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**Original Article** 

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# MENSTRUAL DISORDERS AMONG FEMALE MEDICINE STUDENTS AT LATTAKIA UNIVERSITY

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#### ABSTRACT

**Background:** Menstrual disorders affect a high percentage of adolescent females, which represent the main reason for gynecology visits. **Objective:** The aim of this study was to determine the frequency of menstrual abnormalities among undergraduate students at faculty of medicine. **Patients and Methods:** An observational descriptive study included 600 participants meeting inclusion criteria, who are studying at faculty of medicine-Lattakia university during one year period(2024-2025). Data on menstrual patterns were collected via a survey questionnaire. **Results:** The mean age of students was  $18.11\pm0.8$  with range of 17-19 years and mean age of menarche was  $12.62\pm1.1$  years. Menstrual cycle was regular in 432 cases (72%), and dysmenorrhea represented the most common disorder (87.5%), followed by premenstrual syndrome (47.5%), amenorrhea (13.7%), abnormal uterine bleeding (4.3%) and menorrhagia (3.7%). Mood alterations, backache, and acne represented the most frequent symptoms of premenstrual syndrome; 73.3%, 60.3% and 52.3% respectively. **Conclusion:** The current study revealed that menstrual disorders were prevalent highly among medical students, so it's crucial to screen and treat these disorders to reduce negative effects on quality of life.

**KEYWORDS:** Menstrual disorders, medicine, students.

#### 1. INTRODUCTION

Menstruation is defined as regular discharge of blood from the lining of the uterus through the vagina, which occurs typically between the ages of 10 and 16 with an average of onset being 12 years and persists until the age group 45-50 years known as menopause period.<sup>[1,2,3]</sup> There are many factors contribute to regulate menstrual cycle including interaction of hormones, autocrine and paracrine factors.<sup>[4,5]</sup> Parameters that used to define normal uterine bleeding include; regularity, frequency, volume and duration.<sup>[6]</sup> Normal frequency is defined as an onset of menstrual bleeding every 21 to 35 days, whereas regularity is the number of days from the start of one period until the start of next cycle.<sup>[7]</sup> Menstrual period is normally  $\leq 8$  days, and normal volume is subjective which is defined as blood loss volume in the range 20 -80 ml.<sup>[8]</sup> There are many abnormalities in menstrual cycle including dysmenorrhea, premenstrual amenorrhea, syndrome, menorrhagia and hypomenorrhea.<sup>[9-15]</sup> Menstrual disorders is a common gynecologic concern in reproductive age females, with presence significant correlation between these disorders

and psychological stress.<sup>[16,17,18]</sup> In addition to, these problems can lead to limitations at work with negative effects on class attendance and hinder educational and academic achievements.<sup>[19,20]</sup> Therefore, the aims of current study were:1-to investigate the frequency of menstrual abnormalities among students of medicine, 2-to detect the symptoms that associated with premenstrual syndrome.

#### 2. PATIENTS AND METHODS

#### 2.1. Study population

This was a descriptive cross-sectional study which was carried out among 600 medical female students at Lattakia University in Syria during one-year period(2024 -2025). The exclusion criteria were presence one of the following; pregnant and breastfeeding women, psychological or chronic diseases or pelvic diseases. Participants were asked to respond to a questionnaire, and survey questions were divided into the following categories: demographic characteristics, menstrual status(menarche age, regularity, volume of blood flow and duration) and the associated disorders including

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dysmenorrhea, premenstrual syndrome, amenorrhea, abnormal uterine bleeding and menorrhagia with explaining previous terminology to students.

**2.2. Ethical consideration:** After discussing the study with the patients, all of them gave a complete and clear informed consent to participate in the study. This study was performed in accordance with the Declaration of Helsinki and approval for the study was obtained from the institutional ethics committee.

#### 2.3. Statistical Analysis

Statistical analysis was performed by using IBM SPSS version 25. categorical variables were reported as numbers and percentages whereas continuous variables were presented as mean± standard deviation (SD).

#### **3. RESULTS**

The sample consisted of 600 female students attending college of medicine who fulfilled inclusion criteria. Ages ranged from 17 to 19 years (8.11±0.8 years. Students were classified according to the size of family into 3 subgroups (table 1).

#### Table 1: sample characteristics.

Variables		Result
Age (years)		$18.11 \pm 0.8$
Family size	<3	191 (31.8%)
	3-5	319 (53.2%)
	>5	90 (15%)

The monthly menstrual cycle was regular in 432 cases(72%) and irregular in 168 cases (28%). It varied in

duration from <21 days in 205 cases(34.1%) to 21-35 days in 535 cases (89.2%) and to >35 days in 45 cases(7.5%). Flow of the blood was mild in 205 cases (34.1%), moderate in 325 cases(54.2%) and heavy in 70 cases(11.7%). In addition to, periods last <2 days in 71 cases(11.8%), 2-8 days in 441 cases (73.5%) and >8 days in 88 cases(14.7%).

Variables	Result		
Type of cycle			
Regular	432(72%)		
Irregular	168(28%)		
Volume of blood flow			
Mild	205(34.1%)		
Moderate	325(54.2%)		
Heavy	70(11.7%)		
Cycle length(days)			
<21	20(3.3%)		
21-35	535(89.2%)		
>35	45(7.5%)		
<b>Duration of menstruation(days)</b>			
<2	71(11.8%)		
2-8	441(73.5%)		
>8	88(14.7%)		

 Table 2: Characteristics of the menstrual cycle.

Dysmenorrhea represented the most frequent type(87.5%), followed by premenstrual syndrome (47.5%), amenorrhea(13.7%), abnormal uterine bleeding(4.3%) and menorrhagia(3.7%).





Variables	Result
Dysmenorrhea	87.5%
Premenstrual syndrome	47.5%
Amenorrhea	13.7%
Abnormal uterine bleeding	4.3%
Menorrhagi <b>a</b>	3.7%

 Table 3: Types premenstrual disorders.

Premenstrual syndrome encompassed clinically significant somatic and psychological manifestations, in which mood swings represented the most frequent one in 209 cases(73.3%), followed by backache in 172 cases(60.3%), acne in 149 cases(52.3%), generalized pain in 131 cases(45.9%), abdominal cramps in 118 cases(41.4%) and headache in 91 cases(31.9%).

# 4. DISCUSSION

Menstrual abnormalities pose a significant burden on gynecology outpatient clinics and associate with significant morbidity. The current study of female students of medicine who evaluated for menstrual disorders revealed the following findings; First, mean age of participants was 18.11 years and of menarche was 12.6 years. Second, residence place was home in majority of cases and size of family ranged from 3 to 5 persons in 53.2% of the study sample. Third, length of cycle period ranged from 21 to 35 days in majority of students and duration was in the range 2-8 days in 73.5%. In addition to, cycle was moderate in 54% of the students.

Dysmenorrhea represented the most frequent type of premenstrual disorders in majority of cases(87.5%), followed by premenstrual syndrome(47.5%) and menorrhagia is the frequent type(3.7%).

Finally, premenstrual syndrome included many components in which alterations in mood and backache represented the most frequent symptoms and headache is the less frequent one. The results of current study are consistent with the previous studies.

(Nazish et al., 2018) demonstrated in a study included 138 female students of medicine college (age:18-25 years) that menstrual cycle was regular in 71.3% and dysmenorrhea represented the most frequent type of menstruation disorders in 89.7%. Less frequent disorders were: premenstrual syndrome (46.7%), abnormal uterine bleeding(9.3%), amenorrhea(9.2%) and menorrhagia(3.4%). In addition to, mood alterations, tiredness, generalized pain represented the most frequent components of premenstrual syndrome.<sup>[21]</sup>

(Alshayeb et al., 2022) demonstrated in a study included 995 female students of medicine college (mean age: $21.5\pm2.06$ ) who investigated for menstrual abnormalities the following findings; dysmenorrhea and premenstrual syndrome represented the most frequent disorders on average 88% and 87% respectively. Less

frequent disorders were: polymenorrhea(16%), menorrhagia(7%), secondary amenorrhea(6%), oligomenorrhea(5%) and primary amenorrhea (2%). Backache, tiredness and mood alterations represented the most frequent components of premenstrual syndrome.<sup>[22]</sup>

(Emmanuel et al., 2023) showed in a study included 275 medical students(mean age:21 years) that that menstrual cycle was regular in 79.3% and premenstrual syndrome represented the most frequent disorder in 93.8%, in which depression and mood swings represented the most frequent components of syndrome. Less frequent disorders were dysmenorrhea(63.6%), frequent cycles(7.3%) and infrequent cycles (3.3%).<sup>[23]</sup>

# **5. CONCLUSION**

There is high prevalence of menstruation disorders among medical students, so it is important to screen it as early as possible with initiating management to improve final outcome and quality of life of the students.

It is recommended to conduct workshop around management of psychological stress for medical students.

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**7. Author Contributions:** All authors contributed to the study conception and design. Material preparation, data collection and analysis. All authors read and approved the final manuscript.

**8. Ethical Approval:** This research received approval from the scientific research ethics committee at Lattakia University and Lattakia University Hospital.

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