

# Prevalence & Impact of Dysmenorrhea in students of a Medical College

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## ABSTRACT

**Background:** Dysmenorrhoea is a common health issue of adolescent girls and many a times it badly affects routine activities of girls.

**Aim:** To determine the prevalence of dysmenorrhoea in young girls and its impact on their life.

**Study design:** A cross sectional study

**Setting:** Obstetrics and Gynaecology departments Islam Medical College, Sialkot.

**Results:** The prevalence of dysmenorrhoea was 53%. 79.2% of the girls had limited routine activities because of dysmenorrhoea. 64.2% girls used medication for their pain. Acetaminophen and mefenamic acid were commonly used medications by adolescent girls.

**Conclusion:** Dysmenorrhoea is a common problem among college students disturbing their academic performances. There is need for guidance and education to the students about its management.

**Keywords:** Dymenorrhoea, BMI, Disturbance of routine activities

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## INTRODUCTION

Menstruation is a naturally occurring phenomenon. Every normal woman menstruates throughout her reproductive age. Pain & distress affect majority of women with varying intensities during their menses<sup>1</sup>. Dysmenorrhea is defined as painful period or menstrual cramps. Its usual onset occurs around the beginning of the menstruation and usually lasts for about three days. Dysmenorrhea is the most common cause of pelvic pain. The International association for the study of pain defines pain as "an unpleasant emotional experience associated with potential tissue damage or described in terms of such damage"<sup>2</sup>. Many other symptoms are associated with dysmenorrhea such as nausea, vomiting, fatigue, backache, sweating and diarrhea. Chronic pelvic pain is lower abdominal pain lasting for six months or more<sup>3</sup>. Dysmenorrhea is common complaint that forms a major bulk of gynecological referrals.<sup>4</sup>Dysmenorrhea affects a large population of women regardless of age and race<sup>5-8</sup>. Dysmenorrhea may be divided into two major types as primary dysmenorrhoea and secondary dysmenorrhea on the basis of absence or presence of underlying cause. Primary Dysmenorrhea occurs without an underlying cause and defined as cramping pain in the lower abdomen occurring during menstruation. Initially primary Dysmenorrhea typically occurs in adolescence and frequently emerging within 6-12 months after menarche while secondary dysmenorrhea has specific underlying cause, typically a condition that affects the uterus and other reproduction organs such as endometriosis, Leiomyoma, adenomyosis, ovarian cyst and pelvic congestion<sup>8</sup>. The onset of secondary dysmenorrhea might be years after menarche<sup>9</sup>. Dysmenorrhea

significantly affects the routine life of most of the affected girls. About 10-15% of females experience severe pain and discomfort during menstrual period, which can impact on their daily activities and disturb their productivity at home or at their work place<sup>9</sup>. Usually dysmenorrhea is considered as a normal aspect of the menstruation and so is tolerated, women do not report it and do not seek medical care<sup>10</sup>. The cause of primary dysmenorrhea is not well known and it is the cause of considerable burden on gynaecology OPD. The cause for primary dysmenorrhea is the hyper production of uterine prostaglandins, particularly PGF<sub>2a</sub> and PGF<sub>2</sub>, which cause more intense uterine contraction than normal resulting in severe pain and reducing blood flow to the uterus. The reason for increased prostaglandins is not known.<sup>11</sup>Women with dysmenorrhea tend to have raised level of prostaglandins which are highest during first two days of menstrual cycle<sup>12</sup>. Because dysmenorrhea may lead to important long-term consequences and increase susceptibility of patients to the other chronic pain conditions in later life, it is important to treat the pain to reduce its effects on the central nervous system (CNS). We should treat dysmenorrhea by treating the underlying cause. The commonest causes of secondary dysmenorrhea in young women are endometriosis and adenomyosis<sup>11</sup>.

Many societies consider it normal for a female to have dysmenorrhea even if it is moderate to serve in intensity with a considerable impact on her life style. This study will explore the prevalence, impact and treatment practice of dysmenorrhea. The findings many also aid decreasing risk associated with self-management of dysmenorrhea.

The objective of the study was to determine the prevalence of dysmenorrhea in adolescent girls, its impact on their life and its management.

Received on

Accepted on

## MATERIAL & METHODS

This was a cross sectional study was conducted in the Department of Obstetrics & Gynaecology, Islam Medical College, Sialkot. A total of 100 female students of Islam Medical College were included in study. The students were of the age group of 18-30 years. Information about age, height and weight was recorded. BMI (Body mass index) was calculated by the formula (weight in kg/height in meter square). Data about age at menarche, presence and absence of dysmenorrhoea, pain duration and disturbance of routine activities due to dysmenorrhoea was collected using the standard Questionnaire.

Following inclusion criteria was used to select the students for study.

Onset of pain within 6-12 hour after onset of menses.

Lower abdominal and pelvic pain with onset of menses and lower backache.

Participants with menstrual pain without significant pathology were included in study.

Participants with endocrine disorders, chronic disease or who underwent any major surgery were excluded from the study.

**Statistical analysis:** Data analysis was done on SPSS version 23. Mean and standard deviation were calculated for the quantitative variables that is age of the participants, age of menarche and BMI. Frequency %age was calculated for the qualitative variables that is for presence or absence of dysmenorrhoea, disturbance of routine activities due to dysmenorrhoea, need for treatment and types of treatment.

## RESULTS

Among the 100 students of Islam Medical College (53%) experienced dysmenorrhoea. Among the participants having dysmenorrhoea 42(79.2%) had severe dysmenorrhoea disturbing their routine activities, while 11 girls (20.8%) had no disturbance of activities. 30 participants out of 53(56.6%) experienced dysmenorrhoea during menstruation, 13 students (24.5%) had pre menstrual dysmenorrhoea and 2 participants (3.8%) were having postmenstrual dysmenorrhoea. 8 girls (15.1%) were having both pre menstrual as well as menstrual dysmenorrhoea. Out of 53 participants with dysmenorrhoea, 34(64.2%) needed some treatment for their pain while 19(35.8%) did not use any treatment. Among 34 participants 19(55.9%) had relief with panadol, 10(29.4%) used ponston for pain relief while only 5 participants (14.7%) had to take hormonal treatment for dysmenorrhoea. The mean age of the study participants was 21.7 years (SD=1.86, range was 18-30 yrs). The girls in the study had mean age of menarche of 13.04 yrs (SD=1.337, range=9-16 yrs). Mean BMI was 23.63KG/m<sup>2</sup> (SD= 3.535, range= 16 to 33 Kg/m<sup>2</sup>).

Table 1: Time of dysmenorrhoea

|                          | Frequency | %age  |
|--------------------------|-----------|-------|
| Menstrual                | 30        | 56.6  |
| Postmenstrual            | 2         | 3.8   |
| Premenstrual             | 13        | 24.5  |
| Premenstrual & Menstrual | 8         | 15.1  |
| Total                    | 53        | 100.0 |

Table 2: Need for treatment

|       | Frequency | %age  |
|-------|-----------|-------|
| No    | 19        | 35.8  |
| Yes   | 34        | 64.2  |
| Total | 53        | 100.0 |

Table 3

|                 | N   | Min. | Max. | Mean  | SD    |
|-----------------|-----|------|------|-------|-------|
| Age             | 100 | 18   | 30   | 21.77 | 1.869 |
| BMI             | 100 | 16   | 33   | 23.63 | 3.535 |
| Age of menarche | 100 | 9    | 16   | 13.04 | 1.337 |

Table 4: Dysmenorrhoea

|       | Frequency | Percent |
|-------|-----------|---------|
| No    | 47        | 47.0    |
| Yes   | 53        | 53.0    |
| Total | 100       | 100.0   |

Table 5: Disturbance of activity

|       | Frequency | Percent |
|-------|-----------|---------|
| No    | 11        | 20.8    |
| Yes   | 42        | 79.2    |
| Total | 53        | 100.0   |

Table 6

| Types of Treatment | Frequency | Percent |
|--------------------|-----------|---------|
| Hormones           | 5         | 14.7    |
| Panadol            | 19        | 55.9    |
| Ponston            | 10        | 29.4    |
| Total              | 34        |         |

## DISCUSSION

Pain during menses (dysmenorrhoea) is an important and common problem among adolescent girls in schools and colleges and it affects their routine daily activities and quality of life<sup>13</sup>.

In dysmenorrhoea there is abdominal pain which occurs just before and/or during menstruation. Its prevalence among females of reproductive age group varies from 16-91%<sup>14</sup>.

In my study the prevalence of dysmenorrhoea in adolescent girls was 53%. This is consistent with the study by Yasir S and Kant B where its prevalence was 56.1%<sup>15</sup>. A comparatively higher prevalence was seen in a study by Agrawal AK and Agrawal A which was 71.96%<sup>16</sup>.

Similarly, higher prevalence of dysmenorrhoea in adolescent girls was found in a study by George and Bhaduri which was 87.87%<sup>17</sup> and also in study by McKay and Diem where the prevalence of dysmenorrhoea was 67% in adolescent girls<sup>18</sup>. The same higher prevalence was found in study by Harlow Park (71.6%)<sup>19</sup>.

In the present study, 79.2% of college students had limitation of their routine activities due to dysmenorrhoea. Similarly findings were seen in study by Gebeyehu MB where 63% of patients had social withdrawal and 51.4% had reduction in their academic performance<sup>13</sup>.

In my study about 64.2% of adolescent girls used medication for their pain. While in the study by Gebeyehu MB, only 36.5% patients used medication<sup>13</sup>. Similarly a study by Sharma N showed that only 29.3% of the patients used medication for the relief of their pain<sup>9</sup>.

In my study panadol (Acetaminophen) and mefenamic acid were commonly used medications (55.9% and 29.4% respectively) for dysmenorrhoea, while in study by

Gebeyehu MB Ibuprofen and diclofenac were the commonest medications used for relief of pain during menstruation<sup>13</sup>.

The mean age of participants in my study was 21.7 yrs±1.86 yrs, mean age of menarche was 13.04±1.33 yrs and mean BMI was 23.63±3.53 Kg/m<sup>2</sup>. All these findings were consistent with a study by Yasir S and Kant B<sup>15</sup>.

## CONCLUSION

This study showed that there is a high prevalence of dysmenorrhoea in female students of Islam Medical College, Sialkot. A high proportion of the participants were having disturbance of their academic performances due to dysmenorrhoea. There is need to educate adolescent girls on effective and appropriate management of dysmenorrhoea.

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