



# Prevalence of Dysmenorrhea and Its Impact on Quality of Life of University Female Students

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ABSTRACT

The present study was done to determine the prevalence of dysmenorrhea in university female students and to analyze the affect of dysmenorrhea on the quality of life of university female students. This was a cross sectional study conducted on the 198 University female students attending the University student health care complex, Banaras Hindu University (BHU). The overall prevalence of dysmenorrhea was 63.6% (126/198). The age at menarche showed a statistically significant difference between dysmenorrhea and non-dysmenorrhea groups ( $p < 0.01$ ). The sickness absenteeism was significantly more common and quality of life severely affected among dysmenorrhic female students than non dysmenorrhic females during menstrual period ( $p < 0.05$ ). Dysmenorrhea common problem among university Female students. It adversely affects their studies and quality of life. Awareness and proper management is important to reduce the affect of dysmenorrhea on physical, social and mental health of young girls.

KEYWORDS

University females, Dysmenorrhea, sickness absenteeism, quality of life

Introduction

Dysmenorrhea is one of most frequent of gynecological complaints of females. Dysmenorrhea literally means painful menstruation. Dysmenorrhea can be “primary” “when there is no definitive lesion or pelvic pathology and “secondary” when there is associated pelvic pathology.<sup>1</sup>

The prevalence of dysmenorrhea varies ranging from 20 to 90 percent depending on the measurement method used.<sup>2-4</sup> Dysmenorrhea is the leading cause of recurrent short term school absenteeism in adolescent girls in United States.<sup>3,5</sup>

Our Aim was to determine the prevalence of dysmenorrhea in university female students and to analyze the affect of dysmenorrhea on the quality of life of university female students.

Material and Method

This was a cross sectional study conducted on the University female students attending the University student health care complex, Banaras Hindu University (BHU).The data were collected from January 2014 to December 2014.

198 university female students attending the University student health care complex were interviewed and the information was recorded on a structured questionnaire. The questionnaire included brief definition of dysmenorrhea and asked for information concerning demographics age, pain with menstruation, its severity, age at menarche, weight, height and body mass index.

It also included the question related to menstrual cycle length, flow duration, family history of dysmenorrhea, associated premenstrual symptoms, change in daily activities, sickness absenteeism and type of medication used for dysmenorrhea.

Dysmenorrhea was defined as having pain in the abdominal, groin or the lumbar region during menstruation.

| Characteristics          | Dysmenorrhea group (N=126) | Non Dysmenorrhea group (N=72) | P value |
|--------------------------|----------------------------|-------------------------------|---------|
| Age (yrs)                | 21.9± 2.71                 | 21.4±2.94                     | NS      |
| Weight (kgs)             | 48.5±5.66                  | 49.4±4.57                     | NS      |
| Height (m)               | 1.53±0.05                  | 1.56±0.05                     | NS      |
| BMI (kg/m <sup>2</sup> ) | 20.3±2.47                  | 20.3±1.66                     | NS      |
| Age at menarche (yrs)    | 12.7±1.35                  | 13.6±1.11                     | NS      |

|                      |           |           |        |
|----------------------|-----------|-----------|--------|
| Cycle length (days)  | 28.2±2.72 | 29±2.53   | <0.01  |
| Flow duration (days) | 3.92±0.87 | 3.36±0.83 | <0.001 |

The severity of pain was assessed by a 100mm Visual Analog Scale (VAS).

The exclusion criteria in our study were the refusal to participate or refusal to sign the consent form.

The survey was completed and the data was analyzed for the results. Chi square and student t test were applied wherever applicable, p value < 0.05 was considered statistically significant.

Results

The study group consists of 198 female university students of BHU. The overall prevalence of dysmenorrhea was 63.6% (126/198).

The various characteristics of females with/without dysmenorrhea are shown in Table 1.

**Table 1. Characteristics of University female students with/without dysmenorrhea (Mean ± SD)**

NS: Non significant

The mean age of study groups was not statistically different. The mean age of dysmenorrhic and non-dysmenorrhic females were 21.9± 2.71 and 21.4 ± 2.94 yrs respectively.

The weight and height of the two groups were also not statistically different.

The Body Mass Index was 20.3±2.47kg/m<sup>2</sup> in dysmenorrhic group and 20.3±1.66

| Groups                        | Family history positive ( N= 101) | Family history negative (N= 97) |
|-------------------------------|-----------------------------------|---------------------------------|
| Dysmenorrhea group (N=126)    | 76                                | 50                              |
| Non Dysmenorrhea group (N=72) | 25                                | 47                              |

kg/m<sup>2</sup> in non dysmenorrhic group. The difference was not statistically significant ( $p > 0.05$ ).

The age at menarche showed a statistically significant difference between dysmenorrhea and non dysmenorrhea groups ( $p < 0.01$ ).

The menstrual cycle length was significantly shorter in dysmenorrhea group ( $p < 0.05$ ) as compared non dysmenorrhea group. The duration of blood flow during period was 3.92 days in dysmenorrhea group and was 3.36 days in non dysmenorrhea group. The difference is statistically significant ( $p < 0.001$ ). (Table 1)

The correlation of family history of dysmenorrhea with the prevalence of dysmenorrhea in study group reported in Table 2.

**Table 2. Dysmenorrhea correlation with Family History**  
 $\chi^2 = 12.011$   $p = 0.00053$  Significant

The prevalence of dysmenorrhea was significantly more among the university females with family history of dysmenorrhea ( $p < 0.001$ )

Table 3 clearly depicts that the sickness absenteeism was significantly more common among dysmenorrhic female students than non dysmenorrhic females during menstrual period.

| Groups           | Sickness Absenteeism present | Sickness Absenteeism absent |
|------------------|------------------------------|-----------------------------|
| Dysmenorrhea     | 65                           | 61                          |
| Non Dysmenorrhea | 16                           | 56                          |

**Table 3. Sickness Absenteeism and Dysmenorrhea**

| Quality of life characteristics                    | Dysmenorrhea group (N=126) | Non dysmenorrhea group (N=72) | $\chi^2$ | P value  |
|--|----------------------------|-------------------------------|----------|----------|
| Reduced physical activity                          | 28                         | 7                             | 4.91     | $< 0.05$ |
| Reduced Social activities                          | 80                         | 18                            | 27.16    | $< 0.05$ |
| Altered relationship with family and friends       | 70                         | 15                            | 22.54    | $< 0.05$ |
| Reduced mental health (stress/depression/emotions) | 85                         | 21                            | 27.01    | $< 0.05$ |

$\chi^2 = 16.34$   $p < 0.05$

The quality of life significantly affected by dysmenorrhea in females students as shown in Table 4.

**Table 4. Quality of life among dysmenorrhea and non dysmenorrhea groups**

The premenstrual symptoms also associated with dysmenorrhea (30%).The gastro-intestinal symptoms esp. bloating (55%) was most common. The commonest psychosomatic symptom associated with dysmenorrhea was depression (77.6%).

33% university students had moderate/severe dysmenorrhea. The university female students used medications for severe dysmenorrhea. Most commonly used medicine was antispasmodics (Meftal spas).

**Discussion:**  
The overall prevalence of dysmenorrhea in our study is 63.6% which is quite comparable to studies of Ortiz who reported 64% prevalence in Mexican University students.<sup>6</sup> Similar prevalence was reported by Sharma M et al (67 %),<sup>7</sup> Sharma et al (67.2%)<sup>8</sup> and Jayashree et al (74%).<sup>9</sup>

We found no significant difference in the mean age and mean age at menarche related to dysmenorrhea. Our findings are consistent with Unsal et al<sup>10</sup> and M.Al-Jefout et al.<sup>11</sup> But some studies had reported the positive correlation of dysmenorrhea with early menarche.<sup>12,13</sup>

In the present study we observed significant correlation of dysmenorrhea with menstrual cycle length and menstrual flow duration. M Al-Jefould<sup>11</sup> and Grandi et al<sup>14</sup> also reported the higher prevalence of dysmenorrhea with increase in menstrual flow.

The association of dysmenorrhea and overweight is inconsistent.<sup>10,11,12,15,16</sup> We found no difference in Body Mass Index between dysmenorrhea and non dysmenorrhea group as reported by A.Unsal et al<sup>10</sup> and M. Al-Jefout et al.<sup>11</sup>

Dysmenorrhea seems to be a hereditary problem as evidence in our study. Similar finding in other studies as well.<sup>10,11,17</sup>

Dysmenorrhea is the leading cause of recurrent short term school absenteeism in adolescent girls in United States.<sup>2,5</sup> We also observed 51.6% sickness absenteeism due to severe dysmenorrhea in our university female students. Similar findings by Avasarala AK, Panchangam and others.<sup>17</sup>

The quality of life is adversely affected by dysmenorrhea especially moderate/severe dysmenorrhea. We found significantly reduced physical activities due to dysmenorrhea. The social life and relations with family and friends were also affected by dysmenorrhea. Most of the university female students reported depression or stress due to moderate or severe dysmenorrhea.M. I.Ortiz and others also reported the reduced physical/ daily activities and social activities.<sup>6</sup>

**Conclusion:** Dysmenorrhea common problem among university Female students. It adversely affects their studies and quality of life. Awareness and proper management is important to reduce the affect of dysmenorrhea on physical, social and mental health of young girls.

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