremely common and widespread. Such cultural taboos about menstruation need to be addressed.

As this study was carried out among adolescent girls in urban government schools, the results may not be applicable to rural population or girls studying in affluent private schools but it can be generalized to school going girls coming from similar socioeconomic conditions.

This study highlights the need of adolescent girls to have accurate and adequate information about menstruation and its appropriate management. Many girls attain menarche as early as 12 years hence, formal as well as informal means of communication such as mothers, sisters and friends, need to be emphasized for the delivery of such information. A vital role is played by the mothers to deliver appropriate information on reproductive health to her girl about menstruation before she attains menarche. Teachers who are in fact second mothers should be adept in imparting reproductive health education, including menstrual hygiene to their students. They have to be given requisite skills

by organizing workshops as well as programmes wherein they could interact with gynecologists. Such sessions should involve the mothers too so that they can handle the needs of their ward. Reproductive tract biology should be included in the curriculum from Class VI onwards so that the girls are able to recognize the changes in their body and prepare themselves for the next phase of life, i.e., puberty without fear and disgust. Immense effort is needed to curb myths about menstruation among the adolescent school going girls. There are a numerous reproductive health implications pertaining to menstruation and its management which in turn significantly alters the quality of life positively or negatively. This ultimately permeates school and other social activities in which the adolescent school girls involve themselves. These invariably necessitates an urgent addressal by all the stakeholders-family, school community, civil society, and service providers to enable proper hygiene practices and to ingrain correct menstrual perceptions and to abolish myths regarding the process of menstruation amongst this segment of the population. In India, all organizations which work on reproductive health should work adequately on the neglected issue of menstrual hygiene and management to achieve "Sanitation for dignity and health" for all women (The Delhi Declaration, SACOSAN III 2008). This essentially will contribute to the attainment of 2, 3, and 7 goals of Millennium Development Goals (MDG.).

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