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An Ayurvedic perspective into the therapeutic strategy of Premenstrual syndrome (PMS)

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ABSTRACT

Premenstrual Syndrome (PMS) is a widely recognised disorder encountered by females during the luteal phase of ovulatory cycle characterised by signs and symptoms whose degree of impact is severe enough to disturb a woman's routine life. The disorder causes somatic, psychological or a mixture of both symptoms that affect the physical and emotional wellbeing of women for a period of up to two weeks prior to menstruation. In Ayurveda there is no specific information about this disease but there is a good description of menstrual cycle closely relating to the uterine cycle. Premenstrual syndrome is particularly common among younger age groups, therefore represents a significant public health problem. Complications of PMS can occur if this disorder is unrecognized and untreated. The two most severe complications that can occur in relation to untreated PMS are anxiety and depression. Moreover, studies have concluded an association between PMS and increased risk of future hypertension. These are the reasons why the disorder must be appropriately diagnosed and treated but unfortunately there is no consensus regarding premenstrual syndrome treatment; however, all current interventions focus on management of the most troubling symptoms. Since PMS can be influenced by many factors, such as diet, digestion, toxin accumulation, stress, exercise levels and daily routine, the *Ayurveda* approach to the condition is a comprehensive one that balances many physiological functions simultaneously. Studies on many herbs like chaste berry (*agnus castus*), Dandelion (*taraxacum officinale*), St John's wort (*hypericum perforatum*), *crocus sativus* etc have proved that they not only reduce symptoms but also help to balance hormones. This literature is focused on the understanding of the disorder, its management from an *Ayurvedic* perspective and an overview of research studies conducted on herbs used in the management of PMS.



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KEYWORDS

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INTRODUCTION

PMS is not a disease but a syndrome, something that doesn't have a definitive cause but produces many symptoms. It can be defined as "a recurrent luteal-phase condition characterized by physical, psychological, and behavioural changes of sufficient severity to result in deterioration of interpersonal relationships and normal activity¹". By definition, this suggests that only females with ovulatory cycles are affected. PMS is characterized by one or more of physical, behavioural, and psychological symptoms that happen repetitively and in a cyclic pattern in association with the luteal phase of the menstrual cycle and the girls are symptom-free between two luteal phases².

PMS is a psychoneuroendocrinological disorder. The range of the symptoms is very high scaling from physical to behavioural, and women can experience an array from any of the single or both categories. Common physical symptoms include the following: Weight gain, swelling of extremities, tenderness and heaviness of breasts, headache, dysmenorrhea, hot flashes, acne, change in appetite, nausea, vomiting, bloating of the stomach and change in bowel habits³. Common psychological symptoms include mood

swings, cravings, depression, irritability, anger for no reason, sleep disorders, nervousness, anxiety, and difficulty concentrating, feeling of low self worth, violent feelings⁴. But it is the timing, rather than the types of symptoms, and the degree of impact on daily activity that supports a diagnosis of PMS. A severe form of PMS called as Premenstrual dysphoric disorder (PMDD) has been listed as a mental disorder in the fifth edition of the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)*, whereas PMS is not⁵.

Symptoms of PMS have been reported to affect as many as 90% of women of reproductive age sometime during their lives. Four in ten women (40%) experience symptoms of PMS and out of these 5–8% suffer from severe PMS⁶. Studies indicate that 14–88% of adolescent girls have moderate-to-severe symptoms. Older adolescents tend to have more severe symptoms than younger adolescents do. Moreover studies indicate that most of the females use complementary and alternative therapy to minimize premenstrual syndrome, herbal therapy was the main complementary and alternative therapy used followed by hydrotherapy, food Change, massage and exercise⁷. Women in their fourth decade of



life tend to be affected most severely. PMS completely resolves at menopause. PMS and PMDD have been associated with a higher risk of bulimia nervosa.

Aetiology

Although the aetiology remains uncertain; seems to be multifactorial but revolving around the ovarian hormone cycle, since premenstrual syndrome is not observed before puberty in girls and after menopause in women. Current research provides some evidence supporting the following two theories which appear to predominate and seem to be interlinked⁸.

a) **Sensitivity to hormones fluctuation**

– According to this theory, Some women show increased central sensitivity to physiologic levels of estrogen and progesterone hormone fluctuation across the menstrual cycle. However, the serum concentrations of these hormones have shown no difference between women with PMS and controls. This increased sensitivity is due to Serotonergic – mediated pathways.

b) **Deficiency of Neurotransmitter** -

This second theory implicates the deficiency of neurotransmitters Serotonin and G-aminobutyric acid (GABA) as a cause. Serotonin receptors are responsive to estrogen and progesterone, and Serotonin deficiency has been postulated in PMS

patients; As the symptoms of PMS respond to selective serotonin reuptake inhibitors (SSRIs), which increase the amount of circulating Serotonin. GABA levels are modulated by the, allopregnanolone, a metabolite of progesterone and in women with PMS the allopregnanolone levels appear to be reduced.

From an *Ayurvedic* point of view, violation of proper diet and lifestyle including excessive intake of sweet, acid, salty, sour, and incompatible foods, lack of exercise, excessive sleep, laziness, daytime naps, and are some of the general causative factors of gynaecological disorders. The specific *dosha* -aggravating or -depleting factors could also play a contributory role to PMS. Essentially, all these factors can lead to build-up of toxins, impurities and blockage of circulation causing an imbalance in the body tissues and organs and make them more prone to infections or internal pathology^{9, 12}. As these impurities and blockages accumulate in the female reproductive area, they predispose the woman to many symptoms during the heightened activity and transformation of menstruation. Other important causative factor of PMS may be low *ojas* because of predominantly imbalanced Vata accompanied by Pitta and Kapha. All of



these factors also have a negative impact on *ojas*.

Another theory that may point towards PMS that the type of symptoms a woman experiences during PMS depend largely on the type of *dosha* imbalance when the menstrual cycle begins. All the physiological functioning is dependent upon these three *doshas Vata, Pitta* and *Kapha*. *Vata* has strong influence on the female reproductive tract because its home is lower abdomen. An imbalance in *Vata* dosha predisposes women to symptoms of anxiety, insomnia, bloating of the stomach, pelvic pain, headache, Difficulty in concentrating, sleep disorders, mood swings, and anxiety as the menstrual cycle begins. *Pitta* imbalance predisposes women to anger, irritability, excessive heat, poor complexion and food cravings. The symptoms like heaviness of breasts, change in appetite, nausea, vomiting, depression, and nervousness can be correlated to *kapha* imbalance. This understanding of imbalance provides a new perspective as to why different women experience different symptoms during menstruation.

Mental stress and nervous strain also predisposes women towards heightened symptoms of PMS.

Management

The management of PMS can be difficult because many medical and psychological conditions mimic the symptoms of the PMS. Medical care of premenstrual syndrome (PMS) is primarily focused on two aspects Pharmacologic and Non pharmacologic or Behavioural, with an emphasis on relief of symptoms.

Pharmacological Approach

In conventional medicine, symptomatic treatment is given using sedatives, diuretics, laxatives, and analgesics. No single modern pharmacological treatment is universally effective, and studies with all therapies have not produced consistent results. Current recommendations in the literature regarding oral contraceptive pills and ovarian suppressors are conflicting. At present, selective serotonin reuptake inhibitors (SSRIs) are commonly considered suitable first-line therapy for premenstrual disorders¹⁰.

Ayurvedic Management: Following an *Ayurvedic* approach, Women suffering from this disorder should specifically avoid *vata* aggravating factors a week before the menstruation. Externally, oleation with sesame oil and fomentation with herbal decoctions during premenstrual period give excellent results.



In severe cases, medicated oil enema (anuvāsana basti) is very beneficial (e.g., sesame oil and *dashamoola kwatha*)¹¹.

Internally, *Ashokarishtam* and Aloe vera in combination with some other drugs are used.

For *vata* and *pitta* symptoms, *shatavari* (asparagus), *Ashwagandha* (*Withania somnifera*), *amalaki* (Indian gooseberry), and *yashtimadhu* (liquorice) work very well.

To reduce *kapha* symptoms such as heaviness of breasts and fluid retention, herbs such as *gokshura*, *triphala*, *trikatu* and *vacha* (*Acorus calamus*) are very useful.

Jeerakadyarishtom, *manasamitra vatakam*, *saraswatarishtam*, *shatavari kalpa*, and *kumaryasavam* are some of the effective

herbal formulas in the management of PMS^{12, 13}.

Patients should be counselled to avoid salt, caffeine, alcohol, and simple carbohydrates.

The foods which aggravate *vata* should also be avoided including dried fish and dry meat, deep fried and very spicy foods, very cold foods, sprouts, beans, and potatoes.

A variety of herbs have been reported in the literature to be effective in the reduction of the severity and duration of the premenstrual symptoms. These herbs include chaste tree (chaste berry or *vitex agnus castus*)¹⁴, Saffron¹⁵, curcumin¹⁶, wheat germ¹⁷, St john's wort or *Hypericum perforatum*¹⁸, Maiden hair tree or *Ginkgo biloba*¹⁹, evening primrose oil²⁰ and Dandelion²¹.

Table 1 Summary of Studies conducted on Herbs proven effective in the management of PMS.

	<i>Herb</i>	<i>Study</i>	<i>Mode of Action</i>	<i>Benefit</i>
1.	<i>Vitex agnus castus</i> ¹⁴	Double-blind Randomized	Influence production of hormone, progesterone in the pituitary gland	Highly effective in Breast pain and premenstrual complaints
2.	<i>Crocus Sativus</i> ¹⁵	Double-blind Placebo controlled	Serotonergic Mechanism	Stigma of the plant shows an antidepressant effect.
3.	Curcumin ¹⁶	Double-blind Placebo- controlled	Increases Norepinehrine, Dopamine and serotonin secretion.	Positive effect on mood and Behaviour symptoms
4.	Wheat germ ¹⁷	Triple blind Placebo- controlled	Neurotransmitter, serotonin Tryptophan metabolism	Regulates mood imbalance and Psychological status
5.	<i>Hypericum perforatum</i> ¹⁸	Double blind	Serotonergic Mechanism	Benefit both Behavioural And Physical symptoms
6.	<i>Ginkgo biloba</i> ¹⁹	Single blind Placebo- controlled	Increasing release of catecholamines and neurotransmitters.	Both Physical and Psychological benefits
7.	<i>Evening primrose oil</i> ²⁰	Double blind	Omega 6 fatty acids	Highly effective in



		Placebo– controlled		regulate all hormones .	cyclical breast symptoms.
8	<i>Taraxacum officinale</i> ²¹	Single blind controlled	Placebo	Diuretic effect	Digestion and Metabolism

Non Pharmacological Approach

One of the helpful approaches is to keep a Menstrual Diary. Having a menstrual diary can help better diagnose the onset and end date of the symptoms but also increases the level of understanding of the person about her own body and moods .Once the PMS is understood and diagnosed, the individual can cope up with the symptoms ²².The symptoms of PMS usually appear 1 to 2 weeks before the commencement of menstrual bleeding and disappear after the onset of menses.

Stress Reduction Activities

A variety of methods for stress reduction and relaxation may be used including emotional support from family and friends , counselling and education , individual and couples therapy ,Behavioural management strategies , anger management , self help support group and cognitive – behavioural therapy²³.Behavioral counselling and stress management may help the patients regain control during times of high emotionalism.

Relaxation techniques such as regular *yoga* often decreases the symptoms of PMS .The practice of *Yoga* alone or in combination with other *Ayurvedic* therapies has been noted in *Ayurvedic* texts as beneficial in

certain diseases such as hypertension , bronchial asthma, gastrointestinal disorders , headache , insomnia , obesity, , Anxiety ,Neurosis and depression. It is suggested that Autonomic nervous system is improved by *Yoga* , resulting in a hypo metabolic state, thereby lessening the energy demands on the body . Gentle *Yoga* practice with a focus on meditative and balancing *asanas* will release endorphins and encourage deep relaxation. In a study conducted by Tripathi etal ²⁴ , they concluded that *yoga* practices produce relaxogenic effect, increased electrical activity of brain as well as integration in personality variables. Digestion is the corner stone of health in *Ayurveda* .*Vajrasasana* or thunderbolt pose is good to keep digestion healthy and prevent PMS symptoms like change in appetite, Nausea, Bloating of the stomach etc. Sun salutations, forward bends, child’s pose and Rabbit are also good *asanas* for PMS. The breathing practices of *yoga* create a state of restful alertness in mind and body. They can also add alternative nostril breathing and *Bhramri* or *Bramari* (Bumble bee) breath .



DISCUSSION AND CONCLUSION

Premenstrual symptoms are prevalent among women of reproductive age. More than 200 symptoms have been known as the symptoms of PMS. Studies indicating its association with future hypertension and bulimia nervosa has become a cause of concern²⁵. A variety of diagnostic venues and therapeutic approaches have been suggested in the literature to reduce the severity and duration of the symptoms.

Despite the high prevalence of PMS, many women do not seek help from health care professionals. This may be because of their lack of knowledge on the issue as they may think that the symptoms are just part of being a woman and must be tolerated. In addition, they may not be aware of variety of potential management plans and treatment to this problem. The supportive therapeutic approaches can help decrease the severity of symptoms and improve the quality of life of women and their families. Although there seems to be no ultimate cure for PMS, there are many options available to better manage the signs and symptoms by making essential lifestyle changes. Women suffering from severe symptoms shall be suitably counselled and provided drug treatment options. For most women, it is

possible to reduce the torment of PMS with herbal treatments. So an integrated holistic approach should be used when treating women with PMS. Furthermore, because of the difficulty of treating PMS and variations in response to treatments experienced by patients *Ayurvedic* strategies should be explored as further research is also warranted.



REFERENCES

1. Freeman EW, Sondheimer SJ. Premenstrual Dysphoric Disorder: Recognition and Treatment. *Primary Care Companion J Clin Psychiatry*. 2003. 5:30-9.
2. Gul, P., Meric, C., & Ergun, O. (2011): Premenstrual syndrome in Turkish college students and its effects on life quality. *Sexual & Reproductive Healthcare*; 2(1): 21-27.
3. Forrester-Knauss C, Zemp Stutz E, Weiss C, Tschudin S. The interrelation between premenstrual syndrome and major depression: results from a population-based sample. *BMC Public Health*. 2011 Oct 12. 11:795.
4. Hantsoo L, Epperson CN. Premenstrual Dysphoric Disorder: Epidemiology and Treatment. *Curr Psychiatry Rep*. 2015 Nov. 17 (11):87.
5. Pearlstein T. : O'Brien PM, Rapkin AJ, Schmidt PJ: Prevalence, impact on morbidity, and disease burden.. *The Premenstrual Syndromes: PMS and PMDD*. Boca Raton, FL, USA: CRC Press; 2007. p. 37-47
6. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. 5th ed. Arlington, VA: American Psychiatric Publishing; 2013.
7. Haylaa Nageeb 1, Prof. Ragaa Ali Mohamed 2, Assist. Prof. Hadayat Amasha Prevalence of Premenstrual Syndrome: Complementary & Alternative Therapy among Nursing Students IOSR Journal of Nursing and Health Science (IOSR-JNHS) e-ISSN: 2320-1959.p- ISSN: 2320-1940 Volume 4, Issue 2 Ver. IV (Mar.-Apr. 2015).
8. Emans SJ, Laufer MR, Goldstein DP. Premenstrual syndrome. *Pediatric and Adolescent Gynecology*. 5th ed. Philadelphia, PA: Lippincott-Raven Inc; 2005. 461-7.
9. Yonkers KA, O'Brien PM, Eriksson E. Premenstrual syndrome. *Lancet* 2008;371:1200-10.
10. Vartak, D., Dosh-Dhatu-Mala Vignyan, The Pragnya Press, Maharashtra, India, 1962.
11. Steiner M, Korzekwa M, Lamont J, Wilkins A. Intermittent fluoxetine dosing in the treatment of women with premenstrual dysphoria. *Psychopharmacol Bull*. 1997. 33(4):771-4.
12. Sharma, P., Ed., Charaka Samhita, 1st ed., Vol. 2., Chaukhamba Orientalia, Varanasi, India.
13. Mishra S.S., Management of gynecological problems in Menarche to



menopause, Nayak, Ayurmedline Bangalore, India 2002.

14. Bhavamishra, A., Bhavaprakash Nighantu, Chaukhambha Bharati Academy, Varanasi, India, 1984.

15. Zamani M, Neghab N, Torabian S. Therapeutic effect of Vitex agnus castus in patients with premenstrual syndrome. *Acta Med Iran* 2012;50:101–6.

16. Agha-Hosseini M, Kashani L, Aleyaseen A, Ghoreishi A, Rahmanpour H, Zarrinara AR, et al. Crocus sativus L. (saffron) in the treatment of premenstrual syndrome: a double-blind, randomised and placebo-controlled trial. *BJOG* 2008;115:515–9.

17. Khayat S, Fanaei H, Kheirkhah M, Moghadam ZB, Kasaeian A, Javadimehr M. Curcumin attenuates severity of premenstrual syndrome symptoms: a randomized, double-blind, placebocontrolled trial. *Complement Ther Med* 2015;23:318–24. ,

18. Ataollahi M, Akbari SA, Mojab F, Alavi Majd H. The effect of wheat germ extract on premenstrual syndrome symptoms. *Iran J Pharm Res* 2015;14: 159–66.

19. Ghazanfarpour M, Kaviani M, Asadi N, Ghaffarpasand F, Ziyadlou S, Tabatabaee HR, et al. Hypericum perforatum for the

treatment of premenstrual syndrome. *Int J Gynaecol Obstet* 2011;113:84–5.

20. Ozgoli G, Selselei EA, Mojab F, Majd HA. A randomized, placebo controlled trial of Ginkgo biloba L. in treatment of premenstrual syndrome. *J Altern Complement Med* 2009;15:845–51

21. Khoo SK, Munro C, Battistutta D. Evening primrose oil and treatment of premenstrual syndrome. *Med J Aust* 1990;153:189–92

22. Greenlee H, Atkinson C, Stanzyk FZ, Lampe JW . A pilot and feasibility study on the naturopathic botanical and dietary interventions on sex steroid hormone metabolism in premenopausal women.

23. Endicott J, Nee J, Harrison W. Daily Record of Severity of Problems (DRSP): reliability and validity. *Arch Womens Ment Health* 2006;9:41–9.

24. Goodale I, Domar A, Benson H (1990) Alleviation of premenstrual syndrome symptoms with the relaxation response. *Obstet Gynecol* 299: 111-115.

25. Tripathi KM, Singh RH (2016): Role of yoga practices in the management of Anxiety and Depression 2016 10.4172 /2572 -0791.1000118.

26. Bertone Johnson ER, Whitcomb BW, Rich Edwards JW, Hankinson SE, Manson JE: Premenstrual syndrome and subsequent

risk of hypertension in a prospective study ,
American journal of Epidemiology , Vol
182 , issue 12, 15-12-2015 .