



A Review On Navigating The Complexities Of Premenstrual Syndrome(Pms) And Premenstrual Dysphoric Disorder (Pmdd): Prevalence, Diagnosis, And Treatment Approaches

¹ M.S. Sumith Kumar Rao, ² M. Maniratna, ³ O. Harish, ⁴ Dr. C. Mohana

¹ Pharm D Intern, ² Pharm D Intern, ³ Pharm D Intern, ⁴ Assistant Professor

¹ Department of pharmacy practice,

¹ Krishna Teja Pharmacy College, Tirupati, Andhra Pradesh, India

Abstract: Menstruation is a normal physiological occurrence in all females of reproductive age, and the mean age at menarche among Indian girls is 12.5 ± 1.52 years. Dysmenorrhea, premenstrual syndrome (PMS), menorrhagia, and irregular cycles are among the most common menstrual disorders. PMS is a clinical syndrome with a huge array of physical, emotional, and behavioral complaints that occur in the luteal phase of the menstrual cycle. Symptoms begin five days before menses and persist four days after the onset of menses. Premenstrual dysphoric disorder (PMDD) is a more severe variant of PMS with a significant impairment in functioning in 2-6% of women. Epidemiologically, PMS affects 30%-40% of women with wide variability across countries. It affects 14.3%-74.4% in India. Etiology of PMS remains idiopathic and multifactorial because of hormonal, genetic, environmental, and neurobiological factors, etc. The diagnosis is done on the basis of history, menstrual diaries, and prospective questionnaires. Pharmacological interventions involve GnRH, estradiol, and SSRIs, but non-pharmacological treatment is largely lifestyle modification. Evidence in favor of the utility of lifestyle gimmicks such as exercise more or cut in caffeine and salt intake is still not strong. Effective management is pivotal to maximize quality of life in PMS and PMDD sufferers.

Index Terms - Premenstrual Syndrome (PMS), Premenstrual Dysphoric Disorder (PMDD), Hormonal Fluctuations, Hypothalamic-Pituitary-Adrenal Axis, Selective Serotonin Reuptake Inhibitors (SSRIs)

I. INTRODUCTION:

Menstruation is a natural physiological phenomenon experienced by all women of reproductive age. The mean age of menarche in Indian girls is 12.5 ± 1.52 years. The most common menstrual problems include dysmenorrhea, premenstrual syndrome (PMS), menorrhagia, and irregular menstrual cycles. ^(1,2)

PREMENSTRUAL SYNDROME (PMS):

PMS is defined as a clinical condition that presents physical, behavioural, emotional, or psychological symptoms during the luteal phase of the menstrual cycle, in the absence of any organic disease. Symptoms may appear five days before menstruation and disappear within four days after the start of menses. ^(1,2,3) According to Clinical Gynaecologic Endocrinology and Infertility, PMS is described as a cyclical phenomenon with somatic and affective symptoms occurring a few days before menstruation, interfering with work and lifestyle. ^(4,5,6)

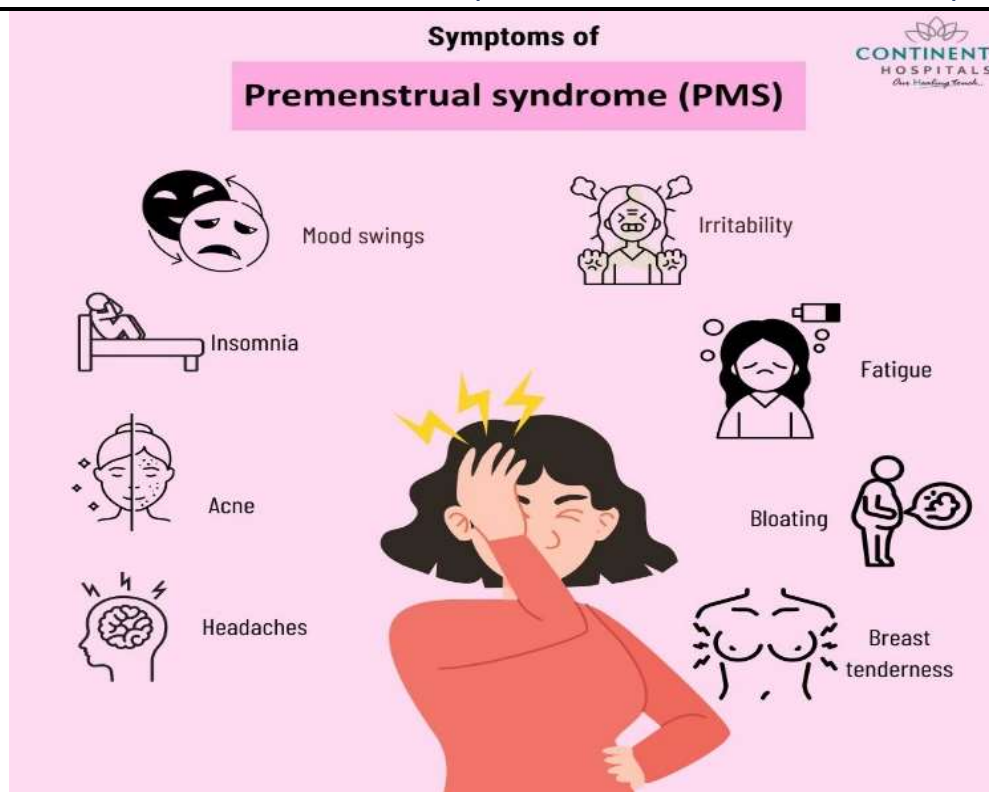


Figure 1.1: Describes the symptoms of premenstrual syndrome

PREMENSTRUAL DYSPHORIC DISORDER (PMDD):

PMDD is a more severe form of PMS, affecting a small percentage of women and resulting in significant disability and functional impairment. It is estimated that about 2–6% of women experience PMDD in their lifetime. Those affected may report breast tenderness, severe lower abdominal pain, bloating, joint and muscle pain, weight gain, sleep disturbances, irritability, anger, tension, low concentration, mood instability, and marked depression. These symptoms can negatively impact academic, social, and personal performance. ^(2,4)

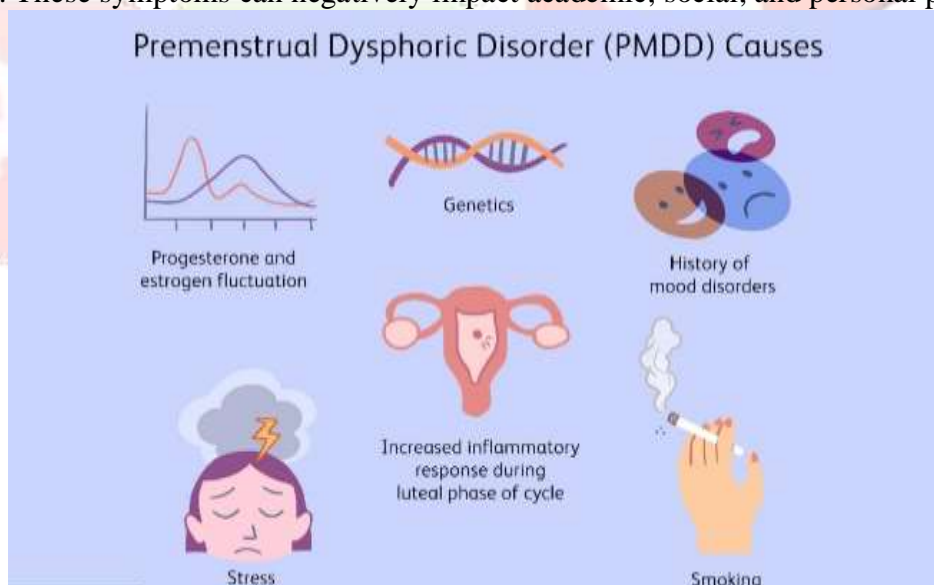


Figure 1.2: Describes the causes of premenstrual dysphoric disorder (PMDD)

EPIDEMIOLOGY:

Epidemiological data shows that PMS is a common issue that affects women's health worldwide. Various studies have reported to be around 30%–40% in the female reproductive population. Approximately 80% of women experience varying degrees of physical and emotional symptoms in the premenstrual phase, and about 20%–31% experience moderate to severe symptoms. It is a wide range of PMS prevalence across countries, with the lowest rate in France (12%) and the highest in Iran (98%). In India, PMS prevalence is estimated to range from 14.3% to 74.4%. ^(2,7)

ETIOLOGY:**Multifactorial and Idiopathic Nature:**

- PMS arises from multiple factors and its exact cause remains unknown.

Influencing Factors:

- Hormonal, Genetic, Environmental, Neurobiological, Nutritional Deficiencies, Socio-Cultural
- Hypothalamic-Pituitary-Adrenal (HPA) Axis
- Hormonal Changes
- Menstrual Cycle Factors
- Population-Specific Prevalence
- Genetics
- Stress and Neuroendocrine Function^(4,5,7)

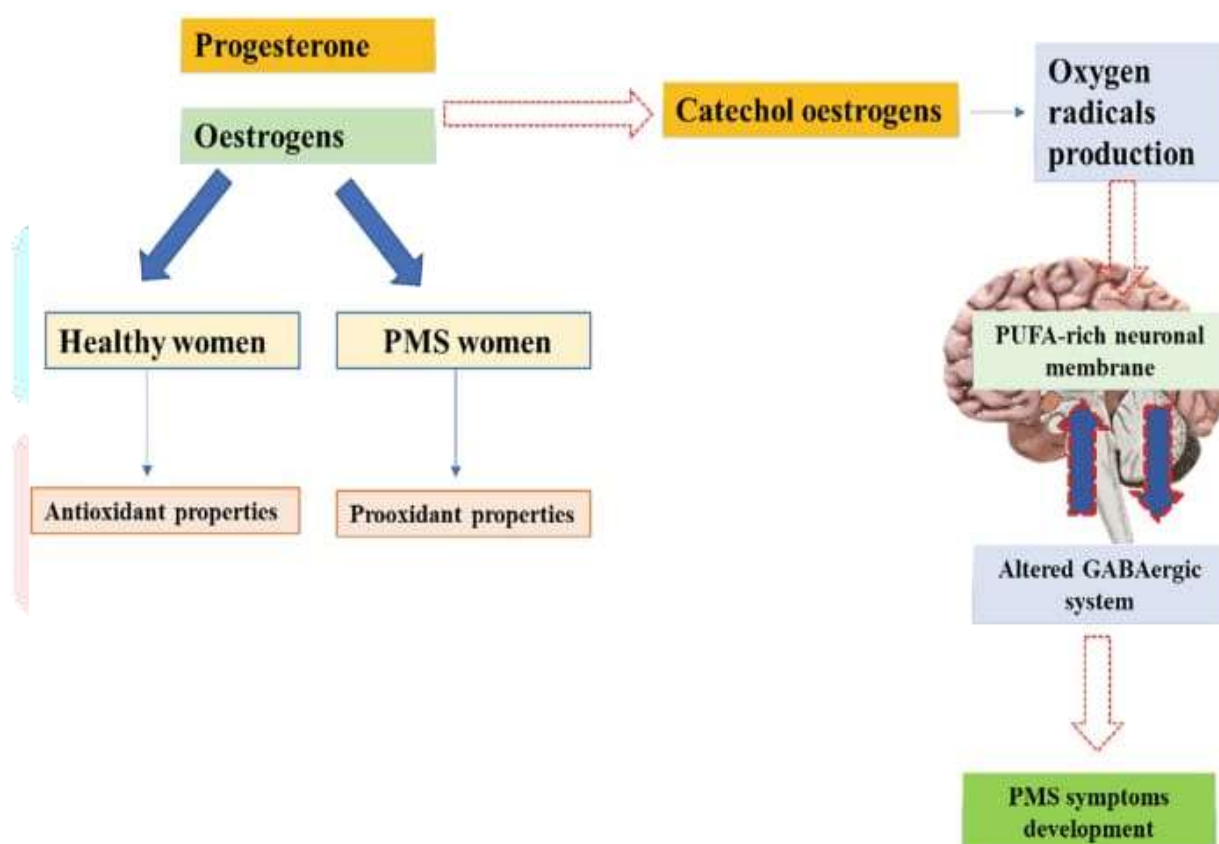
PATHOPHYSIOLOGY:

Figure 1.3: Describes the Pathophysiology of PMS

DIAGNOSIS OF PMS:

History & Questioning: Essential for diagnosis.

Menstrual Diary: Helps correlate symptoms with the premenstrual phase.

ACOG Definition:

- PMS Criteria: At least one affective and one somatic symptom causing dysfunction.
- PMDD Criteria: At least five symptoms before menses, improving after onset.
- Prospective Questionnaires: Most accurate for PMS and PMDD^(2,7,9)

MANAGEMENT:**Pharmacological management**

- GnRH
- Estradiol,
- SSRIs^(2,9,10)

Non-Pharmacological management:

Lifestyle modifications Although some physicians recommend increasing exercise of decreasing intake of caffeine, salt, and refined sugar for PMS symptom relief, no current evidence substantiates these recommendations. Improved diet and exercise should be recommended for good health, but not as evidence-based treatment for PMS/PMDD ^(9,10)

II. DISCUSSION:

Premenstrual Syndrome or PMS and Premenstrual Dysphoric Disorder or PMDD are types of menstrual disorders very commonly found in women of reproductive age, the impact of PMS on much more women have been noticed. PMS tends to have physical, emotional, and behavioural symptoms that appear in the luteal phase of the menstrual cycle. The symptoms are generally noticed about 5 days preceding menstruation and up to 4 days after. PMDD constitutes more severe variants of PMS, with impairments of functioning and affecting 2% to 6% of women. The prevalence of PMS is not uniform all over the world; different studies have shown that 30-40% of women are affected by it, while figures range from 14.3% to 74.4% among women in India. The etiology of PMS continues to remain ignorant as well as multifactorial, including from hormonal changes to genetic predisposition, neurobiological change, and environmental factors. Those factors, particularly that change in hormones during the menstrual cycle, seem to allow modification in the level of serotonin that is related to mood and other symptoms. Hormonal as well as neurobiological disturbances are thought to be central to the disorders, although the pathophysiology of both PMS and PMDD is yet to be elucidated fully. Diagnosis of PMS and PMDD requires comprehensive clinical history and symptom-prospective questionnaires along with records prepared through menstrual diaries. For PMS, a minimum of one somatic and one affective symptom which causes dysfunction should be present, whereas PMDD carries five such symptoms that very much affect everyday life. GnRH agonists, oestradiol, and SSRIs have been proven effective in some patients, especially in those with moderate to severe ranges. Non-pharmacologic methods, however, are still favourable even if the proof for their efficacy is not so substantial. Effective management of both PMS and PMDD enhances these women's quality of life. One major thing is that there is no universal solution for both disorders; continuous research holds the key for the future in developing targeted medicines along with evidence-based guidelines for managing these common menstrual disorders.

III. CONCLUSION:

PMS and PMDD can affect the health of women and general well-being in their day-to-day life. There are multiple impositions from the hormonal, genetic, and neurobiological factors to the environment that make it difficult to diagnose and treat these conditions. Although the causes and etiology of PMS and PMDD are still not fully understood, it is helpful to keep symptom diaries using prospective questionnaires to identify those who may benefit from treatment. As for pharmacological options, GnRH agonists, estradiol, and SSRIs are reasonable choices for moderate to severe symptoms, and studying these more is important to develop an evidence-based set of recommendations for lifestyle modification. Moreover, a thorough understanding of the pathophysiology of PMS and PMDD will be required to develop specific targeted and individualized treatment interventions to improve the overall quality of life of affected individuals.

IV. REFERENCES

- [1] Berek JS, editor. **Berek & Novak's Gynecology**. 15th ed. Philadelphia: Wolters Kluwer Health; 2012. p. 991–1006.
- [2] Yonkers KA, O'Brien PM, Eriksson E. Premenstrual syndrome. **Lancet**. 2008 Apr 5;371(9619):1200–10.
- [3] Halbreich U. The diagnosis of premenstrual syndromes and premenstrual dysphoric disorder—clinical procedures and research perspectives. **Gynecol Endocrinol**. 2004;19(6):320–34.
- [4] Speroff L, Fritz MA. **Clinical Gynecologic Endocrinology and Infertility**. 8th ed. Philadelphia: Lippincott Williams & Wilkins; 2011. p. 587–611.
- [5] Freeman EW. Premenstrual syndrome and premenstrual dysphoric disorder: definitions and diagnosis. **Psychoneuroendocrinology**. 2003;28 Suppl 3:25–37.
- [6] Rapkin AJ, Lewis EI. Treatment of premenstrual dysphoric disorder. **Women's Health (Lond)**. 2013;9(6):537–56.

- [7] Direkvand-Moghadam A, Sayehmiri K, Delpisheh A, Sattar K. Epidemiology of premenstrual syndrome (PMS)—A systematic review and meta-analysis study. **J Clin Diagn Res.** 2014 Feb;8(2):106–9.
- [8] Steiner M, Pearlstein T, Cohen LS, Endicott J, Kornstein SG, Roberts C, et al. Expert guidelines for the treatment of severe PMS, PMDD, and comorbidities. **Arch Womens Ment Health.** 2006;9(5):253–68.
- [9] American College of Obstetricians and Gynecologists (ACOG). Premenstrual syndrome. **ACOG Practice Bulletin No. 15.** Washington DC: ACOG; 2000.
- [10] Wyatt KM, Dimmock PW, Ismail KM, Jones PW, O'Brien PM. The effectiveness of GnRHa with and without “add-back” therapy in treating premenstrual syndrome: a meta-analysis. **BJOG.** 2004 Jun;111(6):585–93.

