

Original Research Article

## A Cross-Sectional Study of Prevalence of Dysmenorrhea among Adolescent Girls

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**Abstract:** One of the common problem among the adolescent girls is dysmenorrhea which often leads to emotional and physical problems to girls and ultimately affects their quality of life. The present study was done to study prevalence of dysmenorrhea among adolescent girls. This cross-sectional study was done in the department of obstetrics and gynaecology of SMBT institute of medical sciences, Dhamangaon, Ghoti, Nasik. The age of the students was from 18 to 24 years and the total female students participated were 237. The study was done with the help of open-ended questionnaires regarding their menstrual history. The overall prevalence of dysmenorrhea was present in 156 (65.82%) girls out of 237 girls included in the study. Also, it can be suggested that the females with the history of early menarche had more prevalence of dysmenorrhea but it is statistically not significant. The prevalence of dysmenorrhea was significantly more among the females with family history of dysmenorrhea. Table 4 clearly shows that Sickness absenteeism was significantly more among dysmenorrhic students than non dysmenorrhic students during menstrual period. Statistical analysis was done with the help of IBM SPSS statistics version 17. This is one of the supporting study that confirmed as dysmenorrhea is a common problem among the adolescent females.

**Keywords:** Adolescent girls, Dysmenorrhea, Gynaecological symptoms.

### INTRODUCTION

Transition from childhood to adulthood is called as adolescence and it is associated with pubertal development and sexual maturation [1, 2].

During pubertal development hormonal, cognitive, psychological and physical changes occur simultaneously [2]. The health of adolescent girls influences their own health and also the health of the future population, as they are the direct reproducers of future generations. Almost a quarter of India's population comprises of girls below 20 years [1].

Onset of menarche is the major physiological changes that take place in adolescent girls and it is often associated with problems of excessive bleeding, irregular menstruation, and dysmenorrhoea. One of the common problems experienced by many adolescent girls is dysmenorrhoea, which is recurrent, cramping lower abdominal pain during menstruation [1].

Dysmenorrhoea is divided into

- a. Primary dysmenorrhoea (pain without organic pathology) and
- b. Secondary dysmenorrhoea (pelvic pain associated with an identifiable pathological condition, such as endometriosis or ovarian cysts) [3, 4].

Shortly after menarche, marks the initial onset of menarche (6–12 months), when ovulatory cycles are established. Pain duration last for 8–72 hours and is commonly associated with the onset of menstrual flow. Adolescent girls usually have a higher prevalence of primary dysmenorrhea than older women as primary dysmenorrhea improves with age [4, 5].

The present study was planned to study prevalence of dysmenorrhea among adolescent girls.

### MATERIALS AND METHODS

This cross-sectional study was done in the department of obstetrics and gynaecology of SMBT institute of medical sciences, Dhamangaon, Ghoti, Nasik. The approval of the study was done from the

institutional ethical committee. The age of the students was from 18 to 24 years and the total female students participated were 237. The study was included of female students of medical college, nursing college, Ayurveda College and Pharmacy College. Informed consent was taken from all of the participants.

The study was done with the help of open-ended questionnaires regarding their menstrual history. All the questions were also explained in their local language by the researchers. The students were asked to respond within a specific time period.

**RESULTS**

The overall prevalence of dysmenorrhea was present in 156 (65.82%) girls out of 237 girls included in the study (Table 1).

From the Table 2, it can be suggested that the females with the history of early menarche had more prevalence of dysmenorrhea but it is statistically not significant ( $p > 0.05$ ).

The prevalence of dysmenorrhea was significantly more among the females with family history of dysmenorrhea ( $p < 0.05$ , Table 3).

Table 4 clearly shows that Sickness absenteeism was significantly more among dysmenorrhic students than non dysmenorrhic students during menstrual period.

**Table 1: Prevalence of dysmenorrhea in girls**

| Dysmenorrhea | Number of girls (n) |
|--------------|---------------------|
| Present      | 156 (65.82%)        |
| Absent       | 81 (34.18%)         |
| Total        | 237                 |

**Table 2: Age at menarche and dysmenorrhea in adolescent girls**

| Age at menarche | Dysmenorrhea present | Dysmenorrhea absent | Total |
|-----------------|----------------------|---------------------|-------|
| <13             | 38 (65.52%)          | 20 (34.48%)         | 58    |
| 13-14           | 89 (66.42%)          | 45 (33.58%)         | 134   |
| >14             | 45 (55.56%)          | 20 (44.44%)         | 45    |
| Total           | 156                  | 81                  | 237   |

$X^2 = 2.6756, p > 0.05$

**Table 3: Family history of dysmenorrhea and prevalence of dysmenorrhea**

| Family history | Dysmenorrhic | Non-dysmenorrhic | Total |
|----------------|--------------|------------------|-------|
| Present        | 71 (66.06%)  | 37 (33.94%)      | 109   |
| Absent         | 89 (69.53%)  | 39 (30.46%)      | 128   |

$X^2 = 5.3454, p < 0.05$

**Table 4: Sickness absenteeism among dysmenorrhic and non-dysmenorrhic girls**

| Sickness absenteeism | Dysmenorrhic N=156 | Non-dysmenorrhic N=81 |
|----------------------|--------------------|-----------------------|
| Present              | 74 (47.43%)        | 19 (23.45%)           |
| Absent               | 82 (52.57%)        | 62 (76.54%)           |

**DISCUSSION**

The word dysmenorrhea is taken from Greek words dys meaning difficult/painful/abnormal; meno meaning month; and rhea meaning flow [6].

It refers to painful menstrual cramps of uterine origin. It is a common gynaecological condition with considerable morbidity [5].

School and class absence is commonly caused by dysmenorrhoea because of physical and social disability [3]. Dysmenorrhoea is often accompanied by other biological symptoms, including fatigue, sweating, dizziness, headache, nausea, backache, vomiting and

diarrhea, all occurring just before or during the menses. It can also leads to loss of important classroom hours during the formative teenage years of a young girl. National health policy (2002) has defined adolescent as an underserved vulnerable group that needs to be addressed especially by the provision of information on reproductive health [7-9].

The symptoms of primary dysmenorrhea arise from raised concentrations of prostaglandins F2 (PGF2), which results in uterine contractions and ischemia. The likely mechanism for increased levels of prostaglandins is because, during premenstrual phase, progesterone decreases which results in the synthesis of

prostaglandins in endometrial cells by membrane phospholipids. This process is supported by the ability of prostaglandin synthesis inhibitors in pain relief. As these inhibitors only provide pain relief in 70% to 75% of women, other factors may also be involved [6, 10].

Some of the symptoms associated with severe forms of dysmenorrhoea are common symptoms of premenstrual syndrome (PMS) with both conditions having no organic basis. Premenstrual syndrome (PMS) is recurrent variable somatic, psychological and emotional symptoms that develop during the 7-14 days before the onset of menses and are ameliorated by the onset of menstruation in women who are mainly aged 20-40 years. Over 150 different symptoms have been linked to premenstrual syndrome (PMS) but the most common are bloating, breast pain, cyclical weight gain, fatigue, headaches, aggressiveness, depression, irritability and inability to concentrate. The symptoms in premenstrual syndrome (PMS) are thought to be due to variations in ovarian sex steroids and low circulating serotonin levels which differs from the high levels of prostaglandins seen in primary dys-menorrhoea [6, 9].

The results of studies carried out in North America, China, Australia, Turkey and Iran have shown that the prevalence of primary dysmenorrhea and percentage of women involved are different from society to society. Based on findings of these and other studies, dysmenorrhea is one of the most important health issues of young girls which must be considered because many researchers claimed that primary dysmenorrhea affects between 50 to 90% of general population [10].

## CONCLUSION

This is one of the supporting study that confirmed as dysmenorrhea is a common problem among the adolescent females and they usually associated with a number of emotional and physical symptoms. This ultimately affects their quality of life. Therefore awareness regarding this is essential for the proper management protocols.

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