

Unani Perspective of Premenstrual Syndrome in Women: A Review

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ABSTRACT

Background and Objectives: Premenstrual syndrome (PMS) is a commonly reported condition that affects women of reproductive age. It is a recurring set of physical, psychological, and behavioural variations that occur during the second half of the menstrual cycle and can have a significant impact on overall health. The pathogenesis of PMS is complex and multifactorial, with several possible causes such as hormonal imbalances, sodium retention, and nutritional deficiencies. Despite being a recently described problem, PMS-like symptoms have been reported for centuries, and the condition can significantly disrupt the quality of life of reproductive-age women, causing substantial morbidity and an adverse impact on interpersonal relationships. Unani scholars have surmised that various menstruation-related psycho-neurological and behavioural symptoms such as anxiety, depression, forgetfulness and sleep changes can also occur due to *Mushārahakāt-al-Rahim* (involvement of the uterus). In this article, we discuss the Unani perspective of PMS and explore the historical as well as evidence-based medicine benefits of PMS. Therefore, a comprehensive search of classical Unani literature, as well as PubMed, Google Scholar, Scopus, and other indexing databases, were searched for Premenstrual syndrome.

Conclusion: According to Unani scriptures, the treatment is to treat the underlying cause, such as aberrant temperament and psychological and environmental issues. Unani drugs have emmenagogue, anti-inflammatory, analgesic, and neuroprotective qualities that can help alleviate premenstrual symptoms. Unani herbs such as *C. sativus*, *Vitex*, *agnus castus*, *P. vulgare*, *N. Jatamansi*, *M. officinalis*, and *Z. officinalis* have been clinically demonstrated to be effective in PMS. Thus, traditional knowledge authentication and conservation are vital for future research and appreciated for application in the modern day. Furthermore, randomised controlled trials, comprehensive reviews, and meta-analyses are suggested.

Keywords Depression, Premenstrual Syndrome, Narrative Review, Uterine-strangulation, Unani Medicine

INTRODUCTION

Premenstrual syndrome (PMS) is a recently described problem. However, the history of symptoms that occur around the menstrual cycle is ancient. Further, in classical Unani texts, a detailed description has been given regarding the physiology of menstruation and the disorders related to it. The earliest recorded references to menstruation-related mood and physical disorders are found in the writings of Hippocrates (460-377 BC).¹ The occurrence of physiological/physical symptoms a few days before the onset of menstruation such as abdominal bloating, headache, palpitation, dizziness, increase in body weight and food cravings has been described in the Unani classical texts, which are analogous with the Premenstrual syndrome symptoms. Further, Unani scholars

have surmised that various menstruation-related psycho-neurological and behavioural symptoms such as anxiety, depression, forgetfulness and sleep changes can also occur due to *Mushārahakāt-al-Rahim* (involvement of the uterus).²⁻⁴ Premenstrual syndrome (PMS) is a relatively recent problem that has gained attention in the medical community. However, the existence of symptoms related to the menstrual cycle can be traced back to ancient times. In classical Unani texts, there is a comprehensive description of the physiology of menstruation and the disorders associated with it.

According to Unani literature, a woman's reproductive life can span from 8 years to 60 years, with the average age of menarche ranging from 12 to 16 years and menopause occurring between 45 to 55 years.⁵ The normal duration of the menstrual cycle can vary from 22 to 28 days, while the duration of menses typically lasts from 2 to 7 days.⁴ These details provide insights into the understanding of menstrual health as described in the Unani tradition. In the 2nd century AD, Roman physicians provided illustrations of the premenstrual experience in women. It was noted that before menstruation, women would often start feeling uneasy while walking. Some individuals might experience a sense of torpor,

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accompanied by a tendency to yawn and a potential for pandiculation. Some women are also said to feel nauseous with a loss of appetite.¹ In the 11th century, A female scholar in Padua, Italy, published the first academic description of PMS. She discussed women's suffering before the start of menstruation. These observations from ancient medical practitioners shed light on the early understanding of premenstrual symptoms and the physiological changes that occur in women before menstruation.

In conventional medicine, Premenstrual syndrome (PMS) is defined as one or a group of physical, behavioural, and psychological symptoms that occur repeatedly and in a cyclic pattern in conjunction with the luteal phase of the menstrual cycle, with the patient symptom-free between two luteal phases. The exact epidemiology and prevalence of PMS may vary across studies. According to epidemiological surveys, up to 85% of women of reproductive age have at least one symptom of premenstrual syndrome, and 2.5–3% of women suffer from the severe form of PMS, known as premenstrual dysphoric disorder (PMDD).⁶ PMS is a relatively unstudied field of psychiatry in India. Surprisingly, a considerable number of PMS instances go undiagnosed, partly because women do not seek medical attention for their symptoms and, in some situations, because doctors have difficulty diagnosing PMS or believe it is a cultural and societal construct rather than a true disease. As a result, the number of women seeking medical attention and receiving a diagnosis is tiny and likely to decrease.⁷ PMS is a collection of interconnected symptom complexes with many genotypes, phenotypes, or subtypes and a variety of pathophysiologic events that begin with ovulation.¹⁰ PMS has been linked to more than 200 symptoms.¹¹ According to the American College of Obstetricians and Gynecologists (ACOG), PMS is diagnosed when at least one of the affective symptoms (depression, anger outburst, irritability, anxiety, confusion, social withdrawal) or somatic symptoms (breast tenderness, abdominal bloating, headache, swelling of extremities) occurs during the 5 days before menstruation in three previous menstrual cycles and is relieved by menstrual flow. The mental and physical aspects associated with PMS symptoms differ from woman to woman.¹²

PMS is a common health problem in women of reproductive age group. It has been reported that women with PMS tend to have a significantly lower quality of life, increased absenteeism from work, parenting problems, social isolation, decreased work productivity, impaired personal and social relationships, legal problems, suicidal ideation and more frequent visits to health providers than those who do not experience PMS.^{6,8} Further, dysfunctions of sexual desire and excitement, dyspareunia, and sexual dissatisfaction are more prevalent in women with PMS.⁹

The exact origin of PMS is unknown; however, it is most likely produced by a chemical interaction between sex hormones and brain neurotransmitters.¹³ It is an incomprehensible medical condition.¹⁰ The interactions of reproductive hormones with neurotransmitters such as serotonin, Gamma-aminobutyric acid (GABA), cholecystokinin, and regulation of the renin-angiotensin-aldosterone system¹¹ are thought to be involved in PMS biochemical abnormalities. Thirteen PMS patients responded to tryptophan (a 5-HT precursor) less strongly during the luteal phase than during the follicular or mid-luteal phases.¹¹ Women who have PMS or PMDD are known to be more vulnerable to

normal cyclical hormonal fluctuations.¹²

In conventional medicine, benzodiazepines (especially alprazolam), selective serotonin reuptake inhibitors (particularly fluoxetine), and gonadotropin-releasing hormone (GnRH) agonists are among the drugs used to treat this disorder. Despite their reasonable efficacy, each of these PMS pharmacotherapies has a significant adverse effect profile, which includes dysphoria, insomnia, muscle cramps, nausea, sweating, and tremor. The hunt for the most effective treatment with the fewest side effects is still ongoing.¹³ Furthermore, because PMS is a chronic illness, extra consideration should be given to the negative effects of pharmaceutical therapies.¹⁰ As a result, complementary and herbal medicines are increasingly extensively utilized in the treatment of many chronic gynaecological diseases such as PMS, menopausal symptoms, and dysmenorrhea since they are less expensive, safer, and more reliable than modern pharmaceuticals.¹⁴ This literature appraisal aimed to discover and analyze the theory and Management of PMS in Unani medicine.

We conducted an extensive literature search to explore the traditional knowledge of premenstrual syndrome (PMS) in Unani medicine, as well as scientific studies conducted on Unani herbs for treating PMS. This review was undertaken to comprehensively address the wealth of information pertaining to traditional approaches to managing PMS. Additionally, we aimed to present scientific investigations into the efficacy of Unani herbs in addressing this condition.

The primary objective of this review is to provide an overview and analysis of various aspects related to traditional knowledge surrounding PMS, alongside examining the therapeutic implications of utilizing herbs within this context. As such, the paper aims to offer solutions to the following Research Questions (RQs):

- (i) What is the etiopathogenesis, symptoms, and treatment of PMS according to traditional Unani medicine?
- (ii) What are the various scientific studies conducted to demonstrate the efficacy of Unani herbs in treating PMS?

These questions aim to delve into the understanding and treatment approaches of PMS from both traditional Unani medicine perspectives and scientific studies conducted on the efficacy of Unani herbs.

Search Strategy for Literature Review

The approach taken for this research involved gathering information from both Unani texts and scientific databases such as Google Scholar, ScienceDirect, Scopus, Web of Science, etc., along with dissertations. A variety of keywords were employed including "herbs and premenstrual syndrome", "PMS", "CAMs and premenstrual syndrome", and "Unani drugs useful in PMS" to ensure comprehensive coverage.

Key Unani texts like Rāzī's *Kitāb al-Hāwī fi'l Tibb* (Continens Liber), Ibn Sīnā's *Al-Qānūn fi'l Tibb* (Canon of Medicine), Ṭabarī's *Firdaws al-Hikma fi'l Tibb* (Paradise of Wisdom), *Kitāb al-Manṣūrī* (Liber al mansoris), Jurjānī's *Dhakhīra Khwarizm Shāhī*, Majūsī's *Kitāb Kāmil aṣ-Ṣinā' a at-Tibbiyya* (Liber Regius/Complete Book of the Medical Art), *Tibb-i-Akbar*, *Kitāb al-Mukhtārāt fi'l Tibb*, *Rumūz-i-A'zam*, *Jamia al-Hikmat*, *Iksīr-i-A'zam*, and Ibn Rushd's *Kitāb al-*

Kulliyāt were consulted to explore the topic of PMS from the Unani perspective.

The inclusion criteria encompassed the specified terms and full-length, freely available articles. This meticulous approach ensured a thorough examination of both traditional Unani wisdom and contemporary scientific research on PMS.

RESULTS

Asbāb wa Mahiyat al-Mard (Aetiopathogenesis) of PMS

Abū al-Ḥasan Raban Ṭabarī, a prominent figure in the field of medicine during the 8th and 9th centuries, delved into various aspects of women's health, particularly focusing on menstrual disorders and their accompanying signs and symptoms. In his writings, he observed that the temperament of a woman's body can be characterized as *Bārid wa Raṭb*, meaning cold and wet. According to his observations, women's bodies possess an abundance of fluid. This fluid tends to move towards the caudal end of the body, eventually being expelled through the vagina as menstrual blood. He posited that the expulsion of this menstrual blood from the body played a crucial role in preventing the development of certain conditions, such as gout and sciatica in women.¹⁵ He believed that the removal of this fluid ensured the balance and well-being of the female body. His views and observations provide valuable insights into the historical perspectives on women's reproductive health and highlight the emphasis placed on the fluid dynamics within the female body.

Ibn Sīnā (980-1037 A.D) surmised that when the menstrual blood is balanced in quality and quantity, the cycles are regular, it preserves health and prevents diseases. If the menstruation is irregular and abnormal, it may lead to various diseases. He pointed out that many diseases are exacerbated in the premenstrual phase especially those which are caused by the *Imtilā' Kaifiyat* (plethora) of the body; wherein the woman is prone to swelling, *Sudā'* (headache), body ache, blurring of vision, *Ghashī* (fainting) and fever.³ He has also described a syndrome termed 'uterine strangulation', wherein the morbid matter accumulates in the uterus. He states that there exists a significant relationship between the uterus and both the brain and heart. He proposed that this intricate link between these organs could sometimes result in the origin of a disease residing in one organ, while its signs and symptoms manifest in another organ.³ It has been well-established that the surge of *Akhlāt Muharrika* (hormones) causes a build-up of bodily fluid in tissue spaces during the premenstrual phase. This theory is consistent with the concepts given by Ibn Sīnā.¹⁶ This notion highlights the interplay and interconnectedness of various bodily systems and organs. The aetiopathogenesis of prominent symptoms associated with menstrual disorders, as described in various Unani texts, can be correlated with premenstrual syndrome (PMS) based on the following explanations.

- **Physiological/somatic symptoms**

The somatic/physiological symptoms associated with PMS are headache, palpitation, backache, heaviness of the body, syncope, and dizziness.

***Sudā'* (Headache):** According to various Unani scholars, *Afa' ḥ* or accumulation and rise of *Bukhārat* (vapours) from *Rahim* or other organs or *Mushārakat-al-Rahim* (involvement of the

uterus) probably causes *Sudā'*. *Sudā'* related to *Mushārakat-al-Rahim* occurs in the frontal and middle part of the head.^{2,3} Ibn Sīnā opined that *Ghayr Tabī'ī Mādda* or *Khilt Radī* (morbid matter) may upsurge to the *Dimagh* (brain) when the *Sudā'* is due to *Mushārakat-al-Rahim* (involvement of the uterus), and it occurs in the frontal and peri-orbital region.³

***Khafaqān* (Palpitations):** The occurrence of *Khafaqān* may be attributed to a uterine cause, potentially arising from *Imtilā' Kaifiyat* (plethora) in which the patient experiences sensations of heaviness, fatigue, and tightness in the body. Additionally, the pulse (*Nabd*) will be characterized as *Azim* (Pulsus Magnus).²

***Waja' al-Zahr* (Backache):** *Mushārakat-al-Rahim* leads *Waja' al-Zahr* a specific type of pain commonly experienced by women just before menstruation.²

Heaviness in the body: Muhadhdhab Abu al-Hasan Baghdadi (1122-1213) further elucidates the symptoms associated with *Imtilā'*, which include the manifestation of oedema or a sense of heaviness in the body preceding the onset of menstruation. Additionally, he attributes the loss of appetite during this period to *Awāriḍ al-Nafsāniyya*, referring to factors that influence the psychic faculty.¹⁷

***Ghāshi* (Syncope):** *Ghāshi* because of *Mushārakat-al-Rahim* occurs sometimes as there is formation and accumulation of *Ghayr Tabī'ī Mādda* in the *Rahim* (uterus). This *Mādda* probably reaches the brain and from here it reaches the heart through circulation and leads to *Khafaqān* and *Ghāshi*.²

***Duwār* (Dizziness):** Sometimes the *Ghayr Tabī'ī Mādda* (morbid matter) of the *Rahim* (uterus) may cause *Duwār* in which the patient is subjected to feel heaviness in the upper part of the body due to upward movement of the *Mādda*. It may be seen in patients with *Ihtibās al-Tamth* (amenorrhoea) and *Ikhtināq al-Rahim* (hysteria).²

- **Psycho-neurological symptoms**

***Sahar* (insomnia):** Patients with *Sahar* commonly exhibit increased thirst and irritability, which can be attributed to the affection of the brain by *Ghayr Tabī'ī Mādda Yabīs*.^{2,3}

Alamat (Clinical features)

The occurrence of physiological/physical symptoms a few days before the onset of menstruation such as abdominal bloating, heaviness in the body, *Sudā'*, *Khafaqān*, *Duwār* (dizziness), increase in body weight and *Fasād al-Ishtihā* (food cravings) have been described in the Unani classical texts, which are analogous with the premenstrual syndrome.^{3,4,17} Further, Unani scholars have discussed that various menstruation-related psycho-neurological and behavioural symptoms such as psychological upset,¹⁷ *Nisyān* (dementia/forgetfulness), *Fikr* (anxiety), *Mālanikhūliyā* (melancholy), depression, and *Sahar* or sleep changes can also occur due to *Mushārakat-al-Rahim* (involvement of the uterus).³ Rāzī (861-925 AD) has mentioned various symptoms related to menstrual disorders like *Sudā'*, *Waja' al-Zahr*, lethargy, *Qabd* (constipation), *Butlān al-Ishtihā'* (anorexia), nausea, *'Usr al-Bawl* (dysuria), etc under the vivid heading of *Ihtibās al-Tamth* and *Ikhtināq al-Rahim*. He has also mentioned that these symptoms subside with the onset of menstruation. However, a direct correlation of similar symptoms with PMS cannot be drawn.¹⁸ Other symptoms such

as loss of appetite, dysuria, mood changes, nausea, vomiting,¹⁸ dyspepsias, increased thirst, fever and oedema or swelling in the body¹⁹ are also mentioned in Unani classical texts in menstruation and menstrual disorders. Majūsī (930-994 AD) described the symptoms of premenstrual syndrome (PMS), such as increased body weight, food cravings, abdominal bloating, and headaches, under the heading of menstrual disorders, a few days before the onset of menstruation.⁴ Ibn Sīnā asserts that uterine strangulation syndrome manifests with various signs and symptoms, including syncope, bradycardia, fainting, palpitations, breathing difficulties, dyspnoea, hallucinations, delusions, involuntary movements of the face and lips, dizziness, headaches, sensory and motor weakness, and speech disorders.³

Arzānī (1134-1721 AD) has stated that women experience *Waja 'al-Zahr* in the premenstrual period which is relieved with the onset of menstruation. He also describes the occurrence of conditions like *Sudā'*, *Khafaqān*, *Duwār*, *Ghāshi* and epilepsy due to the involvement of the uterus.² In *Iksīr-i-A'zam*, Khān (d. 1902 AD) further affirms the presence of psychological and behavioural symptoms associated with PMS, such as *Sudā'*, *Sahar*, anxiety, and mood changes, attributing them to the impact on the brain. Unani scholars posit that the uterus, being a nervine organ, is susceptible to diverse psycho-neurological disorders.²⁰ Ahmad Al Hasan Jurjani has mentioned that the symptoms such as abdominal bloating and feeling of swelling or heaviness in the lower abdomen are relieved with the onset of menstruation.¹⁹

In the management of PMS, a comprehensive array of treatment modalities has been investigated, encompassing lifestyle adjustments, pharmacological interventions, and non-pharmacological approaches. However, the utilization of chemical medications is discouraged, except in severe cases, due to their adverse side effects. Currently, alternative and herbal medicine have gained prominence as viable treatment options for various chronic conditions like PMS, menopausal symptoms, and dysmenorrhoea.²⁰ The precise aetiopathogenesis of PMS remains unclear, and treatment typically centres around addressing the symptoms. No singular therapeutic approach has been universally embraced for the management of PMS. A diverse spectrum of therapeutic modalities has been scientifically examined for the treatment of premenstrual syndrome, ranging from non-pharmacological interventions such as lifestyle adjustments, education, exercise, and dietary modifications, to psychotropic drugs, hormonal therapy, cognitive-behavioural therapy, and complementary and herbal remedies.^{6,14}

I'laj (Treatment) in Unani Medicine

It's fascinating to observe the diverse properties attributed to Unani herbs as described in classical texts. These properties include *Dāfi'-i-Waja'al-Mafasil*, *Dāfi'-i-Mālankhūliya* (anti-psychotic), *Mudirr-i-Bawl* (diuretic), *Mufarrih-i-Qalb wa Dimagh* (heart and brain tonic), *Kāsir-i-Riyāh* (carminative), and *Mushil-i-Balgham wa Sawdā'* (expectorant and laxative). These properties suggest a wide range of therapeutic effects, making Unani herbs versatile tools for addressing various ailments.

Specifically, these herbs are indicated for conditions such as *Malankhūliya* (melancholia), *Nisyan* (memory impairment), *Nafkh al-Mi'da* (gastric disturbances), *Dāfi'-i-Qūlanj* (anti-spasmodic), and *Ithibas al-Tamth* (amenorrhoea), among others. The richness of their pharmacological properties

underscores their potential efficacy in managing a spectrum of health issues, including symptoms associated with premenstrual syndrome (PMS). In Unani medicine, the principle of treatment is to treat the cause. For all the PMS symptoms occurring due to involvement of the uterus, '*Tadīl al-Mizāj and Tanqiya'-i-Mawad'* i.e., drainage or correction of the affected organ is suggested.^{2,18}

Idrār-i-Hayḍ (Menstrual induction)

Arzānī opined that induction of menstruation causes relief of the symptoms associated with menstruation.²

Oral: *Sharbat of Afsanteen*¹⁷ is considered effective for the same. Arzānī has stated that to treat such a condition, *Mudirr-i-Hayḍ* (menstrual induction) drugs such as *Tukhm Karafs*, *Tukhm Methi*, *Tukhm Khayarain*, *Badyan*, *Anisoon*, and *Tukhm Shibt* is advised in the form of *Sharbat*.²

Local: *Hamūl* soaked in the decoction of *Afsanteen* has been suggested to be kept vaginally for menstrual induction.¹⁷

Sudā' (Headache)

Faşd-i-Şāfin (venesection of the great saphenous vein), *Joshanda* (decoction) of *Bisfāyey*, *Ustukhuddus*, *Maweez Munaqqa*, *Gaozaban*, *Badranjboya*, *Aftimoon* along with *Turanjabeen* is advisable to relieve headache. Also, *Roghaniyat* such as *Roghan Babuna*, *Roghan Sosan*, and *Roghan Nargis* are useful for application over the scalp for the relief of headaches.²

Duwār (Dizziness)

Sharbat Leemoo, *Sharbat Sandal*, *Sharbat Seb* and other *Mufarrih al-Qulūb* (cardio-protective) drugs are advisable to relieve *Duwār*.²

Ghāshi (Syncope)

According to Unani scholars, the treatment of *Ghāshi* is according to the *Mizāj'* (temperament) of the patient. If the patient has *Hārr* (hot) *Mizāj'*, then *Shamūm* (inhalation) and *Wajūr* (throat drop) of *Bārid* (cold) drugs such as *Kafoor*, *Sandal*, *Gulab* and *Khayarain* are advisable. If the patient is having *Bārid* (cold) temperament, then drugs like *Mushk*, *Ambar*, *Rehan*, *Ilaichi*, *Qaranfal*, *Darchini*, and *Zafran* are advised. Also, the use of *Roghan Narden* and *Roghan Mastagi* is suggested for local application over *Fam-i-Mi'da*.²

Tanqiya'-i-Mawad' and Tartīb

According to Unani scholars, *Amrād al-Nafsāniyya* (psychological and psychiatric illnesses) e.g. anxiety, depression, melancholy etc are caused by *Ghayr Tabī'ī Sawda* (abnormal black bile). Hence, evacuation and excretion of *Ghayr Tabī'ī Sawda* (pathological melancholy) through *Mundijat* (concoctive) and *Mushilat* (purgative) followed by *Tartīb* (coolant) could be the second line of treatment.²¹

Tuqwiyat-i-Qalb

Strengthening the heart through *Mufarrih al-Qulūb* (Exhilarant) drugs such as *Zafran* (*Crocus sativus* L.), *Gauzaban* (*Borago officinalis* L.), *Badranjaboya* (*Melissa peryflora*), *Tukhm-e-Karafs* (*Apium graveolens* L.), *Ward* (*Rosa damascena* Mill), *Rehan* (*Opimum sanctum* L.), *Sandal safed* (*Santalum album* L.), *Anar* (*Punica granatum* L.) etc.

could be an essential line of treatment after the evacuation of the vitiated humour from the body as stated by various Unani scholars.²¹

Waja' al-Zahr (Backache)

Idrār-i-Hayḍ drugs are useful and local application/massage of *Roghan Gul* on the back is useful to reduce the pain.²

Tashkhīṣ -i- Fāriqa

Waja'al-Rahim/ 'Usr al-Tamth (dysmenorrhea): Dysmenorrhoea refers to the pain experienced either at the commencement or during the days of menstruation. The symptoms accompanying dysmenorrhea, including nausea, headache, dizziness, vertigo, muscle spasms, palpitations, and digestive impairment, can be distinguished from those of premenstrual syndrome (PMS) since PMS symptoms typically manifest a few days before menstruation and subside with the onset of menses.^{5,18}

Ikhtināq al-Rahim (Hysteria)

The prodromal symptoms associated with this disorder include breathlessness, headaches, palpitations, malaise, and calf muscle pain. Typically, these symptoms manifest during the menstrual period. In this condition, the patient tends to remain in a state of subconsciousness.⁵

Amrāḍ al-Nafsāniyya

Various psychological and psychiatric disorders, such as *Nisyān* (dementia/forgetfulness), *Fikr* (anxiety), *Mālankhūliyā* (melancholy), *Māniyā* (psychosis), *Sar'a* (epilepsy), and others, can be differentially diagnosed based on the symptoms associated with *Mushāarakat-al-Rahim*.^{3,20}

Research studies on various alternative/complementary/herbal therapies

Many plant products are useful for the alleviation of PMS symptoms. Various randomized controlled studies on plant products have proven their efficacy. A few studies are summarized below.

Zingiber officinalis L. (Ginger)

The effectiveness of ginger on the severity of PMS symptoms was examined in a randomized, double-blind, placebo-controlled clinical intervention, and the outcomes of the two groups (n = 35 in each) were compared. For three cycles, each participant in the test group took two ginger capsules twice a day from seven days prior to menstruation to three days following menstruation. The severity of the symptoms was recorded using a daily record-scale questionnaire. There was a significant difference in the severity of the emotional, physical, and behavioural symptoms between the two groups after 1, 2, and 3 months of treatment (P < 0.001), pointing to the potential advantages of using ginger to treat PMS.²²

Wheat germ

In a two-month triple-blind clinical study involving 84 women, 400 mg capsules of wheat germ extract or placebo were administered three times a day from day 16 to day 5 of the next menstrual cycle. Wheat germ extract considerably

lowered the intensity of PMS's general, physical, and psychological symptoms, according to the findings.¹⁴

Vitex agnus-castus (Chasteberry/Sambhalu)

In a randomized, placebo-controlled, double-blind study, 128 women with PMS were randomly assigned to one of two groups: test (n = 62) or placebo (n = 66). From the sixth day before menstruation until menstruation, patients were given forty drops of *Vitex agnus castus* extract or a matching placebo in one glass of fruit juice before breakfast for six consecutive cycles. The PMS and Visual Analogue Scale (VAS) ratings were lower in the *Vitex agnus castus* group (P 0.0001) compared to the placebo group.²³ Another single-blind RCT with 60 patients (n = 30 in each group) was conducted. *Tukhme Sambhalu* (1 g) and *Arq Pudina* (36 ml) were given orally twice a day, 10 days before menstruation, for three consecutive months. When compared to a placebo, the test group showed a 70% cure rate and 10% partial alleviation in lowering the physical and psychological symptoms of PMS.¹⁶

Nardostachys jatamansi DC. (Sumbul-ut-teeb)

In a single-blind, randomised, placebo-controlled study, 60 women with premenstrual syndrome (PMS) were divided into two groups at random and given either a placebo or the herbal supplement *N. jatamansi*. Over two consecutive menstrual cycles, the therapy was given for 15 days before menstruation. After the two-month intervention period, the average scores on the Premenstrual Tension Syndrome Observer Rating Scale (PMTS-O) and the Premenstrual Tension Syndrome Self-Rating Scale (PMTS-SR) decreased in the *N. jatamansi* group statistically significantly (p 0.001). On the other hand, there were no appreciable differences in scores for the placebo group.²⁴

Crocus sativus L. (Zafran)

50 women between the ages of 20 and 45 who had regular menstrual cycles and a history of experiencing PMS symptoms for at least six months were eligible to take part in the double-blind, placebo-controlled research. The objective of the study was to evaluate the effectiveness of *C. sativus* (saffron) in reducing PMS symptoms. While Group B received placebo capsules twice daily, Group A was given capsules with *C. sativus* at a dosage of 30 mg per day (15 mg twice a day, in the morning and evening). The duration of the treatment covered cycles 3 and 4 of the menstrual cycle. The results showed that, as compared to the placebo capsules, the administration of *C. sativus* significantly reduced PMS symptoms.²⁵

Melissa officinalis L. (Badranjboya)

In a double-blind, randomized clinical trial involving high school girls, the effects of 1200 mg of *M. officinalis* essence daily (administered as two 600 mg capsules) were investigated throughout three menstrual cycles. The results demonstrated a notable distinction between the test group receiving the *M. officinalis* essence and the placebo group.²⁶

Polypodium vulgare L. (Bisfayej)

The Premenstrual Symptoms Scale (PMSS) and HRQoL significantly decreased in the RCT when *Polypodium vulgare* was used. The two capsules of *P. vulgare* (1000 mg each) or a placebo (n = 30) were given orally twice daily from day 16 of the menstrual cycle to day 5 of the following cycle for three

consecutive cycles to diagnosed patients (n = 60) with PMS symptoms. In comparison to the placebo group, *P. vulgare* significantly (p 0.0001) reduced the overall intensity of symptoms, the severity of psychosomatic and behavioural symptoms of the PMSS score, the length of PMS symptoms, and improved the EQ-5D-5L index value. The authors concluded that *P. vulgare* was more effective than a placebo at reducing the severity of PMS symptoms and enhancing women's HRQoL, as it possesses, anti-inflammatory and antioxidant properties, effects on the renin-angiotensin system, and increase 5-hydroxytryptamine in the brain. Bioflavonoids and phytoecdysteroids have been reported to have antioxidant and neuroprotective activities.²⁷ *Polypodium vulgare* is indicated for various ailments such as abdominal pain, epilepsy, melancholia, dementia, arthritis^{28,29} and other neurological diseases as it possesses, brain and heart exhilarant properties.²⁹ Unani herbs are scientifically proven for several potentials such as anti-inflammatory, immunomodulator, antioxidant, tranquillizing effect, smooth muscle relaxant, analgesic, memory retention improvement, aldosterone antagonists, cholinesterase inhibitory activity, CNS depressant and dopamine effect.³²⁻³⁵

Various inorganic elements and organic contents (steroids, resins, tannins, flavonoids, and proteins) found in *C. sativus*, *Vitex*, *Agnus castus*, *P. vulgare*, *N. jatamansi*, *M. officinalis*, and *Z. officinalis* exhibit antioxidant and anti-inflammatory properties. Through their antioxidant properties and inhibition of signal transmission for the generation of proinflammatory cytokines, flavonoids have an anti-inflammatory effect.^{3,6} Increased inflammatory responses, oxidative stress, and superactivation of the renin-angiotensin-aldosterone pathway are all associated with PMS symptoms.^{3,7} The literature supports the connection between various menstruation symptoms and several different psychological and physical problems, as well as the use of antioxidants in their treatment. Although the exact processes are unknown, we hypothesized that antioxidants and oxidative stress might affect the complicated psychological and physical illness process of PMS. According to the study, oxidative stress indicators were found in higher amounts in PMS-affected women. Reactive oxygen species (ROS) may be specifically responsible for the positive correlation between F2-isoprostane and psychological symptoms (tension, rage, and sobbing), which includes a unique disruption of the GABAergic neuroendocrine system. ROS alters the amounts of these neurotransmitters and has been linked to neuronal cell death, which results in behavioural changes (such as obesity and an increase in hunger) as well as changes in mood and the progression of depressive and anxiety symptoms.

CONCLUSION

Premenstrual syndrome (PMS) is a complex condition that is little understood and can be difficult to diagnose, even though it affects a woman's life and productivity to a devastating extent and is highly prevalent in society. Therefore, knowledge of and access to information about this entity are crucial components of managing it. Unani remedies can be a helpful treatment choice for PMS due to a rising tendency to utilize alternative and herbal medication, particularly for people who have no desire to use chemical drugs with more adverse effects. According to literature from the Unani religion, management involves addressing the root causes, such as temperament disorders, psychological issues, and

environmental variables. Premenstrual symptoms can be lessened with the aid of Unani medications having emmenagogue, anti-inflammatory, analgesic, and neuroprotective qualities. Scientific studies have demonstrated the effectiveness of Unani herbs for PMS, including *C. sativus*, *Vitex*, *Agnus castus*, *P. vulgare*, *N. jatamansi*, *M. officinalis*, and *Z. officinalis*. Therefore, the verification and preservation of old knowledge are important for upcoming studies and valued for application in the modern day. However, more research is required to examine the active components, effectiveness, and safety of various complementary and/or herbal premenstrual syndrome treatment techniques.

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Nil

CONFLICT OF INTEREST

None to declare

CONTRIBUTION OF THE AUTHOR

All authors contributed equally to this manuscript.

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