

# A REVIEW ON PREMENSTRUAL SYNDROME

**Authors: Ms. Priyanka, Dr. S.P.Subashini, Ms. Layana Mathew, Mr. Parmeshwar P. (Department of Community Health Nursing, Medical Surgical Nursing and OBG Nursing)**

**GALGOTIAS UNIVERSITY**

## **ABSTRACT**

Most women of reproductive age have some physical discomfort or dysphoria in the weeks before menstruation. Symptoms are often mild, but can be severe enough to substantially affect daily activities. About 5–8% of women thus suffer from severe premenstrual syndrome (PMS); most of these women also meet criteria for premenstrual dysphoric disorder (PMDD). Mood and behavioral symptoms, including irritability, tension, depressed mood, tearfulness, and mood swings, are the most distressing, but somatic complaints, such as breast tenderness and bloating, can also be problematic. We outline theories for the underlying causes of severe PMS, and describe two main methods of treating it: one targeting the hypothalamus-pituitary-ovary axis, and the other targeting brain serotonergic synapses. Fluctuations in gonadal hormone levels trigger the symptoms, and thus interventions that abolish ovarian cyclicality, including long-acting analogues of gonadotropin-releasing hormone (GnRH) or estradiol (administered as patches or implants), effectively reduce the symptoms, as can some oral contraceptives. The effectiveness of serotonin reuptake inhibitors, taken throughout the cycle or during luteal phases only, is also well established.

**KEYWORDS:** menstruation, hormones, bleeding, pregnancy, disorder

## **INTRODUCTION**

Premenstrual syndrome (PMS) refers to emotional and physical symptoms that regularly occur in the one to two weeks before the start of each menstrual period. Symptoms resolve around the start of bleeding. Different women experience different symptoms. The common emotional symptoms include irritability and mood changes while the common physical symptoms include acne, tender breasts, bloating, and feeling tired; these are also seen in women without PMS. Often symptoms are present for around six days. An individual's pattern of symptoms may change over time. Symptoms do not occur during pregnancy or following menopause.

Diagnosis requires a consistent pattern of emotional and physical symptoms occurring after ovulation and before menstruation to a degree that interferes with normal life. Emotional symptoms must not be present during the initial part of the menstrual cycle. A daily list of symptoms over a few months may help in diagnosis. Other disorders that cause similar symptoms need to be excluded before a diagnosis is made.

The cause of PMS is unclear, but the underlying mechanism is believed to involve changes in hormone levels. Reducing salt, alcohol, caffeine, and stress along with increasing exercise is typically all that is

recommended in those with mild symptoms. Calcium and vitamin D supplementation may be useful in some. Anti-inflammatory drugs such as ibuprofen or naproxen may help with physical symptoms. In those with more significant symptoms birth control pills or the diuretic spironolactone may be useful.

Up to 80% of women report having some symptoms prior to menstruation. These symptoms qualify as PMS in 20 to 30% of pre-menopausal women.<sup>[2]</sup> Premenstrual dysphoric disorder (PMDD) is a more severe form of PMS that has greater psychological symptoms. PMDD affects three to eight percent of pre-menopausal women. Antidepressant medication of the selective serotonin reuptake inhibitors class may be used for PMDD in addition to the usual measures for PMS.

## **Signs and symptoms**

More than 200 different symptoms have been associated with PMS. Common emotional and non-specific symptoms include stress, anxiety, difficulty with sleep, headache, feeling tired, mood swings, increased emotional sensitivity, and changes in interest in sex. Problems with concentration and memory may occur. There may also be depression or anxiety.

Physical symptoms associated with the menstrual cycle include bloating, lower back pain, abdominal cramps, constipation/diarrhea, swelling or tenderness in the breasts, cystic acne, joint or muscle pain, and food cravings. The exact symptoms and their intensity vary significantly from woman to woman, and even somewhat from cycle to cycle and over time. Most women with premenstrual syndrome experience only a few of the possible symptoms, in a relatively predictable pattern.

Premenstrual dysphoric disorder (PMDD) is a severe form of premenstrual syndrome affecting 3–8% of menstruating women.

## **Causes**

While PMS is linked to the luteal phase, the causes of PMS are not clear, but several factors may be involved. Changes in hormones during the menstrual cycle seem to be an important factor; changing hormone levels affect some women more than others. However, some authors say that, after the death of the corpus luteum, the loss of progesterone, a central nervous system depressant, is the base of the PMS. Chemical changes in the brain, stress, and emotional problems, such as depression, do not seem to cause PMS but they may make it worse. Low levels of vitamins and minerals, high sodium, alcohol, and/or caffeine can exacerbate symptoms such as water retention and bloating. PMS occurs more often in women who are between their late 20s and early 40s; have at least 1 child; have a family history of depression; and have a past medical history of either postpartum depression or a mood disorder.

## **Diagnosis**

There are no laboratory tests or unique physical findings to verify the diagnosis of PMS. The three key features are:

The woman's chief complaint is one or more of the emotional symptoms associated with PMS (most typically irritability, tension, or unhappiness).

Symptoms appear predictably during the luteal (premenstrual) phase, reduce or disappear predictably shortly before or during menstruation, and remain absent during the follicular (preovulatory) phase.

The symptoms must be severe enough to interfere with the woman's everyday life.

Mild PMS is common, and more severe symptoms would qualify as PMDD. PMS is not listed in the DSM-IV, unlike PMDD. To establish a pattern and determine if it is PMDD, a woman's physician may ask her to keep a prospective record of her symptoms on a calendar for at least two menstrual cycles. This will help to establish if the symptoms are, indeed, limited to the premenstrual time, predictably recurring, and disruptive to normal functioning. A number of standardized instruments have been developed to describe PMS, including the *Calendar of Premenstrual syndrome Experiences (COPE)*, the *Prospective Record of the Impact and Severity of Menstruation (PRISM)*, and the *Visual Analogue Scales (VAS)*.

Other conditions that may better explain symptoms must be excluded. A number of medical conditions are subject to exacerbation at menstruation, a process called *menstrual magnification*. These conditions may lead the woman to believe that she has PMS, when the underlying disorder may be some other problem, such as anemia, hypothyroidism, eating disorders and substance abuse. A key feature is that these conditions may also be present outside of the luteal phase. Conditions that can be magnified premenstrual include depression or other affective disorders, migraine, seizure disorders, fatigue, irritable bowel syndrome, asthma, and allergies. Problems with other aspects of the female reproductive system must be excluded, including dysmenorrhea (pain during the menstrual period, rather than before it), endometriosis, perimenopause, and adverse effects produced by oral contraceptive pills.

The National Institute of Mental Health research definition compares the intensity of symptoms from cycle days 5 to 10 to the six-day interval before the onset of the menstrual period. To qualify as PMS, symptom intensity must increase at least 30% in the six days before menstruation. Additionally, this pattern must be documented for at least two consecutive cycles.

### **Management**

Many treatments have been tried in PMS. Reducing salt, caffeine, and stress along with increasing exercise is typically all that is recommended in those with mild symptoms. plementation may be useful in some. Anti-inflammatories such as naproxen may help with physical symptoms. A healthy diet, reduced consumption of salt, caffeine and alcohol, and regular exercise may be effective for women in controlling water retention. In those with more significant symptoms birth control pills may be useful.

Diuretics have been used to handle water retention. Spironolactone has been shown in some studies to be useful.

### **Antidepressants**

SSRIs like fluoxetine, sertraline can be used to treat severe PMS. Women with PMS may be able to take medication only on the days when symptoms are expected to occur. Although intermittent therapy might be more acceptable to some women, this might be less effective than continuous regimens. Side effect such as nausea and weakness are however relatively common.

### **Hormonal medications**

Hormonal contraception is commonly used; common forms include the combined oral contraceptive pill and the contraceptive patch. This class of medication may cause PMS-related symptoms in some women, and may reduce physical symptoms in others. They do not relieve emotional symptoms.

Progesterone support has been used for many years but evidence of its efficacy is inadequate.

Gonadotropin-releasing hormone agonists can be useful in severe forms of PMS but have their own set of significant potential side effects.

### **Alternative medicine**

Tentative evidence supports vitamin B6 and chasteberry. Data are insufficient to determine an effect of St. John's wort, soy, vitamin E, and saffron. Evening primrose oil may be useful.

There is tentative evidence that acupressure and acupuncture may help to reduce PMS symptoms and improve women's quality of life.

### **Prognosis**

PMS is generally a stable diagnosis, with susceptible women experiencing the same symptoms at the same intensity near the end of each cycle for years. Treatment for specific symptoms is usually effective.

Even without treatment, symptoms tend to decrease in peri-menopausal women. However, women who experience PMS or PMDD are more likely to have significant symptoms associated with menopause, such as hot flashes.

### **Epidemiology**

Up to 80% of women of child-bearing age report having some symptoms prior to menstruation. These symptoms qualify as PMS in 20 to 30% of women and in three to eight percent are severe.

### **History**

PMS was originally seen as an imagined disease. Women who reported its symptoms were often told it was "all in their head". Woman's reproductive organs were thought to have complete control over them. Women were warned not to divert needed energy away from the uterus and ovaries. This view of limited energy very quickly ran up against a reality in 19th century America that young girls worked extremely long and hard hours in factories; newspapers in the 19th century were peppered with remedies to help in the "tyrannous processes" of the menstrual cycle. In 1873 Edward Clarke published an influential book titled *Sex in Education*. Clarke came to a conclusion that female operatives suffer less than schoolgirls because they "work their brain less". This suggested that they have stronger bodies and a reproductive "apparatus more normally constructed". Feminists later took opposition to Clarke's argument that women should not leave the private sphere by showing how woman could function in the world outside the home in spite of their bodily functions.

The formal medical description of premenstrual syndrome (PMS) and the more severe, related diagnosis of premenstrual dysphoric disorder (PMDD) goes back at least 70 years to a paper presented at the New York Academy of Medicine by Robert T. Frank titled "Hormonal Causes of Premenstrual Tension". The specific term premenstrual syndrome appears to date from an article published in 1953 by Dalton and Greene in the *British Medical Journal*.<sup>1</sup> Since then, PMS has been a continuous presence in popular culture, occupying a place that is larger than the research attention accorded it as a medical diagnosis. It has been argued that women are partially responsible for the medicalization of PMS.<sup>1</sup> By legitimizing this disorder, women have contributed to the social construction of PMS as an illness. It has also been suggested that the public debate over PMS and PMDD was impacted by organizations who had a stake in the outcome including feminists, the American Psychiatric Association, physicians and scientists. Until the 1950s, there

was little research done surrounding PMS and it was not seen as a social problem. By the 1980s, however, viewing PMS in a social context had begun to take place.

### **Alternative views**

Some supporters of PMS as a social construct believe PMDD and PMS to be unrelated issues: according to them, PMDD is a product of brain chemistry, and PMS is a product of a hypochondria tic culture, i.e. a culture-bound syndrome. Most studies on PMS and PMDD rely solely on self-reporting. According to sociologist Carol Tavris, Western women are socially conditioned to expect PMS or to at least know of its existence, and they therefore report their symptoms accordingly. The anthropologist Emily Martin argues that PMS is a cultural phenomenon that continues to grow in a positive feedback loop, and thus is a social construction that contributes to learned helplessness or convenient excuse. Tavris says that PMS is blamed as an explanation for rage or sadness. The decision to call PMDD an illness has been criticized as inappropriate medicalization. In both cases, they are referring to the emotional aspects, not the normal physical symptoms that are present.

### **CONCLUSION**

PMS and PMDD are complex but highly treatable disorders. Pharmacists can improve the recognition and management of these common conditions by providing patient education on premenstrual symptoms and counseling women on lifestyle interventions and pharmacotherapy to relieve their discomfort.

### **REFERENCE**

[https://www.healthline.com/health/premenstrual-syndrome\\_noHeaderPrefixedContent](https://www.healthline.com/health/premenstrual-syndrome_noHeaderPrefixedContent)

<https://www.mayoclinic.org/diseases-conditions/premenstrual-syndrome/symptoms-causes/syc-20376780>

<https://www.webmd.com/women/pms/what-is-pms>

<https://www.medicalnewstoday.com/articles/325314>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3118460/>

Frank R. The hormonal causes of premenstrual tension. *Arch Neurol Psychiatry*.

2. Greene R, Dalton K. The premenstrual syndrome. *BMJ*. 1953;1:1007–14.

3. American Psychiatric Association. *Diagnostic and statistical manual of mental disorders-DSM-III*. 3. Washington DC: American Psychiatric Association; 1980.