# Herbal Medicine in the Treatment of Premenstrual Syndromes

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## Abstract

**Premenstrual syndromes (PMS) are a group of menstrually related, chronic and cyclical disorders characterized by emotional, behavioral, and physical symptoms in the second half (luteal phase) of the menstrual cycle. Several line of evidence point to a significant role of the serotonergic system in the course of the luteal phase in women with PMS/ Premenstrual Dysphoric Disorder. It has been reported that herbal medicine is useful in relieving the symptoms of PMS. An American telephone survey suggested that up to 80% self-medicating sufferers use complementary remedies. This review focused on herbal medicine in the treatment of PMS.**

**Keywords:** **Herbal Medicine, Premenstrual syndromes, Saffron**



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Premenstrual syndromes (PMS) are among the most common health problems reported by women, affecting 20 – 40% of women of reproductive age. Premenstrual Dysphoric Disorder (PMDD) is a severe subtype of PMS that occurs in 3–8% of women of reproductive age [1]. It is characterized by severe mood and behavioral changes. The hallmark of PMDD is its cyclical luteal-phase-related nature [2]. The etiology of the syndrome is multifactoral and not fully defined. Initially, a great role in the etiology was attributed to decreased levels of progesterone in the luteal phase [2]. There is abundant evidence pointing to changes in serotonergic conductivity in the CNS in PMS/PMDD. Thus, the symptoms of PMS/PMDD are believed to be partly associated with disturbed serotonergic conductivity.

Selective serotonin reuptake inhibitors (SSRIs) are the first-line pharmacological agents for the treatment of premenstrual mood symptoms. A significant body of evidence, including numerous double-blind, randomized studies, supports the effectiveness of SSRIs in reducing both the emotional, as well as physical symptoms, of PMS and PMDD. In general, women respond to low doses of SSRIs, and this treatment response usually occurs rapidly, often within several days [3].

SSRIs may be prescribed continuously throughout the menstrual cycle, or may be given in intermittent fashion during the luteal phase of the cycle. Studies have also begun to examine whether beginning medication at the onset of symptoms may be effective for some women. Also, other antidepressants which inhibit serotonin reuptake, including clomipramine (a tricyclic antidepressant), and venlafaxine (Effexor) have evidence to endorse their use in the treatment of premenstrual symptoms. Duloxetine (Cymbalta) has also been reported to be helpful. Among other psychotropic medications used in the treatment of PMS and PMDD, benzodiazepine alprazolam (Xanax) has been shown to have benefit in reducing premenstrual symptomatology, in particular premenstrual anxiety. However, this medication should be prescribed cautiously, given its potential for addiction [3 - 6].

For women who are ultimately diagnosed with a premenstrual exacerbation of a mood disorder, there are several treatment options. These women require treatment throughout the menstrual cycle and typically do not respond well to intermittent dosing. It may also be helpful to raise the dose of antidepressant in the luteal phase and return to a lower level at the onset of menses. In addition, a recent study also found that adding oral contraceptives to the antidepressant regimen in these women can improve residual mood symptoms that occur prior to menstruation. Women with bipolar disorder who have mood worsening premenstrually should consider antidepressant use carefully, as switching to mania/hypomania is an associated risk with antidepressant use or increased antidepressant dosing [1, 2].

Hormonal treatments of PMS and PMDD are based on the principle that suppression of ovulation eliminates premenstrual symptomatology. Results from studies using oral contraceptives (OCPs) to treat PMS and PMDD have been mixed. However, one recent study supported the usefulness of an oral contraceptive (Yasmin) containing drospirenone, an analog of the diuretic spironolactone, in the management of premenstrual symptoms. Preliminary research also suggests that continuous treatment with oral contraceptives may have efficacy for treating PMS symptoms. Some women need to avoid OCPs, especially if there is a history of blood clots, strokes, and migraines. Women





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who are 35 years of age or older and who smoke should not use OCPs. After the diagnosis of PMS or PMDD has been made through exclusion of other medical and psychiatric conditions, as well as by prospective daily ratings of symptoms, treatment can be initiated. For all women, simple lifestyle changes in diet, exercise and stress management are encouraged. These modifications have no associated risks and may provide significant benefit. Additionally, all women should be advised to continue daily charting of their premenstrual symptoms after diagnosis, as this can help both to determine treatment effectiveness and to give women a sense of control over their symptoms. For patients with mild physical and emotional symptoms of PMS, a trial of nutritional supplements, including calcium, magnesium, and vitamin B6 may also be considered [1, 2, 4].

In determining whether or not to start medication therapy, patient preference, the severity of the patient's symptoms, as well as the associated medication side effects must all be considered. For patients with severe symptoms of PMS, or with a diagnosis of PMDD, SSRIs are the first-line treatment. These medications can be dosed on a continuous or intermittent schedule depending on the patient's preference and the severity of her symptoms. If a woman does not show improvement in symptoms after 3 menstrual cycles, a trial with a different SSRI should be initiated. Additionally, if a patient has severely troubling side effects with one SSRI, she should be switched to a different medication [5, 6].

For severe symptoms that fail to respond to any of the above strategies, medications that suppress ovulation, such as GnRH, may be considered. Because these medications induce a chemical menopause associated with troubling side effects and possible long-term consequence, they are not first-line agents for treatment of PMS or PMDD and should be used cautiously [5, 6].

Herbal remedies may have some role in the treatment of premenstrual symptoms. *Gingko biloba* was found to improve PMS symptoms, particularly breast tenderness and fluid retention. Though early evidence suggested that evening primrose oil was a useful treatment of PMS. Evening Primrose oil is a plant oil that contains gamma-linolenic acid, an omega-6 essential fatty acid. Gamma-linolenic acid is involved in the metabolism of hormone-like substances called prostaglandins that regulate pain and inflammation in the body [7]. Nevertheless, a recent review of studies found that it was no more effective than placebo. Other botanical remedies used clinically but which require further investigation include black cohash, St. John's Wort and Kava Kava [7].

Vitex (*Vitex agnus castus*) regulates the endocrine system by targeting the hypothalamus-pituitary axis and regulating the synthesis of hormones. Throughout Europe, it is the number one herb to help relieve the symptoms of female hormonal imbalances such as irritability, depression, mood swings, and other PMS symptoms associated with the menstrual cycle.

Vitex specifically acts to reduce the synthesis of FSH (hyperfolliculinism) and estrogen (hyperestrogenism), one of the causes of PMS. There are a number of controlled clinical studies supporting the use of this for premenstrual problems [7].

Reishi (*Ganoderma lucidum*) mushroom is a powerful immune strengthener and regulator of blood sugar. It is used to counteract general





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fatigue or weakness that may be associated with chronic PMS and is an excellent herb for calming and relaxing women who experience irritability, nervousness, emotional excess, and sleeplessness [7].

Saffron (*Crocus sativus*): a number of recent experimental studies and clinical trials have been indicated that saffron is effective in the treatment of mild to moderate depression [8-12]. It has been suggested that serotonergic mechanism is involved in the antidepressant effect of saffron. As a therapeutically plant, saffron (dried stigma of *Crocus sativus* L. that belongs to the Iridaceae family) is considered an excellent stomach ailment and an antispasmodic, helps digestion and increases appetite [12-13]. It also relieves renal colic, reduces stomachaches and relieves tension and is effective in the treatment of Alzheimer's disease [14, 15]. Recent studies indicate its potential as an anti cancer agent and memory enhancer [14, 15]. A recent double blind randomized clinical trial suggests that saffron is effective in the treatment of PMS symptoms [16]. In this small preliminary double-blind and placebo controlled randomized trial, stigma of *Crocus sativus* was found to be effective in relieving symptoms of PMS. The clinical relevance of this finding was emphasized by the improvements seen in the Total Premenstrual Daily Symptoms and the Hamilton Depression Rating Scale [16].

## Conclusion

Although some women report relief of PMS symptoms with the use of herbs such as evening primrose oil and saffron, few scientific studies prove the effectiveness of herbs thought to help reduce the effects of PMS.

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