



## AN ARTICLE ON PRIMARY DYSMENORRHEA

**Mrs. S Kalaivani**

Research Scholar, Himalayan University, Itanagar

**Dr. Sukhda Sharma**

Research Supervisor, Himalayan University, Itanagar

**ABSTRACT** Dysmenorrhoea literally means painful menstrual flow and refers to cramping lower abdominal pain occurring with the onset of menstrual flow. In cases of primary dysmenorrhoea the pain commences during the teenage years and occurs in the absence of any pelvic disease. This paper investigates the prevalence, causes, prevalence, risk factors, prognosis and the treatment for primary dysmenorrhoea. Variations in the definition of dysmenorrhoea make it difficult to determine prevalence precisely. A systematic review of studies in developing countries found that 25% to 50% of adult women and about 75% of adolescents experienced pain with menstruation. Dysmenorrhoea is common but may not come to medical attention because many women are conditioned to regard the pain as a normal, physiological event even if it restricts daily life. The risk factors for primary dysmenorrhoea include earlier age at menarche, heavy menstrual flow, nulliparity, family history of dysmenorrhoea, and stress. Treatment to manage dysmenorrhoea symptoms are prostaglandin inhibitors, such as nonsteroidal anti-inflammatory medications, or NSAIDs. There are many studies on alternative or complementary methods to relieve dysmenorrhoea.

**KEYWORDS :****INTRODUCTION**

Dysmenorrhoea is the term used to describe painful periods. Pain associated with menstruation is called dysmenorrhoea. More than half of women who menstruate have some pain for 1 to 2 days each month. Usually, the pain is mild. But for some women, the pain is so severe that it keeps them from doing their normal activities for several days a month. Dysmenorrhoea causes severe and frequent cramps and pain during your period. Dysmenorrhoea is commonly categorized into two types: primary and secondary.<sup>1</sup>

Primary dysmenorrhoea occurs when first start period and continues throughout life. It is usually life-long. It can cause severe and frequent menstrual cramping from severe and abnormal uterine contractions.<sup>2</sup> Secondary dysmenorrhoea is due to some physical cause. It usually starts later in life. It may be caused by another medical condition, such as pelvic inflammatory disease or endometriosis.<sup>3</sup>

Dysmenorrhoea may begin soon after the menarche, after which it often improves with age, or it may originate later in life after the onset of an underlying causative condition. Dysmenorrhoea is common, and in up to 20% of women it may be severe enough to interfere with daily activities.<sup>4</sup>

**Incidence/Prevalence**

Variations in the definition of dysmenorrhoea make it difficult to determine prevalence precisely. Studies tend to report on prevalence in adolescent girls dysmenorrhoea is not always specified. Adolescent girls tend to have a higher prevalence of primary dysmenorrhoea than older women, as primary dysmenorrhoea can improve with age.<sup>5</sup>

The results from prevalence studies of adolescents may not always be extrapolated to older women or be accurate estimates of the prevalence of secondary dysmenorrhoea. However, various types of studies have found a consistently high prevalence in women of different ages and nationalities. A systematic review of studies in developing countries found that 25% to 50% of adult women and about 75% of adolescents experienced pain with menstruation, with 5% to 20% reporting severe dysmenorrhoea or pain that prevents them from participating in their usual activities.<sup>6</sup>

In adolescents the prevalence of Primary dysmenorrhoea (PD) varies between 16% and 93%, with severe pain perceived in 2% to 29% of the studied girls. Several studies suggest that severe menstrual pain is associated with absenteeism from school or work and limitation of other daily activities. One-third to one-half of females with PD are missing school or work at least once per cycle, and more frequently in 5% to 14% of them.<sup>7</sup>

A study conducted by Meena Shamrao Deogade said severe menstrual pain which is restricts to normal activities is termed as dysmenorrhoea.

Today's sedentary lifestyle and food habits are responsible for this problem worldwide. Dysmenorrhoea ensuing discomfort for women's daily routines and resulting in missing work, college or school, inability to participate in sports or other activities. Primary dysmenorrhoea (PD) is the most common gynaecological problem among menstruating young adults and adolescents. To determine the prevalence of PD in university students questionnaire-based survey was carried out. Data of 500 female students was collected. Due to invalid data, 49 students were exempted. It is observed that 409 girls (90.68%) out of 451 were found suffering from dysmenorrhoea. Out of that 74.08% girls are likes to eat spicy/junk food and 49.87% suffering from anxiety/depression. Food habits and stress may be the cause of this problem.<sup>1</sup>

**Causes**

Women with primary dysmenorrhoea have abnormal contractions of the uterus due to a chemical imbalance in the body. For example, the chemical prostaglandin controls the contractions of the uterus. Primary dysmenorrhoea is traditionally defined as colicky, low abdominal pain during menstruation occurring predominantly in young women in the absence of disease such as endometriosis. These women have increased uterine tone and high-amplitude contractions during menstruation resulting in reduced uterine blood flow, all due to increased endometrial prostaglandin production. Dysmenorrhoea is common but may not come to medical attention because many women are conditioned to regard the pain as a normal, physiological event even if it restricts daily life.<sup>2</sup>

Many medical and gynaecological texts ascribed the source of dysmenorrhoea to emotional or psychological problems, for example, anxiety, emotional instability, a faulty outlook on sex and menstruation, and imitation of the mother's feelings about menstruation. However, experimental and clinical research has identified a physiological reason for dysmenorrhoea.<sup>3</sup>

**Symptoms**

The following are the most common symptoms of dysmenorrhoea. However, each person may experience symptoms differently. Symptoms may include cramping in the lower abdomen, pain in the lower abdomen, low back pain, pain radiating down the legs, nausea, vomiting, diarrhea, fatigue, weakness, fainting, headaches. The symptoms of dysmenorrhoea may look like other conditions or medical problems.<sup>11</sup>

Stella, Iacovides at al., revealed in their study that the women with dysmenorrhoea, compared with women without dysmenorrhoea, have greater sensitivity to experimental pain both within and outside areas of referred menstrual pain. Importantly, the enhanced pain sensitivity is evident even in phases of the menstrual cycle when women are not experiencing menstrual pain, illustrating that long-term differences in

pain perception extend outside of the painful menstruation phase. This enhanced pain sensitivity may increase susceptibility to other chronic pain conditions in later life; dysmenorrhea is a risk factor for fibromyalgia. Further, dysmenorrheic pain has an immediate negative impact on quality of life, for up to a few days every month. Women with primary dysmenorrhea have a significantly reduced quality of life, poorer mood and poorer sleep quality during menstruation compared with their pain-free follicular phase and compared with the menstruation phase of pain-free control women.<sup>3</sup>

### Risk Factors

While any woman can develop dysmenorrhea, the women who smoke, drink alcohol during their period, overweight, who started their periods before the age of 11, women have never been pregnant may be at an increased risk for the condition.<sup>13</sup>

A systematic review of cohort and case-control studies concluded that age <30 years, low BMI, smoking, earlier menarche (<12 years), longer cycles, heavy menstrual flow, nulliparity, premenstrual syndrome, sterilization, clinically suspected pelvic inflammatory disease, sexual abuse, and psychological symptoms were associated with increased risk of dysmenorrhea.<sup>14</sup>

According to Akshatha Kulkarni and Shilpa Deb (2019) the risk factors for primary dysmenorrhea include earlier age at menarche, heavy menstrual flow, nulliparity, family history of dysmenorrhoea, and stress. Primary dysmenorrhoea improves with increased age, parity, and use of oral contraceptives. There is inconsistent and conflicting evidence on the association between primary dysmenorrhoea and modifiable factors, such as cigarette smoking, diet, obesity, and depression.<sup>4</sup>

### Prognosis

Primary dysmenorrhoea is a chronic recurring condition that affects most young women. Studies of the natural history of this condition are sparse. One longitudinal study in found that primary dysmenorrhoea often improves in the third decade of a woman's reproductive life and is also reduced after childbirth.<sup>16</sup>

### Diagnose dysmenorrhea

Ultrasound test uses high-frequency sound waves to create an image of the internal organs. Magnetic resonance imaging (MRI) uses large magnets, radiofrequencies, and a computer to make detailed images of organs and structures within the body. Laparoscopy minor procedure uses a laparoscope. This is a thin tube with a lens and a light. It is inserted into an incision in the abdominal wall. Using the laparoscope to see into the pelvic and abdomen area, the doctor can often detect abnormal growths. Hysteroscopy is the visual exam of the canal of the cervix and the inside of the uterus. It uses a viewing instrument (hysteroscope) inserted through the vagina.<sup>17</sup>

### Treatment

Specific treatment for dysmenorrhea will be determined by your health care provider based on age, overall health, and medical history, extent of the condition, cause of the condition, tolerance for specific medications, procedures, or therapies, expectations for the course of the condition, and opinion or preference. Treatment to manage dysmenorrhea symptoms are prostaglandin inhibitors, such as nonsteroidal anti-inflammatory medications, or NSAIDs, such as aspirin and ibuprofen to reduce pain, acetaminophen, oral contraceptives (ovulation inhibitors), progesterone (hormone treatment), diet changes, vitamin supplements, regular exercise, heating pad across the abdomen, hot bath or shower, abdominal massage, endometrial ablation, endometrial resection, and hysterectomy.<sup>18</sup>

There is limited evidence for pain improvement with the use of the Oral contraceptive pill (OCP) in women with dysmenorrhoea. There is no evidence of a difference between different OCP preparations.<sup>6</sup> In a research study, in the vitamin E group, pain severity was lower with vitamin E at two months (median VAS score 3 vs 5,  $P > 0.001$ ) and four months (0.5 vs 6,  $P > 0.001$ ), pain duration was shorter at two months (mean 4.2 [7.1] hours vs 15 [17],  $P > 0.001$ ) and at four months (1.6 [4.0] hours vs 17 [18] hours,  $P > 0.0001$ ), and blood loss assessed by PBLAC score was lower at two months (54 [31] vs 70 [40],  $P > 0.0001$ ) and at four months (46 [28] vs 70 [37],  $P > 0.0001$ ). It concludes that the Vitamin E relieves the pain of primary dysmenorrhoea and reduces blood loss.<sup>7</sup>

Evidence from controlled trials suggests that exercise can reduce PD and associated symptoms, but these have been small and of low methodological quality. There are, however, several plausible mechanisms by which exercise might be effective in the management of PD. A large randomized controlled trial is required before women and clinicians are advised that exercise is likely to be effective in reducing PD and related menstrual symptoms.<sup>8</sup>

### Alternative Therapies

Women who have painful periods often try to find natural ways of dealing with the pain. There are many studies on alternative or complementary methods to relieve dysmenorrhoea. Yoga, massage, acupuncture and acupressure, and relaxation or breathing exercises are some of the alternative treatments to treat dysmenorrhoea.<sup>22</sup>

The objective of a study was to analyze the effect of yoga and meditation as alternative therapy for primary dysmenorrhoea in young students and its outcome on school absenteeism. 113 medical students, unmarried girls from Dr. Pinnamaneni Siddhartha Medical college with primary dysmenorrhoea were randomly assigned to study ( $n = 60$ ) and control group ( $n = 53$ ). Semi structured questionnaire and the Numerical rating scale for pain were administered on all the participants at baseline and after three months. The study group was subjected to yoga and pranayama and meditation. Chi square test was applied to find out the significance of association and  $p$  value  $< 0.05$  was considered as statistically significant. Observed a significant ( $p < 0.0001$ ) reduction in the perceived pain after yoga intervention in study group. 83.33% of the study group reported complete pain relief and 11.66% reported mild pain. No reduction of pain was found in the control group. After yoga intervention, absenteeism dropped to 10.3% and improvement in daily activity was observed in study group.<sup>9</sup>

A study was conducted in Government Higher Secondary School at Lakshampuram and Saruthupatty to evaluate the effectiveness of ginger tea in reducing primary dysmenorrhoea among adolescent girls. The research design adopted was true experimental pretest and posttest control group design. Simple random technique was adopted to select the desired sample. The sample size was 60. 200ml of ginger tea was given at four times per day for 3 consecutive days. Standardized visual analogue scale was used to assess the level of primary dysmenorrhoea. The collected data were analyzed using both descriptive and inferential statistics. The mean post-test score of experimental groups was lesser than the mean post test score of control group. The calculated mean difference was 3.3. The obtained 't' value, 21.39 was significant at  $p < 0.05$  level. It is inferred that ginger tea was effective in reducing primary dysmenorrhoea among adolescent girls. The main conclusion drawn from this present study was after administration of ginger tea there was a significant decrease in the level of primary dysmenorrhoea.<sup>10</sup>

### CONCLUSION

Dysmenorrhoea is a major health problem for adolescents, school and occupational as well as practitioners that adversely affects the daily activities and quality of life for adolescent women. The accurate prevalence of dysmenorrhoea is difficult to establish due to the variety of diagnostic criteria and the subjective nature of the symptoms. In adolescents, moderate to severe dysmenorrhoea that affects lifestyle and does not respond to medical treatment requires professional attention and proper diagnosis of possible underlying pelvic disease. Therefore, adolescent care providers should be more knowledgeable and actively involved in the care of dysmenorrhoea.

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