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RESEARCH ARTICLE

MENSTRUAL PATTERNS IN ADOLESCENT GIRLS A DESCRIPTIVE STUDY

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Abstract

Background: Menstrual abnormalities like Oligomenorrhea, Menorrhagia, and Dysmenorrhea are more common among adolescents. With respect to adolescent girls, menstrual disorders may result in loss of school days leading to poor progress in education. The present study therefore aims to determine the pattern of menstruation among school adolescent girls and explore its variation across socio-economic and demographic factors.

Material and Methods: A cross sectional study was conducted among school adolescent girls between age group of 12-16 years at a social welfare hostel, A-Camp, Kurnool. Data was collected using a self-administered structured questionnaire on menstruation.

Results: The mean age of the group is 13.87 years (standard deviation 0.72 years). The mean age at menarche is 12.69 years (standard deviation 0.82 years). Out of the total study population, 83 (70.9%) had a cycle length between 21 and 35 days and 34 (29.1%) had cycle length longer than 35 days. Out of the total study population, 41 (35.04%) had menstrual flow duration shorter than 3 days, 70 (59.82%) had menstrual flow duration between 3 and 7 days, 6 (0.05%) had menstrual flow duration greater than 7 days. Majority of the study population (57.26%) experienced dysmenorrhoea. Majority of the population is underweight (83.76% are underweight). Majority (85.47%) of the study population did not experience premenstrual syndrome.

Conclusion: The results of age at menarche is in consonance with established research. The menstrual irregularities are high at menarche and are subsiding with the progress of adolescence.

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Introduction:-

Adolescence is roughly considered to be the period between 10 and 19 years of age, when crucial endocrinological, somatic and psychological changes occur in girls. During this process sequential phases mark the maturation of complex endocrinological system that comprises of hypothalamus, pituitary gland, ovary and their interaction. Besides thyroid and adrenals also play a role. Healthy reproductive function is the expected endpoint of this process. Menarche, the onset of menstruation is an important milestone of adolescence in girls. The timing of this process is individual specific within a broad range of normality. In India, average age for menarche is around 12 years¹. Menstrual abnormalities like Oligomenorrhea, Menorrhagia, and Dysmenorrhea are more common among

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adolescents. Due to the relative immaturity of the hypothalamic-pituitary-ovarian axis in the first 2 years following menarche, more than half of the menstrual cycles are anovulatory². In 75% of adolescents at the first gynecological year (one year after menarche), average menstrual cycle length is 21-45 days³. After the first 1-2 years, the capacity for oestrogen-positive feedback on the anterior pituitary develops with the subsequent mid-cycle LH surge and ovulation, resulting in regulation of the menstrual cycle².

Most of the females experience premenstrual symptoms 7-10 days before the onset of bleeding⁴. These include irritability, malaise, headache, acne, abdominal pain and mastalgia. The main importance of premenstrual syndrome is psychosomatic. The consequences of premenstrual, menstrual symptoms, disorders of menstruation influence not only the individual but also the family and society⁵. With respect to adolescent girls it may manifest as loss of school days leading to poor progress in education. The present study therefore aims to determine the pattern of menstruation among school adolescent girls and explore its variation across socio-economic and demographic factors.

Materials And Methods:-

A cross sectional study was conducted among school adolescent girls between age group of 12-16 years at social welfare hostel, A-Camp, Kurnool. The girls were selected according to WHO criteria for adolescence (i.e 10-19 years). The study was conducted with prior consent from ethical committee (KMC), parents and caretakers (social welfare hostel). Using retrospective method, about 150 questionnaires were distributed out of which 117 were correctly filled. Only girls who had already started menstruating were requested to participate.

The questionnaire included details on girls anthropometric data (height, weight, BMI) ; socio-economic status; data on their menstrual pattern like age at menarche, duration of the cycle (<21 days, 21-35 days, >35 days), Average days of bleeding period (<3 days, 3-7 days, >7 days) ; number of pads changed per day. Also, in the questionnaire were some yes/no questions like whether they were aware of menstrual hygiene, whether they had any menstrual problems like intermenstrual bleeding, excessive flow and pain during menstruation.

Results:-

Of the 150 questionnaires distributed, 117 were correctly filled. All the adolescent girls were of rural residence. The age of schoolgirls who participated in the survey ranged between 12-16 years. The following table depicts age at menarche for all girls in the study group

Table 1:- Distribution of age of the study group.

Age of the girls	Number of girls
12 years	5
13 years	34
14 years	51
15 years	25
16 years	2

The mean age of the group is 13.87 years and standard deviation is 0.72 years.

Table 2:- Distribution of study group by age at menarche.

Age at menarche	Number of girls
9 years	1
11 years	4
12 years	47
13 years	45
14 years	17
15 years	3

From the above table the mean age at menarche was calculated as 12.69 years. The standard deviation was 0.82 years.

Table 3:- Distribution of menstruation interval by age of the study group.

	<21 days	21-35 days	>35 days
12 years	0	4	1

13 years	0	23	11
14 years	0	36	15
15 years	0	18	7
16 years	0	2	0

Out of the total study population, 83 (70.9%) had a cycle length between 21 and 35 days and 34 (29.1%) had cycle length longer than 35 days. None of them had menstruation interval less than 21 days. In 13 years population 32.35% of the girls had longer than 35 days menstrual interval. In 14 years population 29.41% of the girls had longer than 35 days menstrual interval. In 15 years population 28% of the girls had longer than 35 days menstrual interval. In 16 years population, none of them had longer menstrual interval.

Table 4:- Distribution of duration of bleeding period by age of the study group.

	<3 days	3-7 days	>7 days
12 years	2	3	0
13 years	11	22	1
14 years	18	31	2
15 years	9	14	2
16 years	1	0	1

Out of the total study population, 41 (35.04%) had menstrual flow duration shorter than 3 days, 70 (59.82%) had menstrual flow duration between 3 and 7 days, 6 (0.05%) had menstrual flow duration greater than 7 days.

Table 5:- Distribution of girls experiencing dysmenorrhea by age of the study group.

	YES	NO
12 years	3	2
13 years	17	17
14 years	30	21
15 years	16	9
16 years	1	1

Out of the total population, 67 (57.26%) out of 117 students suffered dysmenorrhea whereas 50 (42.73%) students did not suffer dysmenorrhea

Table 6:- Distribution of girls experiencing premenstrual syndrome by age of the study group.

	YES	NO
12 years	4	1
13 years	5	29
14 years	3	48
15 years	4	21
16 years	1	1

Out of the total study population, 100 (85.47%) out of 117 students did not experience premenstrual syndrome whereas 17 (14.53%) students suffered from premenstrual syndrome.

Table 7:- Distribution of BMI characteristics of the study group.

BMI characteristic	Number of girls
Overweight	1
Normal	18
Underweight	98

Out of the total study population, 98 (83.76%) were underweight, whereas 18 of them were normal. One of them was overweight.

Discussion and Conclusion:-

The mean age of menarche calculated in this study group (12.69 years) is in consonance with the number mentioned in the introduction.

The percentage of girls experiencing longer menstrual intervals for 13, 14 and 15 year age groups were 32.35%, 29.41% and 28% respectively. The irregularity in menstrual interval decreased consistently from 13 to 16 years.

This is in consonance with established research in this area as menstrual irregularities are high at menarche and gradually decrease with age due to predicted maturity of H.P.O (Hypothalamus, pituitary, ovary) axis.

Majority (59.82%) of the girls have menstrual flow duration between 3-7 days. Very few of them (0.05%) had menstrual flow duration longer than 7 days. 2 out of 51 students of 14 years age had flow duration longer than 7 days. Similarly, 2 out of 25 students of 15 years of age had flow duration longer than 7 days.

Out of the total population, 67 (57.26%) out of 117 students suffered dysmenorrhea whereas 50 (42.73%) students did not suffer dysmenorrhea.

Surprisingly majority (85.47%) of the study population did not experience premenstrual syndrome.

Most of the girls (83.76%) in the study group were underweighted, because they belonged to rural and low socio-economic background. The nutritional programs of the government need to resolve this issue because in a 5-10 year timeline these adolescents would become mothers. Malnourished mothers give birth to malnourished children.

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