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EXERCISE AND DIETARY PATTERN- RELATED TO MENSTRUAL PROBLEMS OR NOT IN SCHOOL GOING GIRLS

Medicine

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ABSTRACT

Background: Adolescence is the transitional phase of physical and mental development between childhood and adulthood and is characterized by various changes.
Methods: All the students who had attained menarche and were in the age groups of 10-19 years and local residents of Achrol village, Jaipur were included in the study.
Results: A total of 400 students participated in the study. Dysmenorrhoea was found amongst 44.6% Out of 400 adolescent girls 45.0% gave history of consuming fast food frequently & all of them had dysmenorrhoea.
Conclusions: Life style modifications and regulation over fast food consumption should be encouraged both at home and in the school premises.

KEYWORDS

Adolescents, menstrual abnormalities, dieting, junk food

Introduction:
Menstruation has many definitions. According to Verma P.B (2011)[1], it is defined as "A normal physiological process for females indicating her capability for procreation". According to a study conducted by Patil S et al (2013)[2], menstrual bleeding occurs once a month, is a regular rhythmic period and is a continuous process. It remains as a normal physiological process that occurs throughout the child bearing years of the women and stops at menopause i.e. approximately between 45-55 years.

Prior to menstruation, many adolescent girls experience premenstrual symptoms (PMS) i.e. about 7-14 days before the onset of bleeding. In a study by J.Begum et al (2009)[3] some types of menstrual dysfunction were prevalent in approximately 75% of adolescent girls.

Vani R K, et al in 2013[4] in their study on the prevalence of menstrual abnormalities in school going girls in Pondicherry and their association with dietary and exercise habits reported 75% of the girls experiencing some problems associated with the process of menstruation.64.1% respondents reported to having one problem related to menstruation and dysmenorrhoea was found to be the most common problem i.e. 57.7%, feelings of sickness prior to the onset of menstruation were seen in 30% of the respondents in a study by Kumar D et al (2013) [5]. J. Begum et al (2009)[3] in their study found that problems associated with menstrual pattern affected 75% of the female adolescents included in the study.

In a study by Verma P.B et al in the year 2011[1] in Bhavnagar, Gujarat, the most common menstrual problem found was dysmenorrhoea (50.06%), followed by irregular menses (22.9%). Only 22.6% took help either from their mother or went to the doctor.

Food high in salt, sugar, fat or calories and low nutrient content is called junk food. Junk foods provide suboptimal nutrition with excessive fat, sugar or sodium per kcal. Numerous health risks have been associated with adolescent overweight, including hypertension, respiratory disease, diabetes mellitus and elevated serum lipid concentration.

Material and methods:
A school based cross sectional study was carried out in primary and secondary schools of Achrol village, Jaipur who attained menarche, belonging to age groups of 10-19 years, after taking consent from the school authorities and approval from the hospital ethical committee. Five primary and secondary schools in Achrol village were chosen. Students, teachers and principals were explained about the purpose of the study. All students who attained menarche and were willing to participate in the study were included. The questionnaire was self administered, semi structured and prepared in the local and English language.

The following definitions of menstrual abnormalities were used in this study. Irregular menstrual cycles are defined as past history of irregular cycles experienced by the students within 6 months prior to the study. Abnormal duration of flow is defined as menstrual bleeding which lasted for less than 2 days or more than 7 days. Dysmenorrhoea is defined as an acute spasmodic pain experienced in the lower abdomen which appeared on the first day of menses and rarely lasted for more than 2 days.

Physical activity in terms of number of days of regular physical exercise per week (activities for >20 minutes that make them sweat) was categorized as : one day of physical exercise per week (category A); 2-3 days of physical exercise per week (category B); 4-7 days per week (category C) and no regular physical exercise (category D).

Junk food consumption was similarly categorized as- eating junk food 1 day per week(category a); eating junk food 2-3 days per week (category b); eating junk food 4-7 days per week (category c) and eating junk foods regularly (category d).

Results:
A total of 400 adolescent girls participated in the study with 100% response rate.

Table 1 shows distribution of adolescent girls according to age at Menarche. This table shows that 60.0% of the adolescent girls i.e. 241 (60.2%) had normal menarche between 12 to 13 years of age while 120 (30.0%) girls had late menarche i.e. between 14 to 16 years of age. However there were also 10.0% of girls i.e. 39 (9.8%) who had early menarche i.e. between 10 to 11 years. The average age at menarche were 12.9±1.17898 years ranging from 10 years to 16 years.

Table 2 shows distribution of adolescent girls according to duration of menstrual flow. The duration of menstrual flow varied from 2 days to more than 8 days. In the majority of the adolescent girls i.e. 283 (70.8%), it was normal, followed by menorrhagia in 104 (26.0%) adolescent girls.

Table 3 shows the distribution of adolescent girls according to dysmenorrhoea & dietary habits. Out of 400 adolescent girls 180 (45.0%) gave history of consuming fast food frequently & all of them had dysmenorrhoea, while out of 220 (55.0%) girls who did not consume fast food, 169 (42.2%) had dysmenorrhoea. On application of Chi Square test, the difference was found to be statistically significant ($P<0.05$).

Discussion:
Lots of studies have been done in the past on the prevalence of menstrual problems in adolescent girls, but not much research was done on their lifestyle factors. In this study a relationship between menstrual problems along with eating junk food and lack of physical exercise was attempted to be found.

It was found that out of all the girls having dysmenorrhoea i.e. 180, all of them had a positive history of fast food consumption.

Table No.1: Distribution of adolescent girls according to Age at menarche

Age at menarche (years)	Number of girls (n)	Percentage (%)
Early menarche		
09	Nil	Nil
10	4	1.0
11	35	8.8
Total	39	9.8
Ideal age		
12	117	29.2
13	124	31.0
Total	241	60.2
Late menarche		
14	96	24.0
15	9	2.3
16	15	3.7
Total	120	30.0
Grand Total	400	100.0

Table No .2: Distribution of adolescent girls according to Duration of menstrual flow

Duration of Bleeding	Number of Subjects	Percentage
Hypomenorrhoea (less than 3 days)	13	3.2
Normal (3-5 days)	283	70.8
Menorrhagia (6 to 8 days)	104	26.0
Total	**400**	**100.0**

Table No.3: Distribution of adolescent girls according to dysmenorrhoea & dietary habits

Dietary fast food intake history	Dysmenorrhoea					
	Yes		No		Total	
	No	%	No	%	No	%
Positive	180	45.0	0	0.0	180	45.0
Negative	169	42.2	51	12.8	220	55.0
Total	**349**	**87.2**	**51**	**12.8**	**400**	**100.0**

Chi-Square(X^2) – 47.825 p-<.00001 P<0.05

Conclusion:

The study revealed that menstrual disorders like oligomenorrhoea, hypomenorrhoea, polymenorrhoea and menorrhagia ranged from 1.5% to 26.0% and around 20% girls had PMS. As per GOI through Rajiv Gandhi scheme for empowerment of adolescent girls -SABLA in an effort to provide adolescent reproductive and sexual health information and services along the continuum of care, community based intervention and demand generation initiatives should be linked to facility based service across all levels of health system. Services at sub centre level will be provided by ANM, while an Adolescent information and counselling centre has been made functional under Rajiv Gandhi scheme for empowerment of adolescent girls -SABLA by MO and ANM in PHC on a weekly basis. At the CHC, District hospital/ sub district hospital/ Taluk/ Area hospital and college adolescent clinics have been providing services on a daily basis. A dedicated counsellor should be available on all days at higher level facilities (CHC onwards). Services in Adolescent clinics are being available to all adolescents: married and unmarried, girls and boys and will be further expanded and strengthened. The adolescent health clinics should provide adolescent friendly health services like reproductive and sexual health information and services, access to contraceptives and safe abortion services, to be delivered in adolescent friendly environment which is critical in reducing incidence of STIs, unplanned and unwanted pregnancies and in safe abortions. Special focus has been given to establishing linkages with integrated counselling and testing centres (ICTCS) and making appropriate referrals for HIV testing and STI management to both and married and un married adolescents. These services will be linked to a strong community based component for generating demand and mobilizing adolescents to adolescent health clinics.

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