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ORIGINAL ARTICLE

Incidence of menstrual abnormalities among adolescents: An observational study

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ABSTRACT:
Background: Menstrual disorders are frequently encountered among adolescent girls and constitute a common reason for healthcare visits during this developmental phase. Hence; the present study was conducted for assessing incidence of menstrual abnormalities among adolescents. **Materials & methods:**A school based cross-sectional study was carried out in secondary school girls belonging to 12 – 18 years age.The duration of menstrual cycle is defined as the period between the first day of menstrual flow and the day immediately prior to the next menstrual flow. 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. Dysmenorrhea is defined as acute spasmodic pain experienced in the lower abdomen which appeared on the first day of menses and rarely lasted for more than 2 days. All the results were recorded in Microsoft excel sheet and were subjected to statistical analysis using SPSS software. **Results:**Dysmenorrhea was the most frequently reported symptom, affecting 75.6% of the girls. Premenstrual symptoms were noted in 48.1% of the participants, followed by passage of clots during menstruation in 31.9%. Irregular menstrual cycles were experienced by 12.8%, and 10.9% reported abnormal duration of menstrual flow.These findings highlight the high prevalence of menstrual-related complaints among adolescent girls, with a notable burden of dysmenorrhea and premenstrual symptoms, underscoring the need for targeted adolescent reproductive health education and intervention strategies. **Conclusion:**Adopting lifestyle changes such as engaging in consistent physical exercise, limiting consumption of processed and fast foods, and encouraging nutritious dietary practices should be integral components of school-based health education initiatives aimed at enhancing menstrual well-being.
Key words: Menstrual Abnormalities, Adolescents

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INTRODUCTION

Menstrual disorders are frequently encountered among adolescent girls and constitute a common reason for healthcare visits during this developmental phase. In the early years following menarche, it is not unusual for menstrual cycles to be irregular, with episodes of heavy menstrual bleeding (menorrhagia) and painful periods (dysmenorrhea) being particularly prevalent. This variability is often attributed to the immaturity of the hypothalamic–pituitary–ovarian (HPO) axis, which may lead to anovulatory cycles during the initial post-menarcheal years.[1, 2]Although the majority of menstrual irregularities in adolescents are benign and self-limiting, they can have a profound impact on the physical, emotional, and social well-being of affected individuals. Disrupted daily routines, impaired academic performance, and recurrent school absenteeism are commonly reported outcomes, contributing to diminished quality of life. Moreover, if not addressed appropriately, menstrual dysfunction may lead to iron-deficiency anemia due to excessive blood loss, compounding the morbidity associated with these conditions.[3]While serious underlying pathology such as coagulopathies, polycystic ovarian syndrome (PCOS), thyroid dysfunction, or congenital anomalies of the reproductive tract is relatively uncommon in this age group, clinicians must maintain a high index of suspicion when menstrual disturbances persist or are severe. A thorough clinical evaluation, including detailed menstrual history, physical examination, and selective investigations, is essential to rule out these rare but significant etiologies.[4- 6]

Several therapeutic interventions are available and considered safe for adolescents, including nonsteroidal anti-inflammatory drugs (NSAIDs), hormonal therapies such as combined oral contraceptive pills (COCPs), and progestin-only regimens.[7]Hence; the present study was conducted for assessing incidence of menstrual abnormalities among adolescents.

MATERIALS & METHODS

A school based cross-sectional study was carried out in secondary school girls belonging to 12 – 18 years age. Students and the school authorities were explained about the purpose of the study and given information on the questionnaire. All students who attained menarche and who were willing to participate in the study were included in the study. They were

invited to answer the questionnaire, which dealt with anthropometric data, socio-economic data, menstrual history, and diet and exercise pattern. Anthropometric data included weight and height. Details on menstrual history included age of menarche, average length of menstrual cycle, duration of menstrual flow, any passage of clots during periods, occurrence of dysmenorrhoea and if present, is it severe enough to skip classes or any need to take medications like analgesics or antispasmodics and any perception of premenstrual symptoms.The duration of menstrual cycle is defined as the period between the first day of menstrual flow and the day immediately prior to the next menstrual flow. 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. Dysmenorrhea is defined as acute spasmodic pain experienced in the lower abdomen which appeared on the first day of menses and rarely lasted for more than 2 days. All the results were recorded in Microsoft excel sheet and were subjected to statistical analysis using SPSS software.

RESULTS

The majority of participants (52.9%) were in the 14–18 years age group, while 47.1% were between 12–13 years. Based on BMI classification, 51.8% of the subjects had a normal weight, 38.9% were underweight, and 10.3% were either overweight or obese. A significant proportion of the participants (78.1%) resided in urban areas, whereas 21.9% belonged to rural regions.Dysmenorrhea was the most frequently reported symptom, affecting 75.6% of the girls. Premenstrual symptoms were noted in 48.1% of the participants, followed by passage of clots during menstruation in 31.9%. Irregular menstrual cycles were experienced by 12.8%, and 10.9% reported abnormal duration of menstrual flow.These findings highlight the high prevalence of menstrual-related complaints among adolescent girls, with a notable burden of dysmenorrhea and premenstrual symptoms, underscoring the need for targeted adolescent reproductive health education and intervention strategies.

Table 1: Demographic Profile of the Study Population

Characteristic	Number	Percentage (%)
Age in years		
12–13	471	47.1
14–18	529	52.9
BMI		
Underweight	389	38.9
Normal weight	518	51.8
Overweight and obese	103	10.3
Residence		
Urban	781	78.1
Rural	219	21.9

Table 2: Distribution of Menstrual Abnormalities Among Study Participants

Menstrual Symptom	Percentage of Study Subjects (%)
Dysmenorrhea	75.6
Premenstrual symptoms	48.1
Passage of clots	31.9
Irregular cycles	12.8
Abnormal duration of flow	10.9

DISCUSSION

Adolescence is the time of life between puberty and psychophysical maturity when crucial endocrinological, metabolic, somatic and psychological changes occur in girls. During this process, sequential phases mark the maturation of the complex endocrinological system that comprises the hypothalamus, pituitary gland, and ovary, and their interactions. Healthy reproductive function is the expected endpoint of this process.[6- 9]

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burden of dysmenorrhea and premenstrual symptoms, underscoring the need for targeted adolescent reproductive health education and intervention strategies.Unuigbe JAet al reported on the management of 87 pediatric and adolescent female patients presenting with gynecological conditions. The most commonly encountered conditions included vulvar synechiae (labial adhesions), clitoral cysts, urethral prolapse, traumatic injuries to the lower genital tract, and various neoplasms. The study highlighted both the treatment approaches adopted and the challenges faced during management. The authors emphasized that although young girls can develop gynecological disorders similar to those seen in adult women, they often require tailored therapeutic strategies. They concluded that early recognition, increased clinical suspicion, and collaborative care involving gynecologists, pediatricians, and surgeons with expertise in pediatric gynecology are essential for improving outcomes in such cases.[10]Ravi R et al estimated the prevalence of menstrual problems, namely dysmenorrhea, menorrhagia, and irregular menstrual cycles.The participants were adolescent girls who attained menarche at least 1 year before the data collection period were selected using a simple random sampling method. A total of 350 participants were included in the study.No interventions were done. A structured, pretested questionnaire was used to collect data.The main outcome measured in this study was the prevalence of menstrual problems, namely dysmenorrhea, menorrhagia, and irregular menstrual cycles.The mean age of the study participants was 14.74 years. The mean age at menarche was 12.4 years. In this study, 87.7% of the girls suffered from a menstrual problem. Overall, dysmenorrhea was prevalent in 72.6%, and menorrhagia and irregular menstrual cycles were present among 45.7% and 31.7% of the participants, respectively.Menstrual problems form an important domain of adolescent health and because these problems go unreported, it is necessary that adequate attention and care is provided.[11]

CONCLUSION

Adopting lifestyle changes such as engaging in consistent physical exercise, limiting consumption of processed and fast foods, and encouraging nutritious dietary practices should be integral components of school-based health education initiatives aimed at enhancing menstrual well-being.

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