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A BRIEF REVIEW ON PREMENSTRUAL SYNDROME WITH COMMON MENSTRUAL DISEASES

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Abstract

The luteal phase of the menstrual cycle is often associated with emotional and physical symptoms that characterize premenstrual syndrome (PMS), a common cyclic condition affecting women in their young and middle reproductive years. Symptoms may include low mood, mood swings, headaches, fatigue, abdominal discomfort, and breast tenderness. Women with mild symptoms should be educated about healthy eating, reducing sodium and caffeine intake, engaging in regular exercise, and practicing stress-management techniques. Among all menstrual-related disorders, PMS contributes significantly to physical and psychological disruptions in women and their families. Approximately 90% of reproductive-age women report experiencing at least one symptom in the days preceding menstruation. These symptoms can influence behavior and overall well-being, affecting social, professional, and family life. Supportive strategies, such as maintaining a symptom diary, can assist in diagnosis and management. Treatment for mild PMS includes lifestyle modifications and, when necessary, pharmacological interventions. Nutritional supplements such as evening primrose oil and calcium may offer modest benefits. PMS affects an estimated 30–40% of women of reproductive age, although the severity and impact on daily functioning vary widely. In many developing countries, including India, menstruation is stigmatized, which often prevents women from seeking appropriate care for their physical and emotional symptoms.

Keywords: Premenstrual syndrome, Menstrual cycle, Luteal phase, Women's health, Symptom management, Psychosocial impact.

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Introduction

Emotional and physical symptoms that occur consistently during the luteal phase of the menstrual cycle are the primary hallmarks of premenstrual syndrome (PMS), a common cyclic condition affecting women in early and middle adulthood [1-3]. Premenstrual disorders refer to mental or physical symptoms that arise during the luteal phase, interfere with daily activities, and resolve shortly after menstruation. The luteal phase begins following ovulation and ends with the onset of menstruation [4]. Another characteristic feature is the absence of symptoms before ovulation and their resolution by the end of the menstrual cycle. A detailed clinical history is essential to differentiate PMS from normal menstrual symptoms [5]. Numerous symptoms-including sadness, mood swings, headaches, lethargy, abdominal discomfort, and breast tenderness-may occur. Women experiencing mild symptoms should receive education on healthy eating, reducing sodium and caffeine intake, engaging in regular physical activity, and managing stress [6-8]. Supportive strategies such as keeping a symptom diary can aid in the diagnosis and management of PMS. Treatment for mild symptoms includes lifestyle modifications and, when necessary, pharmacological interventions. Nutritional supplements such as evening primrose oil and calcium may offer minor benefits [9].

Aetiology

Although the exact cause of PMS remains unknown, fluctuations in ovarian hormone levels are closely associated with the development of symptoms. Women with PMS are particularly sensitive to the normal hormonal variations occurring throughout the menstrual cycle. Symptoms often improve during pregnancy, after menopause, or when ovulation is suppressed, providing strong evidence for the role of ovarian cyclicity. However, the precise mechanisms through which ovarian hormones influence symptom onset and remission remain unclear [10-11].

Clinical Manifestations

Behavioral symptoms may include changes in sexual interest, fatigue, insomnia, lightheadedness, overeating, or food

cravings. Psychological symptoms include restlessness, loneliness, low self-esteem, anxiety, tension, tearfulness, and mood swings.

Physical symptoms include headaches, breast tenderness or swelling, back pain, abdominal bloating and discomfort, weight gain, edema, nausea, and muscle or joint pain. Up to 85% of menstruating women report at least one premenstrual symptom, while 2–10% experience severe, debilitating symptoms. Although more than 200 symptoms have been linked to PMS, tension, irritability, and dysphoria are among the most common [11-12].

Pathophysiology

Severe PMS is strongly associated with an active hypothalamic–pituitary–gonadal axis. Both psychological and physical symptoms are believed to result from the cyclic fluctuations of ovarian hormones. Importantly, women with severe PMS do not exhibit measurable hormonal imbalances, suggesting an altered sensitivity rather than abnormal hormone levels [13].

Types of Menstrual Disorders

Although menstruation is a normal physiological process, it is rarely discussed openly, leading many women to be unaware of the distinction between normal and abnormal menstrual patterns. Five common menstrual disorders include:

1. Excessive Menstrual Loss

Heavy menstrual bleeding affects approximately 25% of women and can significantly impair daily functioning. Causes include hormonal imbalances, uterine abnormalities (polyps, fibroids), thyroid disorders, coagulation disorders, kidney or liver disease, leukemia, intrauterine device–related complications, miscarriages, and infections.

2. Amenorrhoea

Amenorrhoea refers to the absence of menstruation. Primary amenorrhoea occurs when a girl has not begun menstruating by age 16, typically due to endocrine abnormalities or delayed maturation of the pituitary gland, sometimes associated with low body weight. Secondary amenorrhoea, defined as the absence of menstruation for more than three months after previously normal cycles, may be linked to reduced estrogen levels.

3. Dysmenorrhea

Most women experience menstrual cramps at some point; however, dysmenorrhea refers to severe, persistent menstrual pain caused by uterine contractions.

4. Premenstrual Syndrome (PMS)

PMS includes a combination of physical and psychological symptoms that occur before menstruation. Approximately 40% of women experience symptoms severe enough to interfere with daily life. Common symptoms include depression, bloating, headaches, fatigue, breast tenderness, irritability, anxiety, mood swings, and tearfulness. Symptoms typically begin about a week before menstruation and resolve at its onset.

5. Polymenorrhea and Menorrhagia

Menorrhagia involves heavy, prolonged menstrual bleeding that interferes with daily activities. In contrast, hypomenorrhea refers to unusually light menstrual flow, which may result from hormonal imbalance, low body fat, stress, or certain contraceptives.

Diagnosis

Accurate diagnosis of PMS requires prospective tracking of symptoms across at least two menstrual cycles. One validated diagnostic tool is the Daily Record of Severity of Problems (DRSP). Prospective records must demonstrate the appearance of symptoms during the luteal phase and their resolution with menstruation. If symptom patterns remain unclear, a third cycle should be monitored.[14]

Treatment

Modifications to lifestyle can help many people with PMS symptoms. However, your doctor can recommend one or more premenstrual syndrome drugs based on how severe your symptoms are.

Women respond differently to drugs in terms of symptom relief. For premenstrual syndrome, common prescription drugs include:

Common medications include

- **Antidepressants (SSRIs):** Sertraline, paroxetine, and fluoxetine effectively reduce mood-related symptoms. SSRIs are first-line therapy for severe PMS or PMDD and may be taken daily or only during the luteal phase.
- **NSAIDs:** Ibuprofen and naproxen help relieve breast tenderness and menstrual cramps when taken before or at the onset of menstruation.
- **Diuretics:** If lifestyle changes are insufficient to control bloating and fluid retention, diuretics such as spironolactone may be prescribed.
- **Hormonal contraceptives:** These help alleviate symptoms by suppressing ovulation [15-16].

Discussion: Role of Exercise in Managing PMS

Many women report exercise as an effective coping mechanism for PMS, and it is widely recommended for symptom management [17-19]. Progesterone and estrogen levels decline in the late luteal phase, contributing to PMS symptoms. Aerobic exercise temporarily increases estrogen and progesterone levels, which may improve mood and reduce stress without significantly disrupting the menstrual cycle [20-23].

A Taiwanese study involving 64 female factory workers examined a 12-week yoga intervention consisting of 50-minute sessions twice weekly. After the intervention, participants reported:

- A decrease in moderate to severe menstrual pain (from 53.1% to 29.7%),
- reduced use of analgesics (from 35.9% to 21.9%), and
- improvements in cold sweats, abdominal cramping, breast discomfort, and abdominal bloating.

Improvements in menstrual pain correlated with better physical functioning, reduced body discomfort, increased energy, better mental health, and enhanced overall health perception.

Although results across studies are inconsistent, the variability reflects individual differences in symptoms and responses to exercise. Exercise remains an important non-pharmacological intervention, and further research is needed to optimize exercise prescriptions for PMS management [24].

Conclusion

This narrative review highlights the current understanding of PMS and emphasizes the benefits of exercise and physical activity for adult women. Lifestyle interventions such as regular exercise and yoga, along with appropriate pharmacological treatments including calcium supplementation, can help alleviate PMS symptoms. Increased sensitivity to post-ovulatory progesterone levels appears to contribute to symptom development. Improving awareness of menstrual hygiene and menstrual health can help reduce menstrual-related difficulties, particularly among adolescents.

Conclusion

This narrative review primarily focused on the current understanding of PMS the advantages of exercise, importance of physical activity to adult females. Appropriate pharmacological therapy options include calcium supplements and lifestyle modifications like exercise, yoga can reduce the symptoms of premenstrual syndrome. It seems that heightened sensitivity to the elevated progesterone level following ovulation is linked to PMS symptoms. Menstrual cycle difficulties can be decreased in teenage or adolescent females by raising knowledge about maintaining hygienic environments.

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Author Contribution

Both Authors are contributed equally.

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