

Premenstrual Syndrome

Premenstrual syndrome (PMS) is a term used to describe a group of premenstrual emotional or physical changes that many women experience in their reproduction years. It is referred to as a “syndrome” because it is difficult to identify the cause when most of the symptoms overlap with normal body physiology and may also be due to other disorders. The studies have shown that the circulating levels of estrogen and progesterone are *normal* in patients who suffer from premenstrual syndrome.

PMS occurs only in women who have ovulatory menstrual cycles. It occurs at a very specific time of the cycle, usually 3-14 days before the start of the next menstrual period. Symptoms relief normally occurs rapidly once the menstrual period begins. If a woman’s symptom complex is due to PMS then she will normally be free of any discomfort of the physical or emotional changes for the first two weeks after the onset of her menstrual period. However, woman may regularly experience mild symptoms, which become more severe and intense during the premenstrual phase of her cycle. It is theorized that the cause of PMS is irregular prostaglandin (Pg) synthesis in the endometrial lining of the uterus. Women who no longer have a lining (prior hysterectomy or endometrial ablation) will have significant improvement in their symptoms.

Symptoms of PMS

The symptoms of PMS can be categorized into two broad groups: premenstrual *emotional* changes and premenstrual *physical* changes. It is estimated that 20-40% of women who experience any of these symptoms will have difficulty as a result. A much smaller number, estimated between 2.5 to 5% feel that the symptoms have a significant negative impact on their lives, to the point where work, relationships, and home life are jeopardized. These symptoms are listed below with their code to be used in charting a monthly calendar.

Emotional Symptoms:

	<u>Code</u>
• Anxiety	AX
• Anger	AG
• Bingeing	BN
• Crying spells	C
• Craving sweets	CS
• Depression	D
• Forgetfulness	FF
• Insomnia	IN
• Irritability	IR
• Lack of mental concentration	LM
• Mood changes	MC
• Panic attacks	PA
• Sex drive (decreased libido)	SD

Physical Symptoms:

• Abdominal bloating	AB	
• Acne	AC	
• Backache	BA	
• Breast pain and swelling	BR	
• Fatigue		FA
• Headaches	HA	
• Heart pounding	HP	
• Joint pain	JP	
• Leg cramps	LC	
• Menstrual cramps (dysmenorrhea)	DM	

Keeping a Monthly Record

The only way PMS can be identified is by keeping a record of the symptoms, their intensity, and when they occur during each menstrual cycle. If they follow the pattern of occurring during the 3-14 days before the onset of a menstrual period, and if they follow the same repeated pattern for several cycles, PMS is the most probable diagnosis.

Record keeping can be simple by keeping a menstrual calendar and assigning the codes noted above for each of the symptoms that are experienced and grade them from 1 to 3. (1 = mild: 2 = moderate: 3 = severe). Initially, records should be kept for two full cycles. When any of the treatments (discussed below) are utilized, maintaining the record will give an index to the degree of improvement in the symptoms.

Treatment

There are numerous natural *alternative therapies* available for the treatment of PMS, including lifestyle changes, vitamin/mineral supplementation, herbal medicines, and natural hormones. Scientific studies are a mixture of controlled randomized clinical trials and uncontrolled trials. In at least half of the studies, no significant effect has been observed. This is one of the enigmas of medical research: Why do conventional scientific studies fail to demonstrate success with many of these natural therapies that women consistently rely on their monthly treatments? The answer probably lies in the difficulty of determining what works for one person is different than what works for another. Double blind, placebo-controlled, scientific studies attempt to find what works for as many individuals as possible, not what works for an individual. The interaction between neurotransmitters, the body's steroids, circadian systems, mood, behavior, plants and nutrients from nature, may remain scientifically elusive, but for many women they seem to be safe and effective natural solutions.

Lifestyle Therapies

Changes in lifestyle can be grouped under three primary categories: Exercise, Nutrition, and Nutritional.

Exercise

Aerobic physical exercise training is effective in reducing PMS symptoms. Several controlled studies have clearly demonstrated that women who exercise regularly in an aerobic program have fewer and less intense symptoms. The frequency of exercise seems more effective than the intensity. Women who exercise regularly show improvement in all the PMS parameters, including concentration, affect, pain, water retention and emotional stability.

Nutrition

Women who suffer from PMS typically have dietary habits that are worse than the standard American diet. They have been found to consume more refined carbohydrates, sugar, dairy products, and sodium, and less iron, manganese, and Zinc. As noted above, a deficiency in prostaglandin E₁ may contribute to the symptoms of PMS. The synthesis of prostaglandin E₁ requires magnesium, linoleic acid, vitamins B₆, and C and zinc. A second prostaglandin called prostaglandin E₂ had antagonistic effects with regards to prostaglandin E₁. The main precursor to the synthesis of prostaglandin E₂ is arachidonic acid. Vegetable oils are rich sources of linolenic acid, and animal fats are the main dietary source of arachidonic acid. Patients with PMS should consider decreasing their consumption of animal fats and increase ingestion of vegetable oils. Women with breast symptoms in the premenstrual phase appear to benefit from avoiding caffeine in their diets (coffee, tea, cola, chocolate) and caffeinated medications. Avoiding salt intake during the premenstrual phase may reduce bloating and water retention.

Supplements

Biochemical investigations of nutritional deficiencies have not demonstrated consistent results, however studies have shown that nutritional supplementation in pharmacological doses may be therapeutic.

Vitamin B₆ (Pyridoxine)

Vitamin B₆ is believed to be unique in its ability to increase cerebral synthesis of several neurotransmitters, including serotonin and dopamine. Dosages ranging between 50 to 500 mg per day have been reported to have a substantial improvement.

Essential Fatty Acids

The theory behind supplementing essential fatty acids is an attempt to raise the body's synthesis of prostaglandin E₁. Evening Primrose Oil supplies increased levels of gamma linolenic acid. Typical dose is 4 grams per day.

Magnesium

Magnesium is involved in essential fatty acid metabolism and vitamin B₆ activity. Studies have shown improvement in anxiety symptoms when magnesium is combined with Vitamin B₆.

Calcium Carbonate

Calcium carbonate was studied in a double-blind placebo-controlled multicenter clinical trial in doses of 1200 mg per day for three menstrual cycles. By the end of the third treatment month, there was a 48% reduction in total symptom scores compared to a 30% reduction in a placebo group. Four primary symptoms were followed: negative mood affect, water retention, food cravings and pain.

Vitamin E

Vitamin E may reduce premenstrual nervous tension, headache, fatigue, depression, insomnia and breast tenderness. Three studies have demonstrated vitamin E is clinically useful in relieving breast pain and tenderness, whether premenstrual or non-cyclical. Doses vary between 150 IU to 600 IU per day.

Medical Therapy

- Anti-anxiety drugs: Xanax
- Anti-depressants, specifically, Selected Serotonin Reuptake Inhibitors (SSRI's)
- Diuretics
- Analgesics
- Birth control pills

PMS is a true medical disorder. Successful treatment begins with education and accurate record keeping. However, many of the symptoms of PMS may in fact be due to other medical disorders including, fibrocystic disease of the breast, endometriosis, dysmenorrhea (painful menstrual cramps), diabetes, thyroid disorders, allergies, underlying depression, anxiety and stress. When any of the symptoms of PMS are present throughout the entire cycle, they frequently are worse during the premenstrual phase. The evaluation for diagnosing PMS is based on the record of the menstrual cycle symptoms and ruling out other contributing diseases. Proper treatment can significantly improve the quality of a woman's life and restore a sense of control.

By Gordon C. Gunn, M.D.

