

# Overview of Premenstrual Dysphoric Disorder

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## ABSTRACT

The main idea is to review previous research on premenstrual syndrome and premenstrual dysphoric disorder and summarize the background, etiology, prevalence, diagnostic criteria, environmental factors, and treatment of these two disorders. The comparison of premenstrual syndrome and premenstrual dysphoric disorder is mentioned in this article so that the reader can better understand the difference between the two. When looking for information about the premenstrual dysphoric disorder, we found that most scholars doing experiments chose patients with premenstrual syndrome, not patients with premenstrual dysphoric disorder. What is more, in the experiments on the premenstrual dysphoric disorder, there are conflicting conclusions from different scientists, such as "does the severity of premenstrual dysphoric disorder increase with age." In addition, the shortcomings of current research and suggestions for future research directions are also mentioned. In most previous studies examining premenstrual syndrome and premenstrual dysphoric disorder, there has been a focus on physical symptoms and changes in substances in the body. In collecting literature for this paper, we found that environmental factors can affect not only the severity of the premenstrual dysphoric disorder but even the outcome of premenstrual dysphoric disorder treatment. Therefore, this article covers premenstrual dysphoric disorder basics and will give the reader a clear overview.

**Keywords:** *premenstrual dysphoric disorder, premenstrual syndrome, menstrual-related symptoms*

## 1. INTRODUCTION

In the United States, 80% of women experience premenstrual syndrome [1], however, not all of them are diagnosed as having premenstrual dysphoric disorder only because of the presence of the premenstrual syndrome. According to the DSM-IV, 3–8% of women meet the criteria for premenstrual dysphoric disorder. The symptoms persist an average of six days, reaching their peaks right before and after the menstruation with frequent feelings of suicidality, anxiety, sobbing, panic attacks, decreased interest in activities or fewer attentions to relationships, impatience and anger, problems focusing or thinking, lethargy and tiredness, food cravings and binge eating as well as feelings of out of controls. Breast tenderness, bloating, headaches, and discomfort are examples of somatic complaints. However, Biggs & Demuth [2] found that these symptoms fade away as menstruation ends. This article's goal is to provide readers with a thorough understanding of the premenstrual dysphoric disorder. The background, etiology, and differences between premenstrual dysphoric disorder and premenstrual syndrome will be discussed in this study

## 2. LITERATURE REVIEW

### 2.1. Current Background of premenstrual dysphoric disorder

Having been newly added to the DSM-IV, premenstrual dysphoric disorder is a kind of psychiatric disorder that was classified as "depressive disorder not otherwise specified" in the DSM-V. Unlike other types of disorders, many scholars have different opinions on whether premenstrual dysphoric disorder should be classified as a kind of disorder, thinking that they are normal physiological reactions that shouldn't be added to the list of psychological disorders simply because women claim to feel uncomfortable. The relationship between menstruation and mood swings, emotional disturbances, and changes in mental status was discovered as early as 370 B.C. in the time of Hippocrates. Menstruation was generally viewed by Renaissance physicians as a cathartic, purifying procedure [3]. Robert T Frank claimed in 1931 research to the New York Academy of Medicine that "a considerable percentage of women" suffering from "premenstrual tension" had "severe personal pain" that much surpassed the "various degrees

of discomfort" that normal women experienced before menstruation [4].

### *2.1.1. Prevalence*

The premenstrual dysphoric disorder is a disease that only appears in women. In a 2003 article, Halbreich et al. said that this disease is limited to women between 18 and 51. The 5.3 percent prevalence of premenstrual dysphoric disorder among adolescent girls and young women for 12 months implies that the currently cited majority of dysphoric premenstrual syndrome is excessively conservative [5]. The prevalence is suggested to be much higher if the DSM IV premenstrual dysphoric disorder criteria's arbitrary numerical requirement is replaced by a diagnosis based on clinical relevance, suffering, distress, and impairment (as is the case with the ACOG criteria, American College of Obstetricians and Gynecologists) [6]. It's especially true if estimates of rising frequency among older cohorts are accurate. As a result, the statistics they compiled imply that even an 8 percent lifetime prevalence is on the low side. It is now widely accepted that the severity of premenstrual syndrome increases with age until natural or surgical menopause. However, there are conflicting and contradictory reports from studies on the relationship between age and premenstrual syndrome symptom severity. Freeman et al., in 1995, found a negative correlation between age and severity of Premenstrual Syndrome in 332 patients with LLPDD (subjects' age range was 20-44 years). This result suggested that younger women reported more severe premenstrual syndrome. They also found that there was no association between the duration of symptoms and the severity of premenstrual syndrome [7].

### *2.1.2. Diagnostic Criteria*

On October 14, 1998, a conference was held in Washington, D.C., on "Is Menstrual Disorders a Distinct Clinical Entity?" was held in Washington, DC on October 14, 1998 [8]. Scientists presented and discussed data on diagnostic criteria, epidemiology, symptom profile, family history and genetics, psychosocial functioning, longitudinal course, life-span complications, biological features, treatment outcomes, and safety considerations for alternative treatments. The main purpose of this meeting was to address one issue: "is there adequate evidence that premenstrual dysphoric disorder is a distinct and efficacy of potential treatments can be evaluated?" Dr. Endicott mentioned in this session that the diagnostic criteria for premenstrual dysphoric disorder are more stringent than the other disorders mentioned in DSM-IV and that other disorders need to be ruled out before diagnosis.

There is a detailed mention of how premenstrual dysphoric disorder is diagnosed in the DSM-V. At least the symptoms of the species with a clear disturbance of

function, appearing during most of the last week of the luteal phase, starting to resolve within a few days after the beginning of the follicular phase, and not present during the week after menstruation At least one of significant low mood, self-depreciation; significant feelings of anxiety or stress; sudden tears or other such significant mood swings; persistent irritability or increased interpersonal conflict. These symptoms need to have been present for most of the menstrual cycle within the past year. The premenstrual dysphoric disorder has more than just the symptoms mentioned above. Other physical symptoms, such as breast tenderness, muscle aches, or a feeling of bloating, are symptoms that can interfere with normal school and life. It is important to note that although premenstrual dysphoric disorder can be superimposed on any of the disorders, the symptoms of premenstrual dysphoric disorder cannot be a worsening of the symptoms of the other disorders. Symptoms of premenstrual dysphoric disorder need to last for at least two menstrual cycles. The DSM-IV premenstrual dysphoric disorder Daily Record of Severity of Problems (DRSP) form was created to assist in the diagnosis and evaluation of premenstrual dysphoric disorder (PMDD). Dr. Endicott and his colleagues tested on 270 subjects. The 270 subjects were split into two groups: Group A had 27 participants who varied from those who had few or no premenstrual difficulties to those who satisfied the PMDD criteria. Group B consisted of 243 people who all met the PMDD criteria. They found that the Daily Record of Severity of Problems was reliable and accurate in testing for premenstrual dysphoric disorder. Summary scores also correlated moderately to highly with other measures of disease severity [9].

### *2.1.3. premenstrual dysphoric disorder and Premenstrual Syndrome*

The diagnostic criteria for premenstrual syndrome and premenstrual dysphoric disorder are very similar. In much of the literature, it is clear by the way people describe these criteria that there are many similarities between the two, which also makes diagnosis difficult. premenstrual dysphoric disorder is included in premenstrual syndrome and is a special variant of premenstrual syndrome. Before premenstrual dysphoric disorder was specifically classified, scholars called this symptom, which occurs during menstruation, premenstrual syndrome.

## **2.2. Etiology**

Various causes have been connected to these illnesses, including both internal (diathesis) and external (stress) components. Changes in recently found sex hormones were also implicated in mental and neurological problems. The symptoms of the premenstrual dysphoric disorder are almost the same as those of major depressive disorder. In addition to

premenstrual syndrome, the premenstrual dysphoric disorder is markedly characterized by depression, less interest in usual activities, lack of energy, fatigability, insomnia, or hypersomnia, which are also symptoms of major depressive disorder. The main difference between premenstrual dysphoric disorder and Major Depressive Disorder is that premenstrual dysphoric disorder is cyclic, which occurs as menstruation approaches and disappears as it ends.

Cirillo et al. found that women with premenstrual dysphoric disorder are more likely to experience a mood disorder [10]. By using resting state functional magnetic resonance imaging (RS-fMRI). The brains of two groups of patients were examined and analyzed (one group of Premenstrual Syndrome patients and the other group of healthy controls). After analyzing the data using the regional homogeneity (ReHo) method, the experimenter found abnormalities in the spontaneous brain activity of premenstrual syndrome patients. Premenstrual syndrome (PREMENSTRUAL SYNDROME) severity showed a positive correlation with ReHo of the left middle frontal cortex (MFC) and a negative correlation with ReHo of the right ACC. right anterior cingulate cortex (ACC) at the luteal phase [11]. The effects of C-labeled 5-hydroxytryptophan on brain capture during the follicular phase and premenstrual period were studied using positron emission tomography. Findings The findings show a strong inverse relationship between the severity of premenstrual dysphoria's cardinal symptoms and brain serotonin precursor (C-labeled 5-hydroxytryptophan) entrapment [12]. premenstrual dysphoric disorder has been linked to a polymorphism in the estrogen alpha receptor gene ESR1, and women who have this version also have a polymorphism in catechol-o-methyltransferase, which controls mood chemistry in the prefrontal cortex, Although only those with the Val/Val genotype showed significant relationships with ESR1, these are positive genetic discoveries in this reproductive endocrine-related mood disorder. They involve a pathogenically important hormone receptor [13]. Furthermore, the results of twin studies show a genetic link to premenstrual dysphoric disorder. Identical twins have a similarity coefficient twice as high as heterozygous twins. There have been two distinct reasons presented. First, premenstrual syndrome scores may reflect some other underlying trait (e.g., neuroticism) that is genetically determined, or premenstrual syndrome scores may reflect some other underlying feature (e.g., neuroticism) that is genetically determined [14].

### **2.3. Environmental Factor**

Silver and his colleagues experimented with assessing whether stressors of perceived discrimination were associated with premenstrual dysphoric disorder. premenstrual dysphoric disorder and premenstrual symptoms in minority women [15]. They selected 2718

women of color, aged 18-40 years, and assessed their level of perceived discrimination by using the Daily Discrimination Measure. In their article, Pilver et al. divided discrimination into two broad categories, blatant bias, such as physical or verbal attacks, and subtle discrimination, such as lack of courtesy and unfair treatment. They mention that blatant discrimination can easily be ignored through external attribution. Perceived discrimination was substantially linked to the lifetime prevalence of premenstrual dysphoric disorder and premenstrual symptoms, as predicted. Furthermore, with rising premenstrual symptomatology, mean discrimination scores increased. the multivariate-adjusted chances of having premenstrual dysphoric disorder increased by 8% for every 1-unit increase in the frequency of perceived discrimination.

In contrast, the odds of having premenstrual symptoms increased by 4% for every 1-unit increase in the frequency of perceived discrimination. For the first time, this study found that perceived discrimination, discrimination based on race, gender, or other factors, and subtle discrimination all increased the risk of ethnic minority women developing premenstrual dysphoric disorder and premenstrual symptoms. Furthermore, their discriminating findings show that stress (both regular life stress and traumatic experiences) plays a role in the premenstrual dysphoric disorder. According to the diathesis-stress concept, perceived discrimination may be an environmental stressor that exacerbates premenstrual symptoms and finally leads to the whole symptomatology of the condition by acting on existing biological or genetic vulnerabilities.

### **2.4. Treatment**

In several trials, supplementation with vitamin B6 has been demonstrated to help women with premenstrual syndrome. According to a meta-analysis of research, when compared to placebo, daily doses of 50 to 100 mg of vitamin B6 may lower the intensity of premenstrual psychological and physical symptoms. Premenstrual symptoms of moderate severity may also benefit from calcium carbonate. Compared to placebo, 1200 mg of calcium carbonate administered daily resulted in a clinically significant reduction in clusters of physical premenstrual symptoms (water retention, food cravings, and pain) and emotional premenstrual symptoms (negative affect) in a randomized, controlled trial involving 497 women with premenstrual syndrome. Spironolactone, a diuretic, and aldosterone antagonist has also been shown to help manage unpleasant emotions during the premenstrual period and relieve physical symptoms, including bloating and weight gain. Serotonin-boosting medicines can help with the primary symptoms of premenstrual dysphoric disorder, whereas worsening mood symptoms have been linked to a decrease in serotonin receptors on positron tomography

[12]. It has been demonstrated that in the few situations where the symptoms of premenstrual syndrome are too severe to be treated with conservative drugs, the patient can take enough danazol to decrease the synthesis of cyclic ovarian steroids to cure the symptoms. Therefore, Oophorectomy with low-dose estrogen replacement is viable for patients who do not respond to traditional treatments [16]. In the paper they released in 2005, Yonkers et.al. mention the trials they conducted. To see how effective a new low-dose oral contraceptive pill (OCP) formulation is at reducing symptoms of premenstrual dysphoric disorder when compared to a placebo. Four hundred fifty women with symptoms of premenstrual dysphoric disorder were randomized to either placebo or an OCP formulation containing drospirenone 3 mg and Ethinyl estradiol 20 g in a multicenter, double-blind, randomized clinical trial that included two run-in and three treatment cycles with daily symptom charting. The combination of drospirenone 3 mg and ethinyl estradiol 20 mg relieves symptoms linked with a premenstrual dysphoric disorder, according to research [17]. Sertraline and other serotonin reuptake inhibitors are effective treatments for premenstrual dysphoria in women [18].

### **3. LIMITATIONS AND FUTURE IMPLICATION**

The association between age and symptom severity among women seeking medical care for premenstrual symptoms must be investigated further, as existing findings are contradictory. Although most of the women in the search study who were eligible for severe menstrual syndrome were in their 30s, it is worth noting that women in menopause may experience clinically significant menstruation-related symptoms. More extensive epidemiological and longitudinal investigations are required to determine the exact course of this disease. Is there a link between the incidence of premenstrual dysphoric disorder and depression? Because the two disorders have many characteristics, are there factors influencing both conditions? Is there a link between women's biological traits and depression because the incidence of depression is higher in women than in men? Freeman et al., published an overview article on the treatment of premenstrual syndrome and PMDD with four different oral contraceptives in 2012 In this article he mentions that whether the patient has the premenstrual dysphoric disorder or premenstrual syndrome after taking the medication (whether they got a placebo or a pharmaceutical). I think this is a direction worthy of further research, as there is little difference between the effects of medication and placebo in patients who are not severely ill [19].

### **4. CONCLUSION**

At present, our research on premenstrual dysphoric disorder is not particularly well developed compared to other types of diseases. Environmental factors, genetic factors, and physiological structures seem to play a significant role in this disorder. Several medications for the treatment of premenstrual dysphoric disorder have been found to have a 50-60% chance of improving this symptom, which is not particularly high. This suggests, in one way, that we may still not have found the main cause of this disorder. The current environment for women is much better than it was decades ago or even a decade ago, but they still suffer from many hidden stresses that have been shown to exacerbate the premenstrual dysphoric disorder. To solve this disorder may require not only the use of drugs but also help women to reduce this hidden stress. There are currently some experiments on premenstrual dysphoric disorder that also have some contradictory parts, there are several reasons for such results, one is that the sample of the experiment is too small, there are many experiments with thirty-four or ten participants, the data may have specificity. The second is that possibly different experiments used different diagnostic approaches and different tools to assess the severity of symptoms. This has led to bias in the judgment of the results.

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