Original research article

To determine the menstrual pattern and prevalence of various menstrualproblems: Cross-sectional study

Dr. Sonali[1], Dr. Supriya Kumari[2], Dr. Geeta Sinha[3]

[1]Junior resident,Obstetrics and Gynaecology, Patna Medical College and Hospital, Patna, Bihar, India.

[2]Junior resident, Obstetrics and Gynaecology, Patna Medical College and Hospital, Patna, Bihar, India.

3Professor, Obstetrics and Gynaecology, Patna Medical College and Hospital, Patna, Bihar, India.

Corresponding Author: Dr. Supriya Kumari

Abstract

Aim: The aim of the present study was to study 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 gynaecology and obstetrics in Patna Medical College and Hospital, Patna, Bihar, India, from August 2014 to July 2015. 120 adolescent girls selected randomly who presented with menstrual problems in gynaecology OPD were included in this study. Total of 120 girls were asked to fill up a questionnaire which included questions like age of menarche, pattern of menstruation, durationand amount of flow, number of pads used.

Result: This study shows Majority of girls (60.83%) attained their menarche between 10-13 years of age and remaining 39.33% were in the age group of 14-16 years. Majority of girls had problem of Oligomenorrhea (60%). 31.67% of girls had normal cycle length of 28-35 days and only 9.17% had frequent bleeding with cycle length less than 28 days. But duration (3-5 days) and quantity of flow was normal in maximum girls 79.17% and 62.5% respectively. Excessive flow with passage of clots or duration of flow for more than 5 days was noted in 20.83% and 13.33% of girls respectively. Only 7.5% had flow for less than 2 days. Menstruation is associated with multiple morbidities, in our study majority of girls had problem of oligomenorrhea (60%) followed by dysmenorrhea (51.67%) and menorrhagea (22.5%). Dysmenorrhea was the main reason of absenteeism from school (with 45.71%). Menorrhagia along with dysmenorrhea was second most common reason (14.28%) for absenteeism from school. Third main reason was menorrhagia, reported by 22.86%.

Conclusion: This study highlights the need of awareness of menstruation and related problems among the adolescent girls to avoid future reproductive health problems.

Keywords: Adolescent girls, menarche, menstruation, Oligomenorrhae, Dysmenorrhae

Introduction

Adolescence is a period between childhood and adulthood, a transition phase characterised by discernible reproductive maturity. As per definition of World Health Organization, the period of adolescence ranges from 10- 19 years of age.[1] India has largest population of adolescents and of the total female population in India 10.7% and 9.7% are girls in the vulnerable age groups of 10-14 years and 15-19 years respectively.[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 gynaecology and obstetrics in Patna Medical College and Hospital, Patna, Bihar, India, for 11 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. 120 adolescent girls selected randomly who presented with menstrual problems in gynaecology OPD were included in this study. Total of 120 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 was compiled and analyzed.

Result

This study shows Majority of girls (60.83%) attained their menarche between 10-13 years of age and remaining 39.33% were in the age group of 14-16 years(Table 1). Majority of girls had problem of oligomenorrea (60%). 31.67% of girls had normal cycle length of 28-35 days and only 9.17% had frequent bleeding with cycle length less than 28 days. But duration (3-5 days) and quantity of flow was normal in maximum girls 79.17% and 62.5% respectively. Excessive flow with passage of clots or duration of flow for more than 5 days was noted in 20.83% and 13.33% of girls respectively. Only 7.5% 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 (60%) followed by dysmenorrhea (51.67%) and menorrhagia (22.5%). Dysmenorrhea was the main reason of absenteeism from school (with 45.71%). Menorrhagia along with dysmenorrhea was second most common reason (14.28%) for absenteeism from school. Third main reason was menorrhagia, reported by 22.86%.

Table 1: Distribution of girls according to age atmenarche

Age at menarche	Number of patients	Percentage
10-13	73	60.83
14-16	47	39.33
17-19	0	0

Table 2: Pattern of menstrual cycle

Duration of blood flow (days)	Number of patients	Percentage
<2	9	7.5
3-5	95	79.17
>5	16	13.33
Length of cycle (days)		
<28	11	9.17
28-35	38	31.67
>35	71	59.16
Quantity of blood flow		
Normal	75	62.5
Excessive	25	20.83
Scanty	20	16.67

Table 3: Common menstrual problems

Menstrual problems	Number of patients	Percentage
Oligomenorrhea	72	60
Dysmenorrhea	62	51.67
Menorrhagia	27	22.5
Premenstrual symptoms	18	15
Leucorrhea	3	2.5

Table 4: Reasons for absenteeism from school related to menstrualproblem (N-35)

Menstrual Problem	Numbers	Percentage (%)
Dysmenorrhea	16	45.71
Menorrhagea + dysmenorrea	5	14.28
Menorrhagia	8	22.86
Premenstrual syndrome	5	14.28
Fear of leakage	3	8.57

Discussion

In our study the majority of girls (60.83%) attained their menarche between 10-13 years of age and remaining 39.33% were in the age group of 14-16 years which collaborates with study conducted by S Rokade[9], who reported mean age of menarche as 12.6±1.05years in Maharashtrian girls, Varuna Pathak[10] reported age of menarche as 13 years. It also collaborates with various studies conducted in developed countries like studies report the mean age of menarche as 13.28 years in Turkey[11], 13 years in Russia[12], 12.3 years in Thailand[13], 12.5 years in Japan[14], 13.2 years in Egypt.[15] Our study shows 59.16% of girls had prolong cycles of more than 35 days with irregular cycles. However studies conducted in Guntur, Andhra Pradesh[16] and Meerut, Utter Pradesh[17] 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 (60%) followed by dysmenorrhea (51.67%) and menorrhagea (22.5%) 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 RV[19] and 3.2% by Varuna Pathak.[10] In our study dysmenorrhea was the main reason of absenteeism from school (with 45.71%). Menorrhagia along with dysmenorrhea was second most common reason (14.28%) for absenteeism from school. Third main reason was menorrhagia, reported by 22.86%, 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 dysmenorrea. As peri pubertal phase is phase of hormonal imbalance, further investigations and evaluations are needed for the reason of oligomenorrhea and menorrhagea. 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

This study highlights the need of awareness of menstruation and related problems among the adolescent girls to avoid future reproductive health problems.

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