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"PREMENSTRUAL SYNDROME: AN AYURVEDIC PERSPECTIVE AND A REVIEW OF HERBAL INTERVENTIONS"

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ABSTRACT:

Background: Premenstrual syndrome (PMS) is a cyclical disorder of physical, psychological and behavioural symptoms in the luteal phase that impairs daily functioning in many women of reproductive age. Conventional treatment with selective serotonin reuptake inhibitors and hormonal agents is effective but not acceptable to all women, and complementary approaches are widely used. PMS is not described as a single entity in the classical Ayurvedic texts, but its features can be interpreted through the concepts of Dosha, Manas and menstrual-cycle physiology. **Objective:** To present an Ayurvedic interpretation of PMS, relate it to current understanding of its pathophysiology, and review the clinical evidence for herbs used in Ayurveda and for associated diet, lifestyle and yoga interventions. **Methods:** Classical texts (Charaka Samhita, Sushruta Samhita and Kashyapa Samhita) were reviewed for concepts relevant to cyclical premenstrual symptoms and for Rajaswala paricharya. PubMed was searched for guidelines, systematic reviews, meta-analyses, randomised trials, protocols and case reports on PMS, herbal medicine, Ayurveda and yoga. A retracted meta-analysis identified during the search was excluded. Findings were synthesised narratively. **Results:** PMS can be understood in Ayurveda as a cyclical, Vata-led disturbance of all three Doshas, with Pitta and Kapha patterns and involvement of the mind. Meta-analyses support saffron (Kumkuma) and suggest benefit from herbal medicines and supplements in general, while systematic reviews of curcumin (from Haridra) are favourable but limited. Evidence for Ashwagandha in PMS is largely indirect, and a placebo-controlled trial of Brahmi (*Bacopa monnieri*) with cognitive behavioural therapy is in progress. Systematic reviews of yoga and mindfulness-based practices report improvements in physical and psychological symptoms, but trial quality is moderate. **Conclusion:** Ayurveda offers a plausible framework for individualised PMS care combining herbs, diet, conduct and yoga. Rigorous, prospectively diagnosed trials of standardised Ayurvedic interventions are required.

KEYWORDS: Premenstrual syndrome, premenstrual dysphoric disorder, Rajaswala paricharya, saffron, Bacopa monnieri, yoga

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INTRODUCTION

Premenstrual syndrome (PMS) is characterised by physical, psychological and behavioural symptoms that recur during the luteal phase of the menstrual cycle and resolve within a few days of the onset of menstruation. Typical symptoms include irritability, mood swings, anxiety, low mood, fatigue, sleep disturbance, food cravings, breast tenderness, bloating and headache. Premenstrual dysphoric disorder (PMDD) is the severe, predominantly psychological form[1,2]. Estimates of prevalence vary widely with the definition used. A German review cited figures of 3–8% for clinically significant PMS and about 2% for PMDD[2], whereas a recent systematic review describes PMS as affecting up to 47.8% of women of reproductive age[3], and a school-based study in Punjab found that 68% of 450 adolescent girls experienced some degree of PMS[4]. Whatever the threshold, the disorder causes substantial loss of quality of life, absenteeism and economic burden, and it remains undertreated[3].

The American College of Obstetricians and Gynecologists (ACOG) guideline on premenstrual disorders, published in 2023, recommends a multimodal approach that may combine hormonal and non-hormonal medication, psychological therapy, complementary and alternative treatments, exercise, nutrition, education and self-help, with surgery reserved for exceptional cases[1]. Selective serotonin reuptake inhibitors (SSRIs) are the best-established pharmacological treatment, and combined oral contraceptives and, in severe cases, gonadotrophin-releasing hormone agonists with add-back therapy are also used[1,2]. Adverse effects, reluctance to take psychotropic or hormonal drugs, and the cyclical, non-life-threatening nature of the condition lead many women to seek alternatives[3,5].

Herbal medicines are prominent among these alternatives, and several systematic reviews and meta-analyses have now addressed them[5–7]. Ayurveda, which emphasises the relationship between bodily rhythms, the mind and conduct, has a natural affinity with a cyclical psychosomatic disorder, but PMS as such is not described in the classical texts. The aim of this review is to present an Ayurvedic interpretation of PMS, to relate it to current knowledge of its pathophysiology, and to evaluate the evidence for herbs used in Ayurveda and for associated dietary, lifestyle and yoga interventions.

METHODOLOGY

This narrative review was prepared in two parts. First, the primary classical texts of Ayurveda, namely Charaka Samhita (Sutra sthana and Chikitsa sthana, chapter 30), Sushruta Samhita (Sharira sthana, chapter 2) and Kashyapa Samhita (Kalpa sthana and Sharira sthana), were studied for concepts relevant to cyclical premenstrual symptoms, for the role of the Doshas and the mind (Manas), and for the regimen prescribed during menstruation (Rajaswala paricharya)[8–10]. Second, PubMed was searched for literature published up to October 2026 using combinations of the terms premenstrual syndrome, premenstrual dysphoric disorder, Ayurveda, Ayurvedic, herbal medicine, saffron, curcumin, *Withania somnifera*, *Bacopa monnieri*, *Vitex*, yoga, yoga nidra and mindfulness. Guidelines, systematic reviews, meta-analyses, randomised controlled trials, trial protocols, pilot studies and case reports were considered. Every reference cited in this article was checked against its PubMed record for authors, title, journal, year, volume, pages and digital object identifier. Retracted publications identified during the search were excluded; specifically, a 2024 meta-analysis of curcumin for dysmenorrhoea and PMS that is marked as retracted in PubMed was not used. The findings are synthesised narratively rather than statistically.

CURRENT UNDERSTANDING OF PREMENSTRUAL SYNDROME

PMS is thought to arise from an abnormal central nervous system response to normal cyclical changes in oestradiol and progesterone, rather than from abnormal hormone levels as such. Interaction between ovarian steroids and neurotransmitter systems, particularly serotonin and gamma-aminobutyric acid (GABA), is considered central, and genetic polymorphisms of hormone receptors may confer susceptibility[2]. Stress biology is also involved. A review of the hypothalamic-pituitary-adrenal (HPA) axis across the female reproductive lifecycle identified altered HPA function and a history of stress and trauma as contributors to vulnerability in PMDD[11]. Disturbance of biological rhythms has also been described: a systematic review of 25 studies found that women with PMS or PMDD had lower melatonin levels,

higher night-time core body temperature and worse subjective sleep quality than controls, while other rhythm parameters gave conflicting results[12].

Accurate diagnosis requires prospective daily symptom ratings over at least two cycles, to confirm the luteal timing of symptoms and to distinguish PMS from premenstrual exacerbation of an underlying depressive or anxiety disorder, which is an important differential diagnosis[1,2]. Validated tools include the Daily Record of Severity of Problems (DRSP) and the Premenstrual Symptoms Screening Tool (PSST). Many herbal trials have relied on retrospective questionnaires, which tend to overestimate prevalence and treatment effects[5,7].

AN AYURVEDIC INTERPRETATION OF PREMENSTRUAL SYNDROME

1. Menstrual physiology and the Doshas

Ayurveda describes normal menstruation as occurring at monthly intervals, lasting about five days and being free of pain and burning[9]. Ayurvedic gynaecologists commonly describe the cycle in three phases, namely the menstrual phase (Rajahsrava kala), the post-menstrual or proliferative phase (Ritu kala) and the premenstrual or secretory phase (Ritu vyatita kala), and relate them to the predominance of Vata, Kapha and Pitta respectively. On this view, the days before menstruation are a period of rising Pitta with Vata preparing to bring about the downward discharge (Pravartana) of menstrual blood, governed by Apana vata[8,9]. The mind (Manas) is closely linked with the bodily Doshas, and its own qualities (Rajas and Tamas) are disturbed by the same factors that disturb Vata and Pitta, such as stress, irregular routine and sleep loss[8].

2. PMS as a cyclical Dosha disturbance

Because PMS is not described as a named disease in the classical texts, Ayurvedic writers have interpreted it using the principle, stated by Charaka, that a physician need not know the name of every disease but should understand its Dosha involvement, site and course[8]. In this framework, PMS can be understood as a cyclical disturbance in which Vata, the Dosha of movement and of the nervous system, is the leading factor, accompanied by Pitta and Kapha in varying proportions. Three broad clinical patterns can be distinguished. In the Vata pattern, anxiety, insomnia, nervous tension, constipation, abdominal distension and lower back pain predominate. In the Pitta pattern, irritability, anger, headache, a sensation of heat, acne, loose stools and breast tenderness are prominent. In the Kapha pattern, low mood, lethargy, hypersomnia, oedema, weight gain, food cravings and breast heaviness are characteristic. Most women show mixed patterns. A case report in this journal illustrates this approach: a 14-year-old girl with luteal-phase lower abdominal pain, backache, breast tenderness, constipation, acne, tiredness and unexplained anger was assessed in Ayurvedic terms and managed with dietary measures alone[13].

3. Correlation with modern pathophysiology

These Ayurvedic patterns correspond broadly to the symptom clusters recognised in PMS research, namely psychological, somatic and behavioural symptoms[5]. The central role attributed to Vata, which in Ayurveda governs the nervous system, sleep and the rhythms of the body, parallels the modern emphasis on neurotransmitter sensitivity, HPA-axis reactivity and disturbed biological rhythms[2,11,12]. The Ayurvedic view that stress, irregular routine, inadequate sleep and unsuitable diet aggravate the Doshas is consistent with these findings. As in other areas of Ayurvedic gynaecology, the correspondence should be treated as heuristic, but it provides a basis for selecting individualised interventions and for testing them.

PRINCIPLES OF AYURVEDIC MANAGEMENT

Ayurvedic management of PMS follows the general principles of treating the Dosha pattern, supporting the mind and regulating conduct around menstruation. The first element is Rajaswala paricharya, the regimen for the menstruating woman described by Charaka, Sushruta and Kashyapa, which advises rest, light and easily digested food, avoidance of strenuous exertion, emotional calm and avoidance of practices that disturb the downward movement of Vata[8–10]. Although formulated for the days of bleeding, its principles of rest, light diet and emotional calm are applied in practice from the late luteal phase. The second element is the use of medicinal herbs chosen for the predominant pattern: nervine and Medhya (mind-supporting) drugs such as Brahmi, Jatamansi, Shankhapushpi and Ashwagandha for Vata and psychological symptoms; cooling and Pitta-pacifying drugs such as Shatavari, Amalaki and Kumkuma for Pitta symp-

toms; and drugs such as Haridra, Shunthi and Guggulu for Kapha and inflammatory features[8,10]. The third element is yoga, breathing practices and meditation, which address the mind directly. Purification therapies, particularly Basti for Vata predominance and Virechana for Pitta predominance, may be used in severe or persistent cases[8].

EVIDENCE FOR HERBAL INTERVENTIONS

1. Herbal medicines and supplements in general

A 2022 systematic review and meta-analysis, prepared by Unani researchers in India and focusing on herbal medicine and nutritional supplements, included 15 randomised trials with 1,211 participants. Interventions reduced PSST scores compared with comparators (standardised mean difference [SMD] −1.44), with similar findings for physical symptoms, but heterogeneity was substantial; eight studies were judged at low risk of bias, and mild adverse events were reported in four trials[5]. An earlier systematic review of ten randomised trials found that *Vitex agnus-castus* consistently improved PMS more than placebo, that single trials supported *Ginkgo biloba* and saffron, and that evening primrose oil and St John's wort were no better than placebo[6]. A later meta-analysis of *V. agnus-castus* confirmed a large pooled effect in placebo-controlled trials but found extreme heterogeneity, high risk of bias and probable publication bias, and concluded that the pooled effect should be regarded as exploratory and probably overestimated[7]. Although *Vitex negundo* (Nirgundi) is used in Ayurveda, it is a different species, and evidence for *V. agnus-castus* cannot be transferred to it.

2. Kumkuma (saffron, *Crocus sativus*)

Kumkuma is described in Ayurveda as a drug that improves complexion, pacifies the three Doshas and is used in women's disorders. Saffron has the most consistent recent evidence among the herbs reviewed here. A 2025 systematic review and meta-analysis of randomised trials found that saffron significantly improved PMS symptoms (SMD −0.64) and reduced dysmenorrhoea[14]. A systematic review of saffron in disorders of the female reproductive system, covering 50 experimental and human studies, reported effects on sex hormones, folliculogenesis and ovarian protection, and improvements in PMS, dysmenorrhoea and menopausal symptoms, attributed to crocin, crocetin and safranal[15]. The trials are mostly small and from a single region, and saffron is expensive and frequently adulterated, which affects practical use.

3. Haridra (turmeric) and curcumin

Haridra is used in Ayurveda for its anti-inflammatory, blood-purifying and Kapha-pacifying actions. A 2025 systematic review of ten randomised trials of curcumin in PMS and dysmenorrhoea found that six reported significant symptom reduction, and several reported associations with inflammatory markers, brain-derived neurotrophic factor and vitamin D status; the authors called for work on optimal dose and duration and noted possible interactions with iron metabolism[16]. As noted in the Methodology section, an earlier meta-analysis of curcumin for PMS and dysmenorrhoea has been retracted and is not relied upon here; this underlines that the evidence for curcumin in PMS rests on a small number of trials.

4. Ashwagandha (Withania somnifera)

Ashwagandha is a Rasayana and Vata-pacifying drug widely used for stress, sleep and fatigue. A 2026 narrative review proposed that ashwagandha could benefit PMS through modulation of the HPA and hypothalamic-pituitary-gonadal axes, lowering of cortisol and GABA-related anxiolytic effects, but emphasised that the evidence relies heavily on preclinical models and extrapolation from other populations, and that randomised trials in PMS with standardised extracts are needed[17]. Ashwagandha should therefore be regarded as a plausible but untested candidate for PMS.

5. Brahmi (Bacopa monnieri) and other Medhya drugs

Brahmi is the principal Medhya Rasayana of Ayurveda and is used for anxiety, cognition and emotional balance. No completed randomised trial of Brahmi in PMS was identified. However, a double-blind, randomised, placebo-controlled exploratory trial sponsored by the Central Council for Research in Ayurvedic Sciences is in progress at an Ayurveda teaching hospital in Kerala. Forty-six women aged 18 to 24 years with moderate to severe PMS, diagnosed using the PSST and DRSP, are being randomised to cognitive behavioural therapy with either Brahmi tablets or placebo, with DRSP and quality of life as primary outcomes[18]. As the authors acknowledge, the design tests the combination and cannot isolate the effect of Brahmi[18]. Other Medhya drugs used for premenstrual anxiety and sleep disturbance, such as

Jatamansi and Shankhapushpi, have not been evaluated in PMS trials identified in this review.

6. Shatavari and polyherbal products

Shatavari (*Asparagus racemosus*) is widely recommended in Ayurveda for women's health and Pitta symptoms. A 2025 randomised trial of a Shatavari extract for perimenopausal symptoms has been retracted, and no reliable controlled trial of Shatavari in PMS was identified. A polyherbal supplement containing saffron, turmeric and other botanicals showed benefit in a double-blind, placebo-controlled trial in which 218 young women with PMS completed treatment, with significantly lower DRSP scores than placebo after one and two months[19]. These products are not classical Ayurvedic formulations, but they suggest that combinations based on Kumkuma and Haridra merit evaluation in Ayurvedic form.

DIET, CONDUCT AND YOGA

1. Diet and Rajaswala paricharya

The classical texts recommend light, warm and easily digested food during menstruation[8–10]. In the case report mentioned above, an adolescent with mild to moderate PMS was given green gram (Mudga) soup for lunch and barley (Yava) porridge for dinner during the first three days of menstruation for six cycles, with reported reduction of symptoms[13]. A single case cannot establish efficacy, but it shows how classical dietary guidance can be translated into a simple, testable intervention.

2. Yoga, meditation and relaxation

Yoga is the most extensively studied intervention related to Ayurveda in PMS. A 2026 systematic review of contemplative practices, including mindfulness programmes, yoga and qigong, covering 15 trials with 1,080 participants, found improvements in mood, stress, anxiety, somatic complaints and sleep; movement-based practices additionally produced physiological effects, including reduced blood pressure, but methodological quality was only moderate[3]. Another 2026 systematic review of mindfulness- and relaxation-based interventions, including yoga and progressive muscle relaxation, included 22 studies with 1,598 participants and found reductions in pain, fatigue, anxiety, depression and stress, with improved quality of life, while noting that the evidence remains limited[20]. A systematic review of seven randomised trials of yoga nidra in menstrual disorders reported improvements in psychological wellbeing and in hormonal, haematological and physiological parameters[21].

Indian studies support feasibility. In a school-based study in Punjab, a 12-week yogic intervention reduced PMS severity in 48 adolescent girls compared with 46 controls, although allocation was by purposive sampling rather than randomisation[4]. A four-phase yoga module tailored to the menstrual cycle was validated by experts and tested in 15 university students with PMS, with full retention, no adverse events and significant improvement in PMS symptoms and quality of life after eight weeks[22].

DISCUSSION

Although PMS is not named in the classical texts, Ayurveda provides a coherent way of understanding it as a cyclical disturbance of the Doshas, led by Vata and involving the mind, with Vata, Pitta and Kapha patterns that correspond broadly to the psychological, somatic and behavioural clusters of modern PMS research[2,5,8]. The Ayurvedic emphasis on routine, sleep, diet and emotional calm aligns with evidence implicating stress biology and biological rhythms in PMS[11,12], and its preference for individualised treatment is consistent with the ACOG recommendation of a multimodal approach[1].

The evidence for specific interventions is uneven. Saffron (Kumkuma) has meta-analytic support[14,15], and herbal medicines and supplements as a group appear beneficial, although heterogeneity and risk of bias are considerable[5]. Curcumin has favourable but limited data[16], and the retraction of one meta-analysis is a reminder to verify the status of the literature. Ashwagandha and Brahmi, perhaps the most characteristically Ayurvedic candidates for premenstrual psychological symptoms, have not yet been tested in completed PMS trials, although a placebo-controlled study of Brahmi is in progress[17,18]. The *Vitex* literature illustrates the risk of overestimation when small, biased trials are pooled[7]. For yoga and related mind-body practices, the evidence is broader and consistently favourable, but trial quality is moderate and outcomes are heterogeneous[3,20–22].

Several research priorities follow. Trials should diagnose PMS prospectively using daily ratings over at least two cycles and exclude underlying mood and anxiety disorders[1,2]. Ayurvedic pattern assessment can be recorded at baseline to test whether it predicts

response to particular herbs. Herbal products should be authenticated and standardised, and trials should compare them with placebo and, where appropriate, with SSRIs. Combined interventions reflecting real Ayurvedic practice, such as a pattern-specific herb with diet and yoga, can be evaluated using factorial or pragmatic designs, and safety reporting should be systematic.

Clinically, Ayurvedic herbs, diet and yoga can reasonably be offered to women with mild to moderate PMS, or as adjuncts in more severe cases, after confirmation of the cyclical pattern. Women with PMDD, suicidal thoughts or severe functional impairment require prompt conventional assessment and treatment[1].

CONCLUSION

PMS can be interpreted in Ayurveda as a Vata-led cyclical disturbance of the Doshas and the mind, a model that is broadly consistent with current understanding of neuroendocrine sensitivity, stress and biological rhythms. Among the herbs used in Ayurveda, saffron has the strongest evidence and curcumin has supportive but limited data, while Ashwagandha and Brahmi remain plausible but untested. Yoga and related practices are consistently beneficial in moderate-quality trials. Rigorous trials of standardised, individualised Ayurvedic interventions using prospective diagnosis and validated outcomes are needed to define their role in integrative care.

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