

Original research article

A clinical investigation to evaluate the menstrual pattern and problems among adolescent girls

Dr. Pratibha Roy^{1*}

¹Assistant Professor, Department of Obstetrics and Gynecology, Venkateshwara Institute of Medical Sciences, Gajraula, Uttar Pradesh, India

Corresponding Author: Dr. Pratibha Roy

Abstract

Aim: to determine the menstrual pattern and various menstrual problems among urban adolescent girls.

Material and methods: This was a cross sectional study conducted in the Department of Obstetrics and Gynecology, Venkateshwara Institute of Medical Sciences, Gajraula, Uttar Pradesh, India, for 6 months. 100 adolescent girls randomly who presented with menstrual problems in gynaecology OPD were included in this study. Total of 100 girls were asked to fill up a questionnaire which included questions like age of menarche, pattern of menstruation, duration and amount of flow, number of pads used.

Result: This study shows Majority of girls (62%) attained their menarche between 10-13 years of age and remaining 38% were in the age group of 14-16 years. Majority of girls had problem of oligomenorrhea (59%). 30% of girls had normal cycle length of 21-35 days and only 11% had frequent bleeding with cycle length less than 21 days. But duration (3-7days) and quantity of flow was normal in maximum girls 79% and 61% respectively. Excessive flow with passage of clots or duration of flow for more than 7 days was noted in 21% and 14% of girls respectively. Only 7% had flow for less than 2 days. Menstruation is associated with multiple morbidities, in our study majority of girls had problem of oligomenorrhoea (59%) followed by dysmenorrhoea (53%) and menorrhagia (21%). Dysmenorrhoea was the main reason of absenteeism from school (with 42.86%). Menorrhagia was the second most common reason (21.43%) for absenteeism from school. Third main reason was menorrhagia along with Dysmenorrhoea (14.28%).

Conclusion: Menstrual problems are present in majority of girls in the study group which has some effect on the academic performance and other extracurricular activities in school.

Keywords: Adolescent girls, Menstrual disorders, Dysmenorrhoea, Premenstrual symptoms

Introduction

Adolescence is a significant period in the life of a woman. Adolescent girls often lack knowledge regarding reproductive health including menstruation which can be due to socio-cultural barriers in which they grow up. These differences create various problems for the adolescent girls. The need of the hour for girls is to have the information, education and an enabling environment to cope with menstruation issues.¹ The hygiene-related practices of girls in the adolescent period related to menstruation can have an effect on their health.² Adolescent girls face substantial morbidities related to menstruation which are generally unrecognized and uncared due to unfamiliarity of girls or, difficulty in understanding normal characteristics of their menstrual cycles and further their reluctance to discuss this issue.³ Attainment of menarche at appropriate age signifies and assures normal development and functioning of the female reproductive system. However, it's timing and subsequent progression are individual-specific and vary within a broad range of normality depending on maturation of the complex interactions of hypothalamus, pituitary gland and ovary. Menarche typically occurs within 2-3

years after thelarche at Tanner stage IV breast development usually between 12 and 13 years.^{3,4} Among Indian females the mean age at menarche is 13.76 years with a secular decline of nearly one month per decade.⁵ Disturbances of menstrual bleeding manifest in a wide range of presentations and abnormal uterine bleeding (AUB) is the overarching term used to describe any departure from normal menstruation or from a normal menstrual cycle pattern. The key characteristics are regularity, frequency, heaviness of flow, and duration of flow, but each of these may exhibit considerable variability.⁶ As evident from previous literature, usually after third year of menarche the interval between bleeding periods is in the range of 21-34 days, with a flow lasting from 3 to 7 days and a mean menstrual blood loss of 35 ml (range 5-80 ml).³⁻⁸ Significant variations may be somewhat physiologic first few years after menarche or, may be attributable to significant underlying medical issues like polycystic ovary syndrome, thyroid problems, mental stress, hypothalamic dysfunction, primary pituitary disease, primary ovarian insufficiency, coagulopathies, uterine lesions and rarely malignancy.³ And therefore it is important to have an understanding of the menstrual pattern and its characteristics among adolescent girls. Hence the present investigation was conducted to study the pattern and features of menstruation among adolescent girls.

Material and methods

This was a cross sectional study conducted in the Department of Obstetrics and Gynecology, Venkateshwara Institute of Medical Sciences, Gajraula, Uttar Pradesh, India, for 6 months, after taking the approval of the protocol review committee and institutional ethics committee.

Methodology

After taking informed consent detailed history was taken from the patient or relatives. 100 adolescent girls randomly who presented with menstrual problems in gynaecology OPD were included in this study. Total of 100 girls were asked to fill up a questionnaire which included questions like age of menarche, pattern of menstruation, duration and amount of flow, number of pads used. Data collected, compiled and analyzed.

Result

This study shows Majority of girls (62%) attained their menarche between 10-13 years of age and remaining 38% were in the age group of 14-16 years (Table 1). Majority of girls had problem of oligomenorrhea (59%). 30% of girls had normal cycle length of 21-35 days and only 11% had frequent bleeding with cycle length less than 21days. But duration (3-7 days) and quantity of flow was normal in maximum girls 79% and 61% respectively. Excessive flow with passage of clots or duration of flow for more than 7 days was noted in 21% and 14% of girls respectively. Only 7% had flow for less than 2 days (Table 2).

Menstruation is associated with multiple morbidities, in our study majority of girls had problem of oligomenorrhea (59%) followed by dysmenorrhea (53%) and menorrhagia (21%). Dysmenorrhea was the main reason of absenteeism from school (with 42.86%). Menorrhagia was second most common reason (21.43%) for absenteeism from school. Third main reason was menorrhagia along with Dysmenorrhea (14.28%).

Table 1: Distribution of girls according to age at menarche

Age at menarche	Number of patients	Percentage
10-13	62	62
14-16	38	38
17-19	0	0

Table 2: Pattern of menstrual cycle

Duration of blood flow (days)	Number of patients	Percentage
<2	7	7
3-7	79	79
>7	14	14
Length of cycle (days)		
<21	11	11
21-35	30	30
>35	59	59
Quantity of blood flow		
Normal	61	61
Excessive	21	21
Scanty	18	18

Table 3: Common menstrual problems

Menstrual problems	Number of patients	Percentage
Oligomenorrhea	59	59
Dysmenorrhea	53	53
Menorrhagia	21	21
Premenstrual symptoms	15	15
Leucorrhea	2	2

Table 4: Reasons for absenteeism from school related to menstrual problem (N-28)

Menstrual Problem	Numbers	Percentage (%)
Dysmenorrhea	12	42.86
Menorrhagia	6	21.43
Menorrhagia + dysmenorrhea	4	14.28
Premenstrual syndrome	4	14.28
Fear of leakage	2	7.14

Discussion

In our study the Majority of girls (62%) attained their menarche between 10-13 years of age and remaining 38% were in the age group of 14-16 years and the mean age was 12.91 years which collaborates with study conducted by S Rokade⁹, who reported mean age of menarche as 12.60±1.05years in Maharashtrian girls, Varuna Pathak¹⁰ reported age of menarche as 13 years. It is also collaborates with various studies conducted in developed countries like studies report the mean age of menarche as 13.28 years in Turkey¹¹, 13 years in Russia¹², 12.3 years in Thailand¹³, 12.5 years in Japan¹⁴, 13.2 years in Egypt.¹⁵ Our study shows 59% of girls had prolong cycles of more than 35 days with irregular cycles. However studies conducted in Guntur, Andhra Pradesh¹⁶ and Meerut, Utter Pradesh¹⁷ observed 66.54% and 66.9% girls with regular menstruation cycles, and in study conducted by M. Kulkarni 11.16% girls with irregular cycles. This difference may be due to nutritional factors and general health of study subjects. Menstruation is associated with multiple morbidities, in our study majority of girls had problem of oligomenorrhea (59%) followed by dysmenorrhea (53%) and menorrhagia (21%) of the population where as various studies showed dysmenorrhea as a commonest menstrual problem^{10,18,19}, and oligomenorrhoea was observed in 16.08% girls by Mohite RV¹⁹ and 3.2% by Varuna Pathak.¹⁰ In our study Dysmenorrhea was the main reason of absenteeism from school (with 42.86%). Menorrhagia was second most common reason (21.43%) for absenteeism from school. Third main reason was menorrhagia along with Dysmenorrhea (14.28%), whereas various studies showed premenstrual symptoms ranged from 41.5% to

75.4%. Menorrhagia was seen in 17.82% population by Mohite RV, 16.07% by M Kulkarni which is comparable with our study.^{18,19} Our study shows oligomenorrhea is the most common menstrual problem and second one is dysmenorrhea. As peri pubertal phase is phase of hormonal imbalance, further investigations and evaluations are needed for the reason of oligomenorrhea and menorrhagia. Our study also reveals that the dysmenorrhea is the most common reason of absentees from school/college, similar findings were found in the studies conducted in North India South India and Mumbai.²⁰⁻²² Level of education, awareness, cultural taboos and practices affects the percentage of girls presenting with their menstrual complaints to healthcare facility. Other factors like nutrition, anemia, personal hygiene, geographic conditions, socio-economic factors also influence menstrual problems. Through our study we gained knowledge on various menstrual problems and their contribution in physical as well as psychological disturbance among adolescent girls.

Conclusion

Menstrual problems are present in majority of girls in the study group which has some effect on the academic performance and other extracurricular activities in school.

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