

# The questionnaire-based study of menstrual disorders of young girls in Marathwada region

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## Abstract

**Background:** Menstrual cycle is an important indicator of women's reproductive health. However, menstruation has a different pattern within a few years after menarche, which might not be well understood by many adolescent girls. **Materials and Methods:** A study was conducted on 1000 healthy menstruating females aged 10–25 years. Standardized self-reporting questionnaires were used to obtain relevant data. The categorical data were analyzed using Chi-square or Fisher's exact test. **Results:** Mean age of menarche was 13+1.1 years with wide variations, i.e., 10–17 years. 74.4% had regular cycles. 21.4% reported 6–7 days' duration of menstrual blood flow and 4.9% had frequent cycles. 22.6% reported abundant blood loss. 40.9% had dysmenorrhea. Majority of the participants experienced symptoms in menstrual cycle which were troublesome. **Conclusion:** A comprehensive school education program on menarche and menstrual problems may help girls to cope better and seek proper medical assistance.

**Key Word:** Adolescence, symptoms, dysmenorrhoea, menstruation

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## INTRODUCTION

The menstruation is surrounded by various cultural and social taboos in all communities. It is especially so in a country like India where people are quite traditional and stick to cultural systems. Adolescents constitute about one fifth (21.4%) of India's population. They are future building blocks of our nation. Health of an adult depends upon health reproductive development and experiences during adolescent years. It is undeniable that a healthy adolescent can blossom into a healthy adult. Menstrual cycle is an important indicator of women's reproductive health. However, menstruation has a different pattern

within a few years after menarche, which might not be well understood by many adolescent girls. Due to the relative immaturity of the hypothalamic-pituitary-ovary axis in the first 2 years following menarche, more than half of the menstrual cycles are anovulatory. This results in irregular cycles where cycle frequency can vary from less than 20 days to more than 90 days. Anovulatory cycles are often heavy and prolonged with some girls bleeding for several weeks at a time.<sup>1</sup> Menstrual disorders are a common presentation by late adolescence; 75% of girls experience some problems associated with menstruation including delayed, irregular, painful, and heavy menstrual bleeding, which are the leading reasons for the physician office visits by adolescents.<sup>2</sup> Menstrual patterns are also influenced by a number of host and environmental factors.<sup>3</sup> However, few studies in India have described the lifestyle factors associated with various menstrual cycle patterns. We therefore surveyed the current changes in the age of menarche in India adolescents. We also evaluated general menstruation patterns, the incidence of common menstrual disorders and the sociodemography of the students in schools and colleges.

**Participants and setting:** Students from Maulana Azad Trust School, SP Chavan college of Pharmacy and Clover

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Dale School were the participants. After obtaining a written consent, a questionnaire was distributed and collected after 20 min. The sociodemographic data was collected in terms of age, education, joint or nuclear family, mothers education and occupation. The questionnaire collected data about the characteristics of: a 'usual' period in terms of regularity, duration and heaviness; the pain experienced with menstruation, and the use of pads and their numbers per day during the menstrual cycle; interference of menstruation with various life activities; days of blood flow and any other problems like feeling depressed, emotional outbursts and anger. Girls present at school on the day of data collection were given a questionnaire and consent form on entering the hall, or 20 minutes before the end of class (after male students

were dismissed). The girls who attained menarche were included for the study. Students signed a consent form before participating in the study, which was collected separately from the questionnaire for de-identification purposes. Completing the questionnaire was voluntary. Questionnaires were collected directly after completion and before leaving the hall or classroom to maximize the response rate. 1000 students participated in the study.

**Ethics and data analysis:** Approval to conduct the study was obtained from the ethical committee. Data were entered into a Statistical Package for Social Sciences (SPSS) 14.0 database. Categorical data were assessed using chi-square tests, and one independent-samples Student's t-test was carried out.

## RESULTS

**Table 1:** showing the social factors of study population

Age in yrs	Number (n=1000)	Percentage (%)
<15	348	34.8
16 - 20	557	55.7
21-25	95	9.5
Total	1000	100
<b>Religion</b>		
Hindu	638	63.8
Muslim	312	31.2
Other	50	5.0
Total	1000	100
<b>Type of family</b>		
Nuclear	624	62.4
Joint	376	37.6
Total	1000	100

Table 1 shows that 55.7% girls belonged to the age group of 16- 20 yrs. 638 girls were hindu by religion and 624 students belonged to nuclear family.

**Table 2:** showing the socioeconomic and educational status of the mother

Socioeconomic status	Numbers (n= 1000)	Percentage (%)
Grade 1 (>=6391)	156	15.6
Grade 2 (3196-6390)	125	12.5
Grade 3(1971-3195)	269	26.9
Grade 4(959-1916)	206	20.6
Grade 5(=<958)	244	24.4
Total	1000	100
<b>Educational status of mother</b>		
Secondary to Higher	56	5.6
Middle	125	12.5
Primary	369	36.9
Illiterate	450	45.0
Total	1000	100
<b>Occupation</b>		
Student	962	96.2
Part time job (tuitions etc)	25	2.5
Self employment	13	1.3
Total	1000	100

Table 2 shows that only 15.6% of the girls in the study belonged to a good socioeconomic status. whereas maximum girls belonged to lower and middle class income status. Majority of the mothers were illiterate in the study. 96.2% girls were student by occupation.

**Table 3:** shows the pattern of menstrual cycle

Menarche age	Number(n=1000)	Percentage (%)
Early menarche (< 10 yrs)	55	5.5
Normal (10-14 yrs)	875	87.5
Delayed (> 15 yrs)	71	7.1
Mean age	13_+1.1	100
<b>Duration of flow (days)</b>		
< 3 days	116	11.6
3-5 days	670	67.0
6-7 days	214	21.4
Total	1000	100
<b>Regularity of menstrual cycle</b>		
Regular	747	74.7
Irregular	253	25.3
Total	1000	100
<b>Menstrual blood loss(pads used / day)</b>		
< 2 pads / day	561	56.1
>2 pads / day	215	21.5
>3 pads/day	226	22.6
Total		

Table 3 shows that 87.5 % girls attended menarche at the age of 10-14 yrs, 74.7% girls had regular cycles and 43.9 % girls used > 2 pads per day indicating that the flow is adequate and 22.6 % girls had excessive flow

**Table 4:** shows the problems associated with menses.

Dysmenorrhea	No. (n= 10000)	(%)
Yes	409	40.9
No	591	59.1
Total	1000	100
<b>Premenstrual symptoms</b>		
Yes	255	25.5
No	745	74.5
Total	1000	100
<b>Excessive bleeding in menses</b>		
Yes	226	22.6
No	774	77.4
Total	1000	100
<b>Frequent cycles (&lt; 21 days)</b>		
Yes	49	4.9
No	951	95.1
Total	1000	100
<b>Restriction of activities due to menses</b>		
Yes	878	87.8
No	122	12.2
Total	1000	100

Table 4 shows that 409 girls had dysmenorrhoea, excessive bleeding during menses was seen in 226 girls and frequent cycles were found in only 49 girls.

**Table 5:** shows the menstrual symptoms seen in participants.

Symptoms	Number(n=1000)	Percentage (%)
No symptoms	285	28.5
Weakness	306	30.6
Vomiting	33	3.3
Anorexia	39	3.9
Abdominal pain	409	40.9
Backpain	478	47.8
Headache	251	25.1
Leg pain	415	41.5
Fainting	15	1.5

Table 5 shows that 285 girls had no symptom during menses .back pain and abdominal pain was seen in 478 and 409 girls respectively. Only 1.5% girls had fainting attacks

## DISCUSSION

This is a large study with 1000 girl students participation from Maharashtra state in India. It tells us the 'typical' experience of menstruation for a sample of girl students from various backgrounds in terms of pain, symptoms and menstrual disturbance Table 1 shows the demographic features of the participants. The age range of the sample was from 14 yrs, 9 months to 25 yrs. Majority of the participants (63.8%) belonged to the families practicing Hinduism, and 62.4% of girls were from nuclear family. The girls belonged to low (24.4%), middle (26.9%), and high (15.2%) SES. Education of the mother has a great influence on the menstrual health and menstrual hygiene of the girl child in the family. Girls whose mother's education status secondary school and above were 1.51 times more likely had good knowledge about menstruation than their counter parts Educational status of the parents was important predictors of menstrual attitude and practice<sup>4</sup> In the above study girls whose mothers' educational statuses was secondary and above were more likely to have good symptom control of menstrual period than their counterparts. This also aligns with the studies done in Ethiopia, Lebanon, India and Nigeria.<sup>5,6,7</sup> This is seen in table 2 where 45% of the mothers in our study are illiterate and only 5.6% are well educated. Mothers education and understanding plays a vital role in menstrual health of a girl child in the family. In our study 96.2% girls were students, however some girls had to do tuitions or some part time job in order to support the family. The average age of menarche was 13+-1.1 years in our study which is essentially similar to many other studies Singh *et al*<sup>11</sup> 2008(8,9). Menarche age is the most widely used indicator of sexual maturation and influenced by many factors such as genetic and environmental conditions, family size, body mass index, SES, and level of education<sup>10,11</sup>. 5.5% of girls menstruated before they were 10-years old, and 7.1% began after they were 15 yrs and above. Table 3 shows that typical menstruation consisted of regular menses in 74.7% (n=747) of girls; a cycle length ranging from 21 to 35 days); and menstrual bleeding lasting for 3-5 days in 670 girls. However, 21.4% had bleeding for more than 6-7 days and 22.6% used more than 3 pads per day indicating that the bleeding could be excessive in this girls. Abundant menstrual blood loss was also a common problem among the participants in this study. The most common cause of heavy menstrual bleeding in adolescents is dysfunctional uterine bleeding related to anovulation<sup>12</sup> therefore, it is expected to be higher in the adolescence period. The present study showed that the menstrual cycle and the duration of menstrual blood loss tend to become regular and shorter, respectively, with the increase in age, suggesting a gradual accomplishment of ovarian maturity during the time. When we surveyed general menstruation

patterns, we found that frequency of irregular menstruation was higher in early adolescence, but contrary to our expectations, no significant association was found between age and frequency of irregular menstrual cycles. Table 4 shows the various menstrual disorders in the young participants in our study. The prevalence of dysmenorrhea in our study was almost the same as other reports from India<sup>13</sup>. Avasarala AK *et al*<sup>11</sup> studied dysmenorrhoea in Indian population and found out that girls who were reporting an increased severity of pain were also more likely to report more menstrual symptoms, more interference with their life activities and more school absence related to menstruation. Dysmenorrhea is the most common (66.8%) gynecological problem associated with adolescent females. Several other studies reported its prevalence range from 25% to 90% among women and adolescents girls<sup>13,14</sup>. Rather than individual symptoms alone, it is the combination of presenting symptoms and a prejudiced mind set, including the extent of menstrual disturbance, which is causing the young adult to have a restricted activity attitude towards menses, eg dysmenorrhoea. In our study 878 girls reported restriction of activities during menses. Majority of the participants did not suffer from PMS (n=745). This may be because of good tolerance, greater acceptance of menses and neglect of their complaints in typical lower SES scenario.<sup>15</sup> However 226 girls reported excessive bleeding during menses and 49 girls said they had frequent cycles (<21 days). Although this condition is found in a such a small part of the population, it is of concern as it is associated to higher blood loss, increasing the risk of anemia. Anaemia is very common in the young population of our country and menstrual disorders rank in the uppermost causes in the list.<sup>16</sup> Dysfunctional uterine bleeding is a frequent gynecological problem in women of all ages<sup>17</sup> and particularly common during adolescence and perimenopausal periods. The abnormal menstrual patterns caused by hormonal imbalances. In majority of cases, it is secondary to anovulation, which is more common at the extremes of reproductive age. hence it is very commonly seen in the adolescent age group. Menstrual symptoms are a broad collection of affective and somatic concerns that occur around the time of menses. Some women manage their monthly periods easily with few or no concerns, while others experience a number of physical and emotional symptoms that may cause psychological and physical discomfort.<sup>18</sup> The most common symptom present in the adolescent girls during the menstrual periods was back pain (47.8%) and the second most prevalent symptom was leg pain (41.5%). Our observations were similar to that reported by Agarwal and Agarwal<sup>19</sup> In the present study, occurrence rate of certain discomforts among adolescents indicates the extent of sufferings; the adolescence females

undergo with each cycle of menstruation. The information suggests that treatment approaches should be developed as the target group is vulnerable (the target group was adolescents/youngsters who are more vulnerable than adults). The physician must always consider the adolescent's sensitivity and vulnerability in evaluating and treating various disorders of menstruation<sup>20</sup> it can be stated that a comprehensive school education program on menarche and menstrual problems may help girls to cope better with the menstrual symptoms. Interestingly there were some girls with o symptoms (n=285). This can also be attributed to the good attitude towards menses and regarding it as physiological.

## CONCLUSION

Menstrual disorders are common disorders in the adolescent female and a significant source of morbidity in this population. However, adolescent girls are reluctant to seek medical treatment, leading to delay in diagnosis and treatment. Appropriate health education measures need to be put into place to prevent this trend. Mass media should also emphasize on health information about menstrual hygiene. Therefore, policy makers and stakeholders should setup health education program to create awareness and practice of good menstrual attitude. This will help in lowering the morbidity associated with menstrual disorders and help in seeking early medical assistance for the menstrual symptoms.

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