

Premenstrual Syndrome (PMS) and Premenstrual Dysphoric Disorder (PMDD)

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Most women know all about PMS as 90 per cent of women experience at least one symptom most months and about 50 per cent of women get several symptoms each month. The classic symptoms include fluid retention, bloating and weight gain, increased appetite, breast swelling and tenderness and mood changes.

- Symptoms occur after ovulation when progesterone and oestrogen levels are both elevated.
- Some women are at their worst for the first 24–48 hours of menstruation with symptoms abating over the next few days.
- Women who do not have at least one symptom free week across the cycle need to look for other causes for their symptoms.
- PMS is uncommon in adolescence, and occurs most frequently in women in their 30s and 40s.

When women have severe emotional changes such that they simply cannot get on with their daily lives in the days leading up to their period, they are experiencing **premenstrual dysphoric disorder**, commonly known as PMDD.

- PMDD affects approximately three to eight per cent of women.
- The cause of PMDD is elusive, however the general consensus is that fluctuations in hormone levels affect brain chemistry resulting in severe disturbance of mood: a current theory generated many years ago by research by Smith and others in 1998 (see more detail in treatment section below)
- This is a serious condition for affected women: it interferes with personal relationships and employment and basically can rule their lives.

Managing PMS

Most women 'live with' their PMS, with some months being worse than others. For many women fluid retention and weight gain are distressing. Fluid tablets (diuretics) should not be used for premenstrual fluid retention. Diuretics remove excess water from the blood vessels, and make users thirsty, resulting in increased water consumption and even further fluid retention. However, many women gain relief by using a unique compound called spironolactone. This tablet has no effect if a woman does not have fluid retention, but does remove excess fluid if it has accumulated. In low dose, and used intermittently, it is safe and highly effective. Many women, but not all, find relief with the oral contraceptive pill. Some oral contraceptive pill formulations contain a compound that acts like spironolactone, so that they actually help with fluid retention. Whereas some women may feel great on the pill, others actually become even more depressed – as usual one size doesn't fit all.

Some women continue to experience PMS symptoms even when taking the pill. This may be because the pill is usually taken 21 days/month with 'sugar pills' taken for the other seven days. During these seven days hormone levels can increase, just like in a normal cycle, resulting in symptoms in the second part of the cycle. Women who feel they are still having PMS on the pill should try omitting the sugar pills for a couple of months. Doing this women often find that the PMS symptoms go away.

Many women who have tried the pill in the past but have not tolerated it may find a new formulation of the pill that contains oestradiol, similar to what the ovaries normally produce, as opposed to ethinyl oestradiol, a good option.

Occasionally women get good relief from PMS with the long acting contraceptive implant called Implanon.



Other Therapies: Various other therapies are prescribed to alleviate the symptoms of PMS. Therapies shown to be no better than placebo (sugar tablets) in controlled scientific studies include Vitamin B6 and **Evening Primrose Oil** from the wildflower *Oenothera Biennis* L. Borage Seed Oil (from the seed of *Borago Officinalis* L) contains similar oils to evening primrose oil. It also contains toxic alkaloids which can cause liver damage and therefore its use cannot be recommended. **Chaste Berry Tree** (*Vitex agnus-castus* L) is sometimes prescribed for PMS and menopausal symptoms. However efficacy has not been established and awaits further evaluation. A common side effect is an itchy rash.

Treatment of PMDD

A number of studies have now shown that use of very low doses of medications classically used for the treatment of depression can substantially improve PMDD symptoms. The cause of PMDD is not well understood, however research does strongly indicate that it is related to how progesterone is broken down (metabolised) in the brain.

- Some hormones can rapidly alter excitability of neurons in the brain by binding to membrane bound receptors to excite or inhibit these neurons. One type of receptor on nerve cells called GABAA has an inhibitory effect. A breakdown product of progesterone called allopregnanolone binds these receptors

In the brain, *allopregnanolone* has a calming effect, so that when levels are low in the brain women are more likely to feel irritable and agitated.

The class of antidepressant drugs called SSRIs appear to increase brain *allopregnanolone* levels, and in many women this improves their PMDD symptoms.

Studies suggest that **the greatest benefit occurs when SSRIs are taken in very low doses**, doses way below those used to treat depression.

Therefore instead of using a 20mg tablet of fluoxetine (commonly known as Prozac) to manage PMDD, a dose of 2.5 to 5mg can be used. This means a woman would call the first day of her period day one. Then she would take fluoxetine 2.5 to 5mg from day 15 to the start of the next period. As fluoxetine comes in a dispersible tablet a 20mg tablet can be broken in half, half dissolved in 100ml of water and then for a 2.5mg dose, 50ml is taken, for a 5mg dose, all of the 100ml is taken as a dose.