



# INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

## “Dysmenorrhea And It's Association With Absenteeism And Academic Performance In Dysmenorrhea Young Women.”

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### Abstract

**Introduction:** Dysmenorrhea is one of the most prevalent gynecological conditions among young women and a leading cause of class absenteeism and poor academic engagement. Its impact in Indian higher education settings, however, remains under-documented.

**Methods:** A cross-sectional study was conducted among 130 female students aged 18–25 years from nursing colleges in Jaipur, Rajasthan. Participants were selected using convenient sampling. Data were collected using a pretested, structured questionnaire covering socio-demographic details, menstrual history, severity of dysmenorrhea (10-point Visual Analog Scale) and academic impact (absenteeism, concentration difficulties and perceived decline in performance). Ethical approval and informed consent were obtained. Data were analyzed using SPSS version 26. Descriptive statistics were applied and chi-square tests examined associations between dysmenorrhea severity and academic outcomes, with significance set at  $p < 0.05$ .

**Results:** The prevalence of dysmenorrhea was 74.6% (97/130). Among affected students, 23.1% reported mild pain, 41.2% moderate and 10.3% severe. Dysmenorrhea significantly impacted academic performance: 54.6% reported missing at least one class per cycle, 63.9% experienced concentration difficulties and 47.4% perceived a decline in academic performance. Severity of dysmenorrhea was significantly associated with absenteeism ( $p = 0.01$ ) and academic decline ( $p = 0.03$ ), though the association with concentration difficulty was not significant ( $p > 0.05$ ).

**Conclusion:** Dysmenorrhea substantially affects academic performance among female students in Jaipur. Incorporating menstrual health education, supportive counseling and academic accommodations may reduce its burden.

**Keywords:** Dysmenorrhea, academic performance, absenteeism, college students, Jaipur

## Introduction

Dysmenorrhea or painful menstruation, is one of the most common gynecological problems among adolescent and young adult females<sup>1</sup>. It is classified into primary, without pelvic pathology and secondary, associated with conditions such as endometriosis<sup>2</sup>. Primary dysmenorrhea usually begins soon after menarche and is characterized by cramping abdominal pain that may be accompanied by fatigue, nausea or headache<sup>3</sup>.

Globally, the prevalence of dysmenorrhea ranges from 50% to 90%, making it a significant public health concern<sup>4</sup>. In India, studies among college-aged women report prevalence between 60–75%, highlighting its widespread nature<sup>5</sup>. Although not life-threatening, the recurrent and often severe pain affects students' physical, psychological and social well-being. The academic implications of dysmenorrhea are considerable. Pain and related symptoms frequently cause absenteeism, reduced concentration in lectures and poor classroom participation. A study from South India reported that nearly 40% of students missed at least one day of class per menstrual cycle due to dysmenorrhea<sup>6</sup>. Similar findings from neighboring countries emphasize its detrimental impact on educational performance and daily functioning<sup>7</sup>.

Despite the high prevalence, many students normalize menstrual pain and avoid seeking medical care. Self-management strategies such as rest, home remedies or occasional analgesic use are common, but these are often insufficient. Cultural stigma and lack of institutional support further compound the problem. This silence around menstrual health not only sustains the burden of dysmenorrhea but also undermines academic success and overall well-being. In Rajasthan, especially Jaipur, limited studies have examined the effect of dysmenorrhea on academic performance and class attendance. Understanding its prevalence and academic impact is crucial to designing interventions such as awareness programs, campus health counseling and supportive educational policies. Therefore, the present study aims to assess the prevalence of dysmenorrhea and evaluate its impact on academic performance and class attendance among female college students in Jaipur.

## Methodology

### Sample and Sample Size

This cross-sectional study was conducted among 130 female college students aged 18–25 years in Jaipur, Rajasthan. The sample size was calculated considering a prevalence of dysmenorrhea of around 70%, with 95% confidence level and 8–10% allowable error. Participants were selected using a convenient sampling technique from two government and one private college.

### Eligibility Criteria

Students were eligible if they were within the age group of 18–25 years, had regular menstrual cycles of 21–35 days and were willing to participate. Those with known gynecological disorders such as endometriosis or polycystic ovarian syndrome, irregular cycles, chronic systemic illnesses or those currently using hormonal therapy or intrauterine devices were excluded.

### Data Collection Tool and Procedure

Data were collected using a pretested, structured questionnaire that included socio-demographic information (age, residence, course of study and family background), menstrual history (age at menarche, cycle length, duration and flow characteristics), severity of dysmenorrhea (measured using a 10-point Visual Analog Scale) and academic impact (number of days absent from class, difficulties in concentration and perceived decline in performance). Permission to conduct the study was obtained from the principals of the participating. Written informed consent was obtained from all participants, with assurances of confidentiality and the right to withdraw at any stage.

## Data Analysis

The collected data were entered into Microsoft Excel and analyzed using SPSS version 26.0. Descriptive statistics, including mean, standard deviation and percentages, were applied to summarize the data. Associations between dysmenorrhea severity and absenteeism or academic performance were tested using the Chi-square test, with statistical significance set at  $p < 0.05$ .

## Results

**Table 1. Socio-demographic characteristics of study participants (N = 130)**

Variable	Category	Frequency (n)	Percentage (%)
Age (years)	18–21	81	62.3
	22–25	49	37.7
Marital Status	Unmarried	112	86.2
	Married	18	13.8
Course of Study	Undergraduate	94	72.3
	Postgraduate	36	27.7
Residence	Urban	84	64.6
	Rural	46	35.4
Socioeconomic Status	Upper/Upper-middle	42	32.3
	Middle	58	44.6
	Lower	30	23.1
Family Type	Nuclear	87	66.9
	Joint	43	33.1
Parental Education	Graduate & above	76	58.5
	Below graduate	54	41.5
Age at Menarche (years)	$\leq 12$	37	28.5
	13–14	70	53.8
	$\geq 15$	23	17.7
BMI (kg/m <sup>2</sup> )	<18.5 (Underweight)	19	14.6
	18.5–24.9 (Normal)	81	62.3
	$\geq 25$ (Overweight/Obese)	30	23.1

**Table 2. Prevalence and severity of dysmenorrhea among participants (N = 130)**

Dysmenorrhea Status	Frequency (n)	Percentage (%)
No dysmenorrhea	33	25.4
Mild (VAS 1–3)	30	23.1
Moderate (VAS 4–6)	54	41.2
Severe (VAS 7–10)	13	10.3
Total with dysmenorrhea	97	74.6

**Table 3. Academic impact of dysmenorrhea and its association with severity (n = 97)**

Academic Impact	Mild (n = 30)	Moderate (n = 54)	Severe (n = 13)	Total (%)	p-value
Absenteeism ( $\geq 1$ day/cycle)	9 (30.0%)	29 (53.7%)	11 (84.6%)	53 (54.6)	0.01*
Concentration difficulty	14 (46.7%)	37 (68.5%)	11 (84.6%)	62 (63.9)	0.07
Perceived academic decline	8 (26.7%)	28 (51.9%)	10 (76.9%)	46 (47.4)	0.03*

\*Chi-square test applied; \*p < 0.05 considered significant.

## Discussion

This study examined the prevalence of dysmenorrhea and its academic impact among female college students in Jaipur. Our findings reveal that 74.6% of participants experienced dysmenorrhea, with nearly half reporting moderate pain and over 10% experiencing severe pain. Importantly, more than half of the students with dysmenorrhea reported absenteeism and difficulty in academic tasks such as concentrating in class and completing assignments. These findings echo a growing body of global research on the detrimental impact of dysmenorrhea on young women's educational outcomes.

Similar prevalence rates have been reported in numerous countries. For example, a study among nursing students in Saudi Arabia found a dysmenorrhea prevalence of 92%, with moderate-to-severe pain significantly associated with absenteeism and reduced classroom participation.<sup>8</sup> Another study in Egypt reported that 90.3% of participants experienced dysmenorrhea and severity of pain was significantly associated with academic decline, social withdrawal and absenteeism<sup>9</sup>.

In Ethiopia, research among university students showed that 74.7% reported academic challenges related to dysmenorrhea, with pain intensity being a major predictor of reduced academic performance<sup>10</sup>. Similarly, Hailemeskel et al. (2016) observed that over 85% of students with dysmenorrhea reported effects on academic tasks such as studying, attending lectures and completing homework<sup>11</sup>. Academic impairment is not only limited to absenteeism but also includes presenteeism—students attending class despite significant discomfort. A Spanish study showed 92.7% of nursing students reported presenteeism during menstruation, driven by fear of academic consequences, social pressure or internalized stigma<sup>12</sup>.

Our findings that over 63% of participants reported difficulty concentrating during menstruation also align with other global studies. At Ras al Khaimah Medical and Health Sciences University, 68% of female students had trouble concentrating and 70% struggled to study during dysmenorrhea episodes<sup>13</sup>. A recent Turkish study reported that over half of students had lower academic performance during menstruation, but only a third sought medical help, suggesting normalization of menstrual pain and low healthcare engagement<sup>14</sup>. These trends were also observed in South Asian settings. A study from Nepal reported that dysmenorrhea negatively impacted academic performance in 96% of students and that self-medication with incorrect dosages

was common<sup>15</sup>. In another study from Pakistan, 92.7% of university students experienced dysmenorrhea and significant associations were found between pain and poor academic performance<sup>16</sup>.

Interestingly, lifestyle and socioeconomic factors may play a role. One study found that lower monthly pocket money, early menarche and PMS were associated with worse academic impact, potentially due to reduced access to healthcare or coping resources.<sup>10</sup> Despite the high burden, many students continue to underreport or self-manage symptoms without clinical guidance. Research from China emphasizes the need for institutional interventions, calling for targeted frameworks to address pain management, reduce absenteeism and improve classroom engagement.<sup>17</sup> These findings align with calls from other countries for menstrual health education and supportive policies at educational institutions.<sup>18</sup>

Given the clear academic consequences, it is essential for institutions to create supportive environments. Seminars on menstrual health, counseling services and flexible attendance policies could play a crucial role in improving outcomes.<sup>19</sup> Likewise, better health literacy may encourage earlier medical consultation rather than relying on potentially unsafe self-medication.<sup>20</sup>

This study shows that dysmenorrhea is common among college students in Jaipur and negatively impacts academic performance through absenteeism and reduced concentration. Limitations include use of convenient sampling, self-reported data and cross-sectional design, which may affect generalizability and prevent causal conclusions. Despite this, the findings highlight the need for menstrual health awareness, supportive college policies and further research to address the academic burden of dysmenorrhea.

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