e-ISSN: 0975-9506, p-ISSN: 2961-6093

Available online on www.ijpqa.com doi: 10.25258/ijpqa.16.10.59

International Journal of Pharmaceutical Quality Assurance 2025; 16(10); 371-374

Original Research Article

Evaluation of Menstrual Disorders and Anemia among School-Going Adolescent Girls

Sunita Balara[1], Sandip Balara[2], Somveer Punia[3]

[1]SMO Obstetrics and Gynecology, CHC Bap, Phalodi, Rajasthan, India
[2]MBBS, Medical Officer, AAM, Dholabala, Phalodi, Rajasthan, India
[3]MD, Pulmonary Medicine, DBH, Churu, Rajasthan, India

Received: 25-07-2025 / Revised: 23-08-2025 / Accepted: 26-09-2025
Corresponding Author: Dr. Sunita Balara
Conflict of interest: Nil

Abstract:

Introduction: Adolescence is an important phase of life marked by rapid physical and hormonal changes. Menstrual problems are very common during this period and are the leading gynecological complaints among adolescent girls. These problems can affect health, school attendance, and daily activities, especially in girls from low socio-economic backgrounds.

Objectives: To assess the pattern of menstrual disorders among school-going adolescent girls and evaluate associated factors such as age, age at menarche, BMI, socio-economic status, and anemia.

Methods: A prospective observational study was carried out on 100 school-going adolescent girls aged 11–18 years attending the gynecology outpatient department of a government medical institution in Rajasthan. Data related to menstrual history, nutritional status, BMI, and hemoglobin levels were collected using a structured questionnaire and analyzed.

Results: Menstrual complaints were reported by 76% of participants. Irregular cycles were observed in 55%, with oligomenorrhea being the most common disorder (45%). Most girls attained menarche at 12 years. Normal BMI was seen in 63%, while 18% were underweight. Anemia was present in 75% of girls, with moderate anemia in 32% and severe anemia in 17%.

Conclusion: Menstrual disorders and anemia are highly prevalent among school-going adolescent girls. Early identification, health education, nutritional support, and adolescent-friendly healthcare services are essential to improve menstrual health and overall well-being.

Keywords: Adolescence, menstrual disorders, oligomenorrhea, anemia, school-going girls.

Introduction

Adolescence is the period between childhood and adulthood and includes individuals aged 10–19 years. It is a time of rapid physical growth, hormonal changes, emotional development, and psychological adjustment. Adolescents form a significant proportion of the population, and their health needs require special attention.[1,2]

In girls, adolescence is marked by the onset of menstruation, which indicates the beginning of reproductive life. Although menstruation is a normal biological process, many adolescent girls experience menstrual problems such as irregular cycles, painful periods, heavy bleeding, or delayed menstruation. These issues commonly occur due to hormonal imbalance, poor nutrition, anemia, stress, and low socio-economic conditions.[2-4]

In developing countries like India, menstrual health often receives less attention because of social taboos, lack of awareness, and limited healthcare access. Menstrual problems may lead to school absenteeism, poor academic performance, and reduced quality of life. Therefore, understanding menstrual disorders in adolescent girls is important for planning effective health interventions.

Aim and Objectives

Aim: To evaluate menstrual disorders among school-going adolescent girls.

Objectives

- To study gynecological complaints among adolescent girls
- To assess the pattern of menstrual disorders
- To determine the age at menarche

Materials and Methods

Study Design and Setting: This was a prospective observational study conducted in the Department of Obstetrics and Gynaecology at Medical College Churu, in Rajasthan, India.

Study Population: The study included 100 school-going adolescent girls aged 11–18 years who attended the gynecology outpatient department.

Inclusion Criteria

- Adolescent girls aged 11–18 years
- School-going girls with gynecological complaints

Exclusion Criteria

- Pregnant adolescent girls
- And those who are not willing to participate in the study

Sampling Method: Consecutive sampling method

Data Collection: A predesigned and pretested questionnaire was used to collect information on age, socio-economic status, age at menarche, menstrual pattern, and presenting complaints. Height and weight were measured to calculate BMI. Hemoglobin estimation was done to assess anemia.

Ethical Considerations: Approval was obtained from the Institutional Ethics Committee before starting the study. Written informed consent was taken from the participants or their parents/guardians.

Data Analysis: Data was entered into Microsoft Excel and analyzed using SPSS software. Results were expressed as numbers and percentages.

Table 1: Sociodemographic and Clinical Profile of Study Participants (n = 100)

Parameter	Category	Number of Girls (n)	Percentage (%)
Age (years)	13	5	5
	14	15	15
	15	20	20
	16	25	25
	17	18	18
	18	17	17
Presenting Complaints	Menstrual complaints	76	76
	White discharge	12	12
	Abdominal pain	8	8
	Weight-related problems	4	4
Age at Menarche (years)	11	7	7
	12	40	40
	13	30	30
	14	18	18
	Not attained	5	5
Body Mass Index (BMI)	Normal (20–24)	63	63
	Underweight (≤19)	18	18
	Overweight (25–29)	10	10
	Obese (30–34)	9	9
Menstrual Cycle Pattern	Regular	42	42
	Irregular	55	55
	Menarche not attained	3	3
Types of Menstrual Disorders	Oligomenorrhea	45	45
	Dysmenorrhea	11	11
	Menorrhagia	9	9
	Hypomenorrhea	4	4
	Polymenorrhea	5	5
	Primary amenorrhea	2	2
Hemoglobin Status	Normal (>12 g/dL)	25	25
	Mild anemia (11–11.9 g/dL)	26	26
	Moderate anemia (8.1–10 g/dL)	32	32
	Severe anemia (<8 g/dL)	17	17

Result

A cases of 100 school-going adolescent girls aged 13–18 years were enrolled in the study. The largest group was 16 years old (25%), followed by 15 years (20%), 17 years (18%), 18 years (17%), 14 years (15%), and 13 years (5%). Menstrual complaints were the most common presenting issue, reported by 76% of participants, followed by white discharge (12%), abdominal pain (8%), and weight-related concerns (4%). The majority of girl's attained menarche at 12 years (40%), while

30% attained menarche at 13 years, 18% at 14 years, 7% at 11 years, and 5% had not yet attained menarche. Most participants had normal BMI (63%), with 18% underweight, 10% overweight, and 9% obese. Irregular menstrual cycles were observed in 55% of girls, whereas 42% had regular cycles, and 3% had not attained menarche. Oligomenorrhea was the most frequent menstrual disorder found (45%), followed by dysmenorrhea (11%), menorrhagia (9%), polymenorrhea (5%), hypomenorrhea (4%), and primary amenorrhea (2%). Anemia was highly prevalent, affecting 75% of participants. Mild anemia was seen in 26%, moderate anemia in 32%, and severe anemia in 17% of girls, while 25% had normal hemoglobin levels.

Discussion

This study assessed menstrual problems in 100 school-going adolescent girls aged 11–18 years. Most participants were 16 years old (25%), and the majority had their first period (menarche) at 12 years (40%). About three-fourths of the girls (76%) reported menstrual complaints, with irregular cycles in 55% and oligomenorrhea being the most common issue (45%). Anemia was also common, affecting 75% of the girls, with moderate anemia in 32%.These results are similar to findings by Patil et al.[5] in Mumbai, where 65% of adolescent girls had irregular cycles, 52% had oligomenorrhea, 55% experienced dysmenorrhea, and 28% reported menorrhagia. In our study, the rates of dysmenorrhea (11%) and menorrhagia (9%) were lower, but irregular cycles and oligomenorrhea were still common, showing that menstrual problems are widespread among Indian adolescents. Singh et al.[6], in Delhi, found that 76.1% of girls had dysmenorrhea, and the mean age at menarche was 13.47 years. Compared to our study, the average age of menarche was slightly younger, and dysmenorrhea was less frequent, yet menstrual problems remain a major concern. Similarly, Sinha et al.[7] in Lucknow reported dysmenorrhea in 73.9% of girls, confirming that painful periods are consistently common, even though oligomenorrhea was more frequent in our group. Dambhare et al.[8], found 1,100 girls in Wardha, reported a mean menarche age of around 13.5 years and dysmenorrhea in 56% of participants, along with irregular cycles in 30.5%. Our findings are comparable regarding menstrual irregularities, although the mean menarche age in our study was slightly lower, likely due to regional differences in nutrition, socio-economic status, or lifestyle. Overall study highlights that menstrual disorders, especially irregular cycles and oligomenorrhea, are common among adolescent girls in India. High rates of anemia further emphasize the need for better nutrition. These results support the importance of school-based education on menstrual health, nutritional programs, and regular health check-ups to identify and manage menstrual problems early, helping reduce school absenteeism and improve quality of life.

Strengths and Limitations

The study assessed both menstrual health and nutritional status, including anemia, providing a comprehensive overview of adolescent health. However, the study has certain limitations. Being a single-center, hospital-based study, the findings may not be fully representative of the general population. The relatively small sample size also limits generalizability, and psychological, lifestyle, and dietary factors were not evaluated.

Conclusion

Menstrual disorders and anemia are highly prevalent among school-going adolescent girls. Oligomenorrhea and irregular menstrual cycles are the most common problems. Early identification, health education, nutritional support, and adolescent-friendly healthcare services are essential to improve menstrual health and overall well-being.

References

1. World Health Organization. Adolescent health. WHO; 2020.
2. Dambhare DG, Wagh SV, Dudhe JY. Age at menarche and menstrual cycle pattern among adolescent girls. J Clin Diagn Res. 2012; 6:1057–1059.
3. Patil SN, Wasnik V, Wadke R. Health problems among adolescent girls. J Clin Diagn Res. 2009; 3:1784–1790.
4. Singh A, Kiran D, Singh H. Menstrual disorders in adolescent girls. Int J Reprod Contracept Obstet Gynecol. 2017; 6:3770–3776.
5. Patil VN, Nannaware DT. Menstruation and related disorders in Indian adolescent girls: an observational study. Int J Reprod Contracept Obstet Gynecol [Internet]. 2022 Jul. 27;11(8):2137-41.
6. Singh M, Rajoura OP, Honnakamble RA. Patterns and problems of menstruation among the adolescent schoolgirls of Delhi: a cross-sectional study. Int J Community Med Public Health [Internet]. 2019 May 27;6(6):2595-9.
7. Sinha S, Srivastava JP, Sachan B, Singh RB. A study of menstrual pattern and prevalence of dysmenorrhea during menstruation among school going adolescent girls in Lucknow district, Uttar Pradesh, India. Int J Community Med Public Health [Internet]. 2017 Feb. 3;3(5):1200-3.
8. Dambhare DG, Lohiya S, Garg B. Age at menarche and menstrual cycle pattern among school adolescent girls in Central India. Glob J

Health Sci. 2012;4(1):105–11. doi:10.5539/ gjhs.v4n1p105.