

Perceptions and practices related to menstruation and reproductive health in adolescent girls in an urban population - A cross sectional study

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ABSTRACT

Introduction: Menarche is an important biological milestone in a woman's life as it marks the onset of the reproductive phase of her life. It is, often considered an impure phenomenon in Indian society owing to cultural taboos and insufficient and incorrect information and causes unnecessary restrictions in the day-to-day normal activities of menstruating girls. **Aim:** To assess the perception and practices related to menstruation and reproductive health among school-going adolescent girls in the urban population in Kochi, Kerala. **Objectives:** To elicit the practices regarding menstruation and reproductive health among the school-going, adolescent girls. i. To elicit the beliefs, perceptions, and sources of information regarding menstruation and reproductive health among the school going, adolescent girls. ii. To find out the relation between perceptions/practices and other factors. **Methodology:** A cross-sectional study was conducted among 100 adolescent girls of a secondary school situated in Ernakulam, Kerala, with the help of a pre-designed and pre-tested questionnaire. Data were analyzed statistically by simple proportions. **Result:** 89% of the girls were aware of menstruation before menarche. A major source of information was found to be mothers. More than 70% used sanitary pads and 99% of girls knew menses as a natural phenomenon. 80% of girls with good perception had no menses-related anxiety. 54% haven't even heard of Pre-Menstrual Syndrome. 40% have inhibition talking about menses to their father or brother. Among girls with good practice, 87% had a good perception. **Conclusions:** Before bringing any change in menstrual practices, Family physicians can play a role in educating the girls about the significance of menstruation and the development of secondary sexual characteristics, the selection of a sanitary menstrual absorbent, and its proper disposal. Trained personnel, school teachers, and knowledgeable parents can play a very important role in imparting menstrual health-related information to adolescent girls.

Keywords: Adolescent girls, menarche, menstrual practices, menstruation, reproductive health, the stigma of menstruation

Background

Menarche is an important biological milestone in a woman's life. The average age at menarche is mostly consistent across the populations, that is, between 12 and 13 years of age.^[1,2]

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Unfortunately, due to a lack of knowledge on menstruation preparedness and management or due to shyness and embarrassment the situation becomes worse for girls.^[3] There are several studies conducted to study perceptions and practices of menstruation in Rural areas, but hardly any to study the same in urban areas. It is expected that the urban populations is better at handling menstruation. This study will give an insight into that and help us elicit the beliefs, perceptions, and sources of information regarding menstruation and reproductive health among the school-going adolescent girls in an Urban setup.

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Attitude and Perceptions about Menstruation

Although menstruation is a normal physiological process that indicates the beginning of reproductive life, its often considered an impure phenomenon in Indian society owing to cultural taboos and insufficient and incorrect information and causing unnecessary restrictions in the day-to-day normal activities of menstruating girls.^[4]

As a cultural practice, the information is passed from mother to daughter which is often not sufficient and sometimes even incorrect.^[5] There is a continuous information gap in this regard.

Little, inaccurate, or incomplete knowledge about menstruation is a great hindrance in the path of the personal and menstrual hygiene management.

Physiology of menstruation

The menstrual cycle has three phases, that is, follicular phase (proliferative), ovulation phase, and luteal phase (secretory). Menstruation is regulated by hormones - in this process, the endometrium which is the lining of the uterus gradually thickens and sheds off and causes bleeding that normally lasts for 3–5 days and averages up to 7 days. Menstruation sheds two-thirds of the endometrial lining. In addition to blood, the menstrual fluid contains mucus and vaginal secretions.^[6] The menstrual flow varies from female to female.

Pre-Menstrual Syndrome has a wide variety of symptoms including mood swings, tender breasts, food cravings, irritability, and depression. Symptoms tend to occur in a predictable pattern. Usually, the symptoms disappear within 4 days after the start of the menstrual period. But an as small number of women with PMS have disabling symptoms every month referred to as PMDD (Pre-Menstrual Dysphoric Disorder) which needs to be evaluated by a doctor.

Practices during menstruation

Women have developed their own personal strategies to handle this period of time. Globally, these strategies vary greatly due to personal preferences, availability of resources, economic status, cultural traditions and beliefs, education status, and knowledge about menstruation. Practices related to menstruation hygiene are of major concern as it has a health impact; if neglected, it leads to toxic shock syndrome, reproductive tract infections (RTI), and other vaginal diseases.^[7-9] Poor genital hygiene negatively affects adolescents' health. Most girls are unaware and unprepared for menarche. The overall level of knowledge regarding menstruation was found to be poor among 84.2 percent of women.^[10]

The Menstrual cycle is frequently related to a negative change in psychological status.^[11] Such negative psychosocial outcomes have been hypothesized to arise from poor MHM. The constant fear of staining weighing on them is the reason why most girls report feeling under-confident while on their period.^[12] They may also result from a lack of knowledge and information about menstruation, cultural stigma, and taboos.

A unified, working definition of MHM was developed by the Joint Monitoring Program of the WHO and UNICEF in 2012, defining MHM as: 'Women and adolescent girls using a clean menstrual management material to absorb or collect blood that can be changed in privacy as often as necessary for the duration of the menstruation period, using soap and water for washing the body as required and having access to facilities to dispose of used menstrual management materials.'^[13]

Single-use absorbents such as sanitary pads are easily classified as clean; however, reusable absorbents such as cloth or reusable pads (homemade or commercially produced) could be considered hygienic if cleaned appropriately.^[14] Washing with soap may be one important criterion. Drying practices are also important, with exposure to UV through sunlight known to have a microbicidal effect.^[15,16] Leaving fabrics damp has been found to encourage microbial survival, and wearing absorbents wet has frequently been considered unhygienic, with some evidence for greater infection risk and discomfort.^[15,16] Similarly, there is little rigorous evidence to guide absorbent change frequency. The Menstrual Hygiene Matters report suggested changing absorbents every 2–6 hours dependent on blood flow.^[16]

This study aims to elicit knowledge about menstruation and reproductive hygiene along with the rooted perceptions and the evolving practices related to menstruation in an urban city in a southern state of India.

Aim

To assess the perception and practices related to menstruation and reproductive health among school-going adolescent girls in the urban population in Kochi, Kerala.

Objectives

- i. To elicit the practices regarding menstruation and reproductive health among the school-going adolescent girls.
- ii. To elicit the beliefs, perceptions, and sources of information regarding menstruation and reproductive health among the school going, adolescent girls
- iii. To find out the relation between perceptions/practices and other factors.

Materials and Methods

This study was undertaken in a CBSE school situated in Aluva, an Urban city of Ernakulam district in Kerala, India. It was a cross-sectional study involving girls studying in classes 9,10 and 11th grade, conducted during the months of November- December 2019.

A sample size of the study was 100.

The school was visited. Meetings were held with the head teachers and parental consent forms were signed prior to distributing the questionnaire.

A pre-tested pre-designed questionnaire which was validated was given to the students and asked to fill them up based on the best of their knowledge and practice. The medium was English. They were asked to not mention their names to elicit genuine data.

Data was assessed in simple proportions and various relations were drawn using statistical tests.

Results

A total of 100 girls participated in the study. Of these 31 girls were aged more than 15 years. 69 girls belonged to the age group 13-15.

1. The majority of the girls had regular cycles (76%), used sanitary pads (79%), and knew that menses is a normal physiological phenomenon (99%).
2. In 73% of girls, Mother was the prime source of information provider [Figure 1].
3. 56% of girls attained Menarche at the age of 10-12 years [Figure 2].
4. 82% of girls who had no idea about menses before Menarche was found to have a poor perception score. ($p = 0.0001$) [Figure 3]
5. Among people with the right practice, 87% had a good

6. perception. ($p = 0.0019$) [Figure 4]
7. 78% of girls change less than 3 pads in a day [Figure 5].
8. 80% of girls with good perception have no menses-related anxiety. ($p = 0.003$) [Figure 6]
9. 40% of girls have inhibition talking about menses to fathers or brothers.
10. 54% of girls have not even heard of Pre-Menstrual Syndrome.
11. Out of kids with Mothers having at least secondary education 75% had a good perception.
12. Among the students with good perception, 63% were 10th std students (14-15 yrs).
13. 56% of students who had wrong practices, had menarche before 12 yrs.
14. Among students with the right practices, 68% had a mother as an information provider.
15. Most of the girls (78%) who were reluctant to learn more about menses were associated with wrong practices. ($p = 0.002$) [Figure 7]

Discussion

The onset of menstruation is a landmark event in the life of a young woman. A key priority for women and girls is to have the necessary knowledge, facilities, and cultural environment to

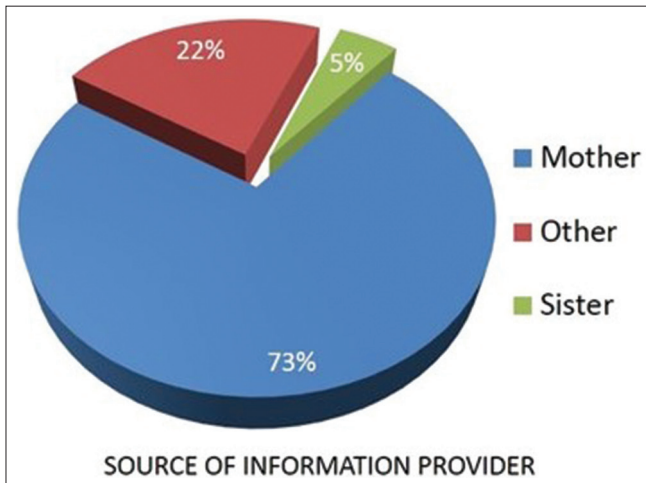


Figure 1: Source of information provider

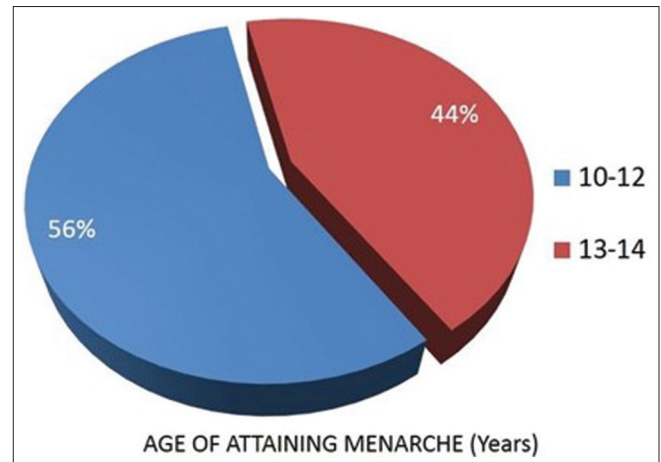


Figure 2: Age of attaining Menarche

When did they learn about Menstruation?	Perception	
	Good	Poor
Before Menarche	69	20
After Menarche	2	9
	p	0.0001

RELATION BETWEEN KNOWLEDGE ABOUT MENSTRUATION BEFORE MENARCHE TO THEIR PERCEPTION ABOUT THE SAME

Figure 3: Relation between knowledge about menstruation before menarche and their perception about menstruation

Perception	Practice	
	Right	Wrong
Good	39	32
Poor	6	23
	p	0.0019

RELATION BETWEEN PRACTICES DURING MENSTRUATION AND PERCEPTION OF THE SAME

Figure 4: Relation between practices during menstruation and perception about menstruation

NUMBER OF PADS CHANGED IN A DAY				
No. of Pads	2 Pads	3 Pads	4 Pads	5+ Pads
	13%	65%	17%	6%

Figure 5: Figure showing number of pads changed per day

Menstruation related Anxiety?	Perception	
	Good	Poor
No	60	16
Yes	11	13
p		0.003

RELATION BETWEEN PERCEPTION AND MENSTRUATION RELATED ANXIETY

Figure 6: Relation between perception about menstruation and menstruation related anxiety

Want more Information about menstruation?	Practice	
	Right	Wrong
Yes	38	30
No	7	25
p		0.002

RELATION BETWEEN PRACTICES OF MENSTRUATION AND DESIRE TO GET MORE INFORMATION ABOUT THE SAME.

Figure 7: Relation between practices of menstruation and desire to get more information about menstruation

manage menstruation hygienically. However menstrual hygiene is a neglected area of concern as they are clouded by taboos resulting in ignorance of the scientific facts and hygienic health practices.

In this study, 89% of the girls were aware of menstruation before menarche. A major source of information was found to be mothers. More than 70% used sanitary pads and 99% of girls knew menses as a natural phenomenon. 80% of girls with good perception had no menses-related anxiety. 54% haven't even heard of Pre-Menstrual Syndrome. 40% have inhibition talking about menses to their father or brother. Among girls with good practice, 87% had a good perception.

Key findings

A downshift has been noted in the age of attaining menarche. This aligns with the study conducted by study A. Bagga and S. Kulkarni proves that there is a consistent lowering of the age at menarche on average, by about six months per decade.^[1]

In the study, 78% of girls change less than 3 pads in a day. A study conducted by D. Sapkota, D. Sharma *et al.*^[6] in 2014, showed that More than half of respondents (54.1%) used sanitary pads, and the frequency of changing pads twice a day was the highest (50.8%).

We found that in the majority, the mother was found to be the key information provider. In several studies conducted, the most common informant was a mother. In a study conducted by D. Sapkota, D. Sharma *et al.*^[6] in 2014, the mother was an informant in 39.3% of cases. Also, In another study conducted in 2011, by Thakre SB *et al.*,^[9] mothers were the first informants for 71.33% of the girls. The fewer gaps may be due to the high literacy status of the mothers and small inhibitions for the mothers in talking to their daughters regarding the significance, hygienic practices, and a healthy attitude towards menstruation.

In our study, Mother as an information provider was linked to the right practices and her secondary education was linked to good perceptions. This aligned with the findings of the study conducted by A Mor PN and Kumari V^[10] in 2022 which revealed that the education of respondents and their mothers, occupation of the respondent, socio-economic status, etc., were highly significantly associated with the level of knowledge regarding menstruation.

It's surprising to know that despite a proper schooling system in urban areas, unlike the rural and deprived, children are not aware of the physiology of menstruation, or the right practices. This aligns with a study conducted by S. Nagar and K. R. Aimol in Meghalaya in 2017 among tribal populations, which states that Girls did not know about the meaning of menstruation and associated it with bad/unclean blood.^[3] Similarly, a study by Thakre *et al.*^[9] in 2011 also revealed that only 36.95% of the participants were aware of menstruation before menarche.

In those who attained menarche before 12 years, the majority had wrong practices, probably because of a lack of information at that age. Among the students with good perception, 63% were 10th std students (14-15 yrs). This aligns with the study conducted by S. Nagar and K. R. Aimol in which the Age of the respondents seemed to have a good correlation with their awareness regarding menstruation and related aspects.^[3]

In our study, Among people with the right practice; 87% had good perception. Similar results followed in a study conducted by Mor PN, Kumari V in 2022 where Knowledge regarding menstruation was found positively correlated with menstrual hygiene practice and with the general perceptions regarding menstruation.^[10]

Furthermore, most of those who were not aware of menstruation tend to ignore the importance of being educated on the topic. Those who are ignorant prefer to be ignorant.

It was also found that the anxiety and mood changes associated with menses were linked to poor knowledge and poor perception of menstruation. There aren't many studies in this regard, Although, There was a significant Health anxiety and menstrual cycle phase interaction for perceived stress in a study conducted by D R Shayani *et al.*^[17] in 2020. Health anxiety is characterized by excessive fears or beliefs that one has a serious illness based on the misinterpretation of bodily changes or symptoms.

A vast majority of girls even in urban areas have inhibition from talking about menstruation to their father or brother. This is similar to the study conducted by Ramesh S *et al.* in 2021.^[12]

Conclusion and Recommendations

Primary Care Physicians have a major role to play as they are closely linked to the family and are often approached first in case of concerns regarding health.

At the grass root level, Family Physicians can educate the parents, especially the mother- the key information providers.

The anxiety, fear, and insecurity related to the attainment of menses need to be tackled by preparing the girls for the process by educating them about the basic physiology of menstruation.

Educate the male members regarding the need for accepting this as a natural normal phenomenon and not a sign of impurity.

The importance of safe disposal of pads, the frequency of changing of pads, and the importance of drying cloth in sunlight have to be emphasized.

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Conflicts of interest

There are no conflicts of interest.

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