



## **A Review Article related to Dysmenorrhea among young females and its impact on Quality of Life (QOL) and their productivity.**

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**ABSTRACT :** The literature review was conducted with the aim to assess the occurrence of dysmenorrhea and its impact on daily routine activities. Dysmenorrhea is a common problem among young females, and if severe enough, can adversely affect the productivity and quality of life. Dysmenorrhea is a leading cause for short-term school absence in adolescent school girls. In many girls it also decreases their quality of life. In India 67.2% adolescent girls suffer from dysmenorrhea and 60% of them have disrupted daily routines. A study conducted in USA showed that 58% of girls suffered from severe menstrual flow, smoking and depression are some of the risk factors for dysmenorrhea. [French, 2005]

Menstrual disorders are common among women in reproductive age group and affect their normal functioning and social life. Due to cultural reasons, menstrual problems often get unreported. In India, the literature on the effect of menstrual disorders on the quality of life (QOL) of women is limited. Also the findings of various studies revealed that dysmenorrhea and PMS apparently constitute a problem among adolescent girls, hence measures including health education programs targeting school and university students and focusing on the proper measures for dealing with them, should be implemented to limit their interference with the student's life. Menstrual pain is one of the common gynaecological presentations of women of reproductive age to health care physicians. It is also notable that there is lack of surveillance of dysmenorrhea in developing countries. The lack of reliable data impedes proper assessment of the condition which becomes a barrier to effective management of dysmenorrhea. Thus, it is also concluded that studies related to dysmenorrhea should be conducted on a wider scale so that this physiological condition could not be troublesome on a day-to-day basis. Nevertheless, the condition of primary dysmenorrhea should be improved by offering a proper explanation and with simple home remedies.

## INTRODUCTION

Menstrual disorders are common in women of reproductive age. Menstrual pain, is one of such disorders and it happens to be the commonest gynaecological disorder in this group. Most authors use menstrual pain interchangeably with dysmenorrhoea. However, some others have proposed dysmenorrhoea to be menstrual pain severe enough to cause functional incapacitation or seeking treatment or suggest it's a clinical diagnosis based on History on examination findings by a Physician. The prevalence and pattern of menstrual disorders varies in different countries.

Dysmenorrhoea can either be primary or secondary. Primary dysmenorrhoea is painful menses (of varying severity) usually beginning in adolescence in women with normal pelvic anatomy. It is characterized by cramping pelvic pain beginning shortly after the onset of menses and lasting one to three days.<sup>1</sup> When an identifiable organ pathology is present, dysmenorrhea is termed secondary. The most common cause of secondary dysmenorrhoea is endometriosis. Other causes include leiomyoma, adenomyosis, ovarian cysts and pelvic congestions.<sup>2</sup>

Prostaglandin-induced increase in uterine activity was first hypothesized as a cause of dysmenorrhoea in 1932. Though the pathophysiology of menstrual pain has not been fully understood, current evidence suggests that prostaglandin F<sub>2α</sub>, a potent myometrial stimulant and vasoconstrictor, is produced by the secretory endometrium. This substance causes a decrease in myometrial blood flow and induces contraction in order to shed the endothelium in the menstrual phase of the menstrual cycle.<sup>1</sup>

Notably, primary dysmenorrhea is far more common than its secondary counterpart. Though severely dilapidating in some cases, dysmenorrhea still remains a widely under-diagnosed condition. This is partly due to common societal beliefs regarding lack of effective treatments and expectations about the burden of menstruation — as its expected that it should be endured.<sup>1</sup>

The prevalence of dysmenorrhea among females have been studied by different workers. Consistently in literature, 20–90% of females of reproductive age experience menstrual pain.<sup>3</sup> Various risk factors have been described to influence dysmenorrhea and its severity. These include early menarche, Body Mass Index (BMI), Dietary habits, family history, amongst others.<sup>4</sup> Life style modifications, for example choosing a diet low in fat like the vegetarian diet, was found to decrease the duration and the intensity of the menstrual cramps. However, to date, pharmacotherapy remains the most reliable and effective treatment for abdominal pain related to primary dysmenorrhea.<sup>5,6</sup> A working definition of premenstrual syndrome (PMS) is, 'A condition which manifests with distressing physical, behavioral and psychological symptoms not due to organic or underlying psychiatric disease, which regularly recurs during the luteal phase of each menstrual cycle and which disappears or significantly regresses by the end of menstruation'.<sup>7</sup> The main symptoms of PMS are: emotional symptoms, which include depression, mood swings, outbursts, anxiety/tension, confusion, social withdrawal, poor concentration, sleep disturbance, thirst and appetite/food cravings; and physical symptoms which include breast tenderness, bloating and weight gain, headache, swelling of

extremities, cramps and aches.<sup>8</sup> Stress, traumatic events, older age, early menarche, and positive family history are some risk factors which have been found to be associated with PMS.<sup>9</sup> Other risk factors include obesity, low intake of vitamin B, vitamin D and calcium, physical inactivity, unhealthy diet and high sodium or caffeine intake.<sup>10</sup>

## LITERATURE REVIEW

Badria Khalid Al-Dabal, Manal Riad Koura, Latifa Saad Al-Sowielem (2014)<sup>11</sup> conducted a study on prevalence of dysmenorrhea and associated risk factors among University Students in Eastern Province of Saudi Arabia. Accordingly, a cross-sectional study was conducted in Art and Science Colleges of Dammam University. 924 students were selected by stratified random sampling with proportionate allocation. The participants completed a self-administered questionnaire, which assessed socio-demographic and menstrual characteristics. In addition, weight and height were measured and body mass index was estimated. Results revealed that about 35% of the university students had severe dysmenorrhea and almost 21% had moderate to severe Premenstrual syndrome (PMS). The most common risk factor for dysmenorrhea was positive family history (67.9%), followed by physical inactivity (52.6%) and irregular menstruation (30.8%). About 57% of students used analgesics to relieve symptoms of dysmenorrhea. Nearly 35% of the students skipped one day of college and about 8% skipped two or more days because of dysmenorrhea. Stepwise regression analysis of factors affecting dysmenorrhea revealed that the main predictors of dysmenorrhea were PMS (OR=1.6), family history (OR= 1.5) and beginning of dysmenorrhea within the first 3 years of menarche (OR= 1.4). PMS, the most preventable predictor of dysmenorrhea, was significantly associated with irregular menstruation. Hormonal manifestations of PMS were significantly associated with excess salt intake, while the circulatory manifestations were significantly associated with excess coffee intake.

Zhao Hu, Lu Tang, Ling Chen , Atipatsa Chiwanda Kaminga , Huilan Xu (2020)<sup>12</sup> conducted a study to examine prevalence and risk factors associated with primary dysmenorrhea among Chinese female university students in Hunan province, China. Four thousand six hundred six female individuals were selected using a multistage cluster random sampling method. A self-administered questionnaire, which included sociodemographic information, lifestyle habits, emotional characteristics, and menstruation pattern, was used to collect data. The results revealed that the prevalence of primary dysmenorrhea was 41.7% (1921/4606) among Chinese female university students. Multivariate binary logistic regression indicated that being a minority (odds ratio [OR], 1.335; 95% confidence interval [CI], 1.083-1.646), underweight (OR, 1.249; 95% CI, 1.08-1.42), annual household income less than 80,000 CNY (OR, 1.169; 95% CI, 1.018-1.342), maternal history of dysmenorrhea (OR, 2.553; 95% CI, 2.236-2.915), age at menarche younger than 12 years (OR, 1.161; 95% CI, 1.013-1.329), irregular menstrual cycle (OR, 1.216; 95% CI, 1.063-1.391), and skipping breakfast (OR, 1.294; 95% CI, 1.124-1.490) were associated risk factors of primary dysmenorrhea.

Ahmed M Nooh, Atiea Abdul-Hady, Nadia El-Attar (2016)<sup>13</sup> conducted a study to determine the nature and prevalence of menstrual disorders among teenage girls. A representative sample consisted of female students who attended the university pre-enrollment medical examination. Self-administered questionnaire covering items on the adolescents' demographic data and menstruation characteristics was used. A total of 285 questionnaires were analyzed. The findings revealed that mean age at menarche was  $12.3 \pm 1.5$  years. Oligomenorrhea was reported by 18 participants (6.3%) and 5 others (1.8%) mentioned having polymenorrhea. Hypomenorrhea was noted in 25 students (8.8%), and hypermenorrhea was reported by 12 (4.2%). Irregular periods were mentioned by 24 students (8.4%). Dysmenorrhea was reported in 188 students (66.0%). Of these, 81 (28.4%) graded their pain as mild, 69 (24.2%) as moderate, and 38 (13.3%) as severe. Premenstrual syndrome was mentioned by 160 girls (56.1%). Consulting somebody regarding their menstrual problems was reported by 36 students (12.6%).

Rama Ravi, Pankaj Shah, Gopal Palani, Shanthi Edward (2016)<sup>14</sup> conducted a school-based cross sectional study to estimate the prevalence of menstrual problems, namely dysmenorrhea, menorrhagia, and irregular menstrual cycles in a rural school of the Thiruvallur district, Tamil Nadu. The participants were adolescent girls who attained menarche at least 1 year before the data collection period. A total of 350 participants were included in the study. A structured, pretested questionnaire was used to collect data. The results revealed that the mean age of the study participants was 14.74 years. The mean age at menarche was 12.4 years. In this study, 87.7% of the girls suffered from a menstrual problem. Overall, dysmenorrhea was prevalent in 72.6%, and menorrhagia and irregular menstrual cycles were present among 45.7% and 31.7% of the participants, respectively.

Karthik Balajee Laksham, Ramya Selvaraj, Sitanshu Sekhar Kar (2019)<sup>15</sup> conducted a study to estimate the prevalence of menorrhagia and dysmenorrhea among women in an urban field practice area and to compare their QOL with women without menstrual disorders. This was a community-based cross-sectional study among women who had attained menarche and not yet attained menopause in an urban field practice area of a tertiary care teaching institute in Puducherry. Households were selected by systematic random sampling, and a door-to-door survey was done. A pretested questionnaire was used for collection of sociodemographic details. QOL was measured using World Health Organization BREF scale. A total of 119 women were interviewed, and their mean (standard deviation) age was 33 (10) years. The majority was homemakers (63%), belonging to lower socioeconomic status (60%) and one-fifth had no formal education. The prevalence of dysmenorrhea was 45% [95% confidence interval (CI): 36.6%-54.4%] and that of menorrhagia was 17% (95% CI: 11.6%-25.3%). QOL in women with dysmenorrhea was poor compared with normal women in physical, psychological, social, and environmental domains (mean score 57.9 vs. 69.7,  $P < 0.001$ ).

Ayokunle Osonuga and Martins Ekor (2019)<sup>16</sup> conducted a study to identify the common risk factors and associated symptoms of menstrual pain which had been previously not caught the attention of researchers in Ghana. The study was a descriptive cross-sectional study involving two hundred female undergraduate students of the University of Cape Coast (UCC), Ghana. Verbal multidimensional scoring system for

assessment of dysmenorrhoea severity was used in this study to assess the severity of dysmenorrhoea. The results showed that more than half (57.3%) of the respondents have pain beginning within the first two days of their menses. The common risk factors that predicted severity of dysmenorrhea ( $p < 0.05$ ) were quantity of menstrual flow and family history of menstrual pain. The common symptoms that accompanied dysmenorrhea were tiredness, loss of appetite, backache, dizziness, diarrhoea and mood changes ( $p < 0.05$ ).

Tindall. V.R (1998)<sup>17</sup> conducted a cross-sectional study among girls regarding dysmenorrhea in Goa. The findings showed that there was linear association between the severity of pain and its impact on social disadvantage, co-morbidity, somatic syndromes and reproductive factors. The study concluded that the burden of dysmenorrhea was greater than any other gynecological complaints and was associated with significant impact. Most girls responded to primary dysmenorrhea by taking analgesics and anti-inflammatory drugs like mefenamic acid etc., But according to V.R.Tindall, anti-prostaglandins like mefenamic acid though it was very effective for treating dysmenorrhea, it could interfere with the process of ovulation and cause primary infertility.

Sharma.M. Gupta.S (2007)<sup>18</sup> conducted a study on menstrual pattern and abnormalities. Adolescent girls had been studied for menstrual problems and data were collected by personal interviews on a pre-tested semi-structured questionnaire. The result revealed that daily routines of the 60% girls were affected due to prolonged bed rest, missed school activities, disturbed sleep and decreased appetite. [7.24% had not been able to attend classes, 25% of them had to be abstained from work]. Hence there was a need to emphasize on designing menstrual health program for adolescent girls.

Banikarim.C, Chacke.M.R, Kelder S.H (2000)<sup>19</sup> conducted a study in West Indies to determine the prevalence of dysmenorrhea on Hispanic female adolescents. The results showed that 85% of them reported dysmenorrhea, 38% reported missing school due to dysmenorrhea, 33% reported missing individual classes. Activities affected included class concentration [59%], sports [51%], class participation [50%], socialization [46%], and homework [35%], test-taking skills [36%], and grades [29%]. Treatment taken for dysmenorrhea included rest [58%], medications [52%], heating pad [26%], tea [20%], exercise [15%] and herbs [7%]. The study concluded that adolescent girls with dysmenorrhea were affected by lack of attendance to school, concentration and other daily activities.

Agarwal AK (2010)<sup>20</sup> conducted an explorative study to correlate the prevalence of dysmenorrhea and its associated symptoms among 970 adolescent girls of age group 15-20 yrs in Pre-university colleges of Gwalior. The results showed that 79.67% were found to be dysmenorrhic, among them 37.96% suffered regularly from dysmenorrhic severity. The three most common symptoms present in the three days are tiredness, depression and inability to concentrate in work consecutively.

## CONCLUSION:

Menstrual pain or dysmenorrhea is a disorder that happens to be the commonest gynaecological disorder among young females. Most authors use menstrual pain interchangeably with dysmenorrhoea. However, some others have proposed dysmenorrhoea to be menstrual pain severe enough to cause functional incapacitation or seeking treatment or suggest it's a clinical diagnosis based on history or examination findings by a Physician. The findings of various studies call for interventions, such as educational programs, to limit the adverse effects of the problem on the girls' quality of life and productivity. Data on nature and prevalence of menstrual disorders and their effect on young women's health status, quality of life, and social integration suggest that management of these disorders should be given more attention within the available reproductive health care programs. Menstrual problems form an important domain of adolescent health and because these problems go unreported, it is necessary that adequate attention and care is provided. The consequences of the neglect of menstrual problems result in impaired reproductive and sexual health in older women. In order to generalize the results, further similar studies are recommended. Moreover, further research into prevalence of and risk factors for menstrual disorders and their morbidity is warranted and anxiously awaited.

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