

A Descriptive Cross-Sectional Analysis of the Menstrual Cycle and Associated Issues in Adolescent Girls

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Abstract

Aim: Analysis of the menstrual cycle and associated issues in adolescent girls.

Material and Methods: This is a cross-sectional study was conducted in the Department of Pediatrics, IGIMS, Patna, Bihar, India. All the girls in the age group of 11-16 years, who had attained menarche & were willing to participate in the study, were included as study participants were included in the study. Pretested, semi-structured questionnaire consisted of issues like age at menarche, patterns and problems and hygienic practices related to menstruation.

Results: Mean age of menarche was 13.45±0.86, only one girl attained menarche at 11 year and majority attained menarche at 12 to 14 years age group. When analyzed for inter-menstrual gap, majority 159 (75.7%) girls were in the group of 21-35 days. Days of flow of blood was classified as less 3 days, 3-5 days and more than 5 days. Most of the girls were in 3-5 days 155 (73.8%), few girls 10 (4.7%) in less than 3 days group and remaining were having blood flow for more 5 days. In menstrual symptoms (Table 2), abdominal pain or cramps was experienced by most of the girls 176 (83.8%), body ache was experienced by 64 (30.4%) and 56 (26.6%) were irritable during cycle. Adolescent school girls were analyzed for hygienic practices during their cycle (Table 3). Sanitary pads were used by 174 (82.8%) girls and remaining used both sanitary napkins and cloth. Majority 160 (76.2%) changed their absorbent less than 4 times and remaining changed more than 4 times. Majority 150 (71.5%) cleaned their genitalia only with water during cycles and remaining cleaned with soap and water. Dysmenorrhea was experienced by 160 (76.1%) adolescent girls (Table 4). Irregular menstrual cycle was observed in 12 (5.7%) and polymenorrhea in 11 (5.2%). Some girls had experienced menorrhagia 14 (6.6%).

Conclusion: The timely onset of menarche is a significant milestone in adolescence, indicating the proper functioning of the female reproductive system. Three-fourths of the teenage females had normal blood flow length and cycle interval. Adolescent females often have menstrual issues. Dysmenorrhoea was the most prevalent issue among teens. Adolescent females endure their suffering and see it as a typical occurrence.

Keywords: Menstruation, Puberty, Disorders, Adolescents

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Introduction

Adolescence is the period of transition from childhood to adulthood wherein child goes through various physical, emotional and social changes. [1] The period of adolescence is characterized by specific growth spurt that are associated with development of gonads, reproductive organs and secondary sexual characteristics along with development of new thoughts and motivations, including a wide range of social, behavioral, and emotional changes. [2] Menstruation is an unique phenomenon among adolescents girls that involves periodic vaginal bleeding occurring every 26 to 30 days till she reaches 5th decade of her life. [3] Attaining menarche is one of the significant milestones in a woman's life as it signifies the initiation of capacity to reproduce along with

development of pubertal characteristics. [4] The time of menarche and the pattern of menstruation vary from woman to woman. Menarche typically occurs within 2-3 years after thelarche, Tanner stage IV usually between 12 and 13 years. Almost 98% of girls have already attained her menarche till she is 15 years. [5] Menstruation is considered as a matter that needs to be kept secret and women should feel ashamed of it. Nepalese society considers menstruating women impure and they are kept under several social and religious restrictions. [6] Due to these restrictions adverse health outcomes are to be faced by menstruating woman as they remains unaware of the scientific facts regarding the normal phenomenon and compelled to follow unhygienic practices. [7] Dysmenorrhea is a medical term that

means “difficult or painful periods” which can be classified as “primary” and “secondary”. [2] The pain or difficulty occurs as result of uterine contractions. Most young women having dysmenorrhea will experience have lower back pain and cramping in the lower area of the abdomen during their period. This pain can be dull to pulsatile ranging from mild to severe in nature. Problems as symptoms of GI upset, bloating in belly area, excessive bleeding might also occur during menstrual episodes. On a study conducted in India out of 600, 245 (40%) girls remained absent from school during their menstruation. [8] School absenteeism was significantly associated with the type of absorbent used, lack of privacy at school, restrictions imposed on girls during menstruation, mother's education, and source of information on menstruation. Majority 65% reported that school activity is affected as they had to remain absent from school out of shyness, pain and anxiety about leakage and staining at their school uniform. [8] Adolescent with age group of 10-19 constitutes more than 1.2 billion of world's population, 70% of them belonging to developing countries. Adolescents account for nearly a quarter of Nepal's population (approximately 6.4 million). According to Nepal Demographic and Health Survey (NDHS), 2011 average age of menarche is 13.5 years old. [9] Every day, an estimated 290,000 women and adolescent girls in Nepal menstruate. [10] The NDHS of 2011 revealed that of the top ten sexual and reproductive health issues of concern identified by teenage girls, seven were menstruation-related. Many of the girls' concerns relate to why physical changes occur, what is “normal,” and the consequences of puberty. This lack of knowledge is echoed by the fact that almost a quarter of teenage girls had “no idea” what their menarche was prior to its onset, and only 36% reported that menstruation was a monthly cycle where blood flows from the vagina for 4-5 days. [9]

Material and Methods

This is a cross-sectional study was conducted in the Department of Pediatrics, IGIMS, Patna, Bihar, India from January 2018 to December 2018

All the girls in the age group of 11-16 years, who had attained menarche & were willing to participate in the study, were included as study participants were included in the study.

Students who were seriously ill were excluded from the study.

Data Collection

Pretested, semi-structured questionnaire consisted of issues like age at menarche, patterns and problems and hygienic practices related to menstruation.

Statistical Analysis

The data analysis was carried out using SPSS version 22.

Result

Mean age of menarche was 13.45 ± 0.86 , only one girl attained menarche at 11 year and majority attained menarche at 12 to 14 years age group. When analyzed for inter-menstrual gap, majority 159 (75.7%) girls were in the group of 21-35 days. Days of flow of blood was classified as less 3 days, 3-5 days and more than 5 days. Most of the girls were in 3-5 days 155 (73.8%), few girls 10 (4.7%) in less than 3 days group and remaining were having blood flow for more 5 days. In menstrual symptoms, abdominal pain or cramps was experienced by most of the girls 176 (83.8%), body ache was experienced by 64 (30.4%) and 56 (26.6%) were irritable during cycle. Adolescent school girls were analyzed for hygienic practices during their cycle. Sanitary pads were used by 174 (82.8%) girls and remaining used both sanitary napkins and cloth. Majority 160 (76.2%) changed their absorbent less than 4 times and remaining changed more than 4 times. Majority 150 (71.5%) cleaned their genitalia only with water during cycles and remaining cleaned with soap and water.

Table 1: Distribution of adolescent school girls according to their menstrual pattern (n=210).

Variable	No. (%)
Age in years (menarche)	
11	01 (0.5)
12	27 (12.9)
13	77 (36.7)
14	85 (40.5)
15	18 (8.6)
16	02 (1.0)
Inter-menstrual interval	
Less than 21 days	11 (5.2)
21 to 35 days	159 (75.7)
More than 35 days	40 (19.0)

Amount of blood flow	
Scanty	09 (4.3)
Moderate	148 (70.5)
Heavy	53 (25.2)
Days of blood flow	
Less than 3 days	10 (4.7)
3 – 5 days	155 (73.8)
More than 5 days	45 (21.5)

Table 2: Distribution of adolescent school girls according to menstrual symptoms (n=210).

Variable	No. (%)
Body ache	64 (30.4)
Backache	42 (20.0)
Abdominal pain/cramps	176 (83.8)
Headache	12 (5.7)
Irritability	56 (26.6)

Table 3: Menstrual hygiene practices among adolescent school girls (n=210).

Variable	No. (%)
Type of absorbent	
Only sanitary napkin	174 (82.8)
Both sanitary napkin and clothes	36 (17.2)
Absorbent change times	
≥ 4 times	50 (23.8)
< 4 times	160 (76.2)
Cleaning of genitalia during last menstrual cycle	
≥ 4 times	51 (24.2)
< 4 times	159 (75.8)
Cleaning of genitalia with	
Soap and water	60 (28.5)
Only water	150 (71.5)

Table 4: Distribution of adolescent school girls according to menstrual disorders (n=210).

Variable	No. (%)
Menorrhagia	14 (6.6)
Irregular menses	12 (5.7)
Dysmenorrhoea	160 (76.1)
Polymenorrhoea	11 (5.2)
No disorder	06 (2.8)

Discussion

Adolescence is a period of transition from puberty to early adulthood. This phase involves major physical and emotional changes in the individual. [1,2] The mean age of menarche in this study was 13.45±0.95 years, which is similar finding studies conducted in other parts of the country. [14-17] The average menstrual flow was 3.5±1.2 days in the present study, other studies have observed 4.5±1.6 days and 3.95±0.7 days as duration of menstrual flow. [16,18] There is no much difference between findings of the study done in other parts of the country. On studying the menstrual pattern of these 210 adolescent girls, it was observed that only 5.7% had irregular cycles. In a study conducted in recent times on adolescent girls in rural area of Maharashtra, 5.6% had irregular cycles which is comparable to our study. [16,19] In another study conducted on adolescent girls in rural

area of Karnataka showed comparable results with 7.5% having irregular cycles.¹⁶ On the contrary, a study reported 11.2% of the adolescent girls had irregular cycle which is higher than our observation. [20] In the present study, 73.8% of the girls experienced blood flow for 3-5 days. Study findings observed the mean duration of menstrual blood flow was 4.84±1.27 days and 93.6% had normal menstrual blood flow between 3-7 days. The current study findings are comparable with the other studies conducted in other parts of the nation. [21,22] Inter-menstrual period was categorized into three groups, girls who had cycles less than 21 days, whose cycle was in the range of 21-35 days and who cycle more than 35 days. Majority of the study participants were in the 21-35 days group 159(75.7%) days. Another study observed the inter-menstrual period of the girls was 30.21±5.86 days, which is similar to the

current study. The mean inter-menstrual interval in study conducted was 28.7 ± 3.26 days. The results are lesser in respect to the study done in Karnataka with 92.7% having inter-menstrual interval 28-35 days and 6.8% having >35 days inter-menstrual interval. The present study showed that duration of blood flow was <3 days in 4.7% and >5 days in 21.5% of the girls which is again comparable to other studies.^{16,19} Dysmenorrhoea is one of the most common menstrual disorders among adolescents in, current study observed that 76.1% school going adolescent girls were suffering from dysmenorrhoea. Incidence of dysmenorrhoea was less in other studies. Other study had reported 53.6% and 49.13% incidence of dysmenorrhoea. The tolerance of pain is better in rural girls compared to urban girls. [20-23] Studies revealed high percentage of medical students suffering from different kinds of menstrual disorders. Students (5.7%) were suffering from irregular menstrual cycle lesser than other studies. [17,24-26]

In contrast, in another study there was very high prevalence (64.2%) of irregular menstrual cycle.²¹ Another study observed that 93.8% girls had average 2.1 menstrual complaints. Furthermore, maximum number of girls (68.3%) had abdominal pain during menstruation and other symptoms were pain in legs, backache, psychological upset, headache, constipation etc. [16,17] The other problems associated with menstruation were menorrhagia (6.6%), polymenorrhoea (5.2%) and irregular cycles (4.7%). Similar incidence of problems associated during menstruation was reported in other studies. [16,27,28] The present study revealed that 82.8% of girls was using sterile sanitary pads as an absorbent, whereas 17.2% used cloth and sanitary pads as absorbent. The study findings were similar to the study where 89.5% of girls were using sterile sanitary pads as absorbent, while 10.5% used old home cloth as absorbent.¹⁹ A study done in an urban setting among adolescent school girls elicited that 52.34% used only sanitary napkins as menstrual absorbent while 44.53% used both cloth and pad. [29,30] Another study done in the villages observed that only 38% girls used sanitary pads during menstruation and 63.7% girls dried their clothes in the corner of the house. The use of sanitary pads was higher in our study. A study done in a rural community showed that majority of the girls preferred cloth pieces rather than sanitary pads as menstrual absorbent. Only 11.25% girls used sanitary pads during menstruation. On the contrary in another study, three-fourths of the girls used old cloth during their periods and only one-fifth reported using sanitary pads. [29-31] Cleaning of external genitalia with soap & water was present in 28.5%. Other studies observed that cleaning of external genitalia with soap & water was present in 63% and rest used only water for cleaning.

Conclusion

The timely onset of menarche is a significant milestone in adolescence, indicating the proper functioning of the female reproductive system. Three-fourths of the teenage females had normal blood flow length and cycle interval. Adolescent females often have menstrual issues. Dysmenorrhoea was the most prevalent issue among teens. Adolescent females endure their suffering and see it as a typical occurrence.

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