

## Premenstrual Syndrome (PMS)

**PMS is a common cause of physical, behavioural and social symptoms in women of reproductive age. Most women experience some mild emotional or physical premenstrual (before their monthly 'period') symptoms, but 8-20% of women suffer from severe symptoms and look for medical treatment.**

### What is PMS?

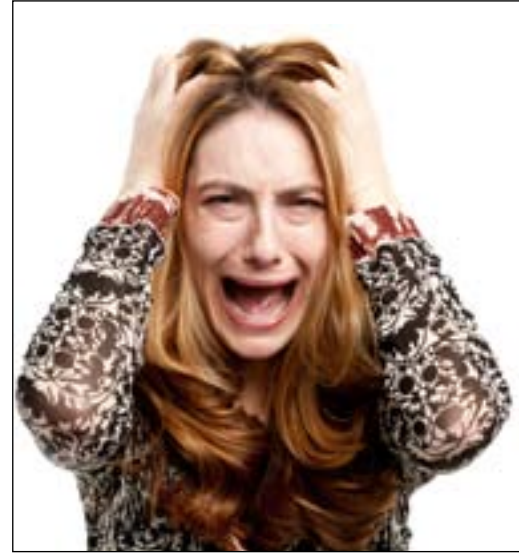
To diagnose symptoms as PMS they have to occur cyclically – usually every month at the same time – usually starting 1-2 weeks before the menstrual period in the 'luteal phase' of the cycle. A characteristic of PMS is that symptoms are relieved when the period starts fully.

The exact cause of PMS is still unknown and although it doesn't occur when there is no ovulation, it doesn't seem to be related to levels of hormones in the blood. However, it is thought that the hormones produced by the ovaries, particularly progesterone, provoke PMS symptoms by using chemical messengers in the brain (known as neurotransmitters). Many vitamins, minerals and essential fatty acids are involved in this, leading to speculation and research into the role vitamins and minerals may play in helping to ease PMS.

Symptoms of PMS vary between women and each individual can also experience different symptoms from month to month. These include mood swings, irritability, increased appetite, carbohydrate and alcohol cravings, breast tenderness, headaches and bloating.

Having other underlying chronic diseases such as diabetes, irritable bowel syndrome or food allergies can make a woman more prone to PMS. This is supported by the finding that women with higher levels of inflammatory markers – protein and acids produced when the body is undergoing

some sort of stress – have more severe premenstrual symptoms. So making sure that any other chronic medical condition is controlled may help to reduce the severity of PMS symptoms.



### Can diet help?

A good starting point to help reduce the symptoms of PMS is to eat healthily. Regular balanced meals, a variety of foods from each food group in adequate amounts and checking that you are not having too much salt, alcohol, caffeine, saturated and trans-fats all contribute to a healthy diet.

### Low Glycaemic Index (GI) diet

Before your period you may be more sensitive to rises and falls in blood sugars that can happen after eating food with a high GI (fast acting carbohydrates such as white bread and sugary drinks). Basing meals and snacks around low GI carbohydrates (such as pasta and granary bread) may help with PMS symptoms by maintaining an even blood sugar level. Such a diet may also help reduce food cravings. A low glycaemic load (GL) diet, where both the GI and amount of carbohydrate are taken into consideration, has been shown to be associated with a decrease in inflammation markers which could in turn lessen the PMS symptoms.

### Vitamins and minerals

Good intakes of both calcium and vitamin D from the diet are associated with a lower rate of PMS. There is also some evidence that calcium supplements (1000mg/day) along with 10µg/day of vitamin D can help relieve premenstrual pain and migraine. It is always best to try and get calcium

from the diet by consuming enough low-fat milk/ calcium-enriched milk substitutes such as soya milk. If you can't get enough dietary vitamin D (from eating oily fish, eggs, fortified fat spreads, fortified breakfast cereals and powdered milk) then taking a daily 10µg supplement may help with PMS symptoms.

Studies have shown that a diet rich in foods containing thiamine and riboflavin (vitamin B1 and B2) may reduce the incidence of PMS by 35%. However taking B1 and B2 as supplements had no effect on PMS rates. Therefore eat plenty of foods containing these B vitamins, for example wholegrain cereals, some meat, milk, and beans.



A low intake of iron and zinc may be associated with increased rate of PMS.

Fish oil supplements, in particular Krill oil, may help with dysmenorrhea (period pain) possibly as they may be anti-inflammatory.

Currently there is little evidence for the effectiveness of other vitamin, mineral and herbal supplements.

## Alcohol

Drinking too much alcohol seems to make PMS worse. Alcohol can also lower the body's stores of several essential nutrients including the B vitamins.

It is thought that some PMS sufferers have a stronger desire for alcohol before their period and are also less able to break it down. Avoiding alcohol is best but keep as low as possible if you can't avoid it altogether.

## PMS and weight

During the luteal phase, many women, especially those with PMS, feel more hungry. This is believed to be caused by a small increase in the number of calories (energy) needed due to a rise in metabolic rate. This varies from woman to woman but on average, some women eat about 250 extra calories which may cause weight gain. Being obese is strongly associated with PMS, possibly because it increases inflammation. So not putting on excess weight and losing weight if overweight/obese may help to lessen the rate and symptoms of PMS.

**It may take three to four months to notice improvement in symptoms after changing your diet.**

## Summary

Most women suffer with some degree of PMS but for some it can be severe and need medical help. PMS may be caused by an increased sensitivity to the female hormone but not to hormone levels. Diet and lifestyle factors, including weight loss if you are overweight or obese and following a low GI/GL diet have been shown to help with symptoms. Getting plenty of calcium, vitamin D and possibly iron, zinc, B1 and B2 from your food appears to help. There is not enough evidence for the use of supplements in PMS, except possibly fish oil.

**Further information:** Food Fact Sheets on other topics including Alcohol, GI Diet, Healthy Eating and Supplements are available at [www.bda.uk.com/foodfacts](http://www.bda.uk.com/foodfacts)

**Useful links:** National Association for Premenstrual Syndrome (NAPS) [www.pms.org.uk](http://www.pms.org.uk)

Wellbeing for Women [www.wellbeingofwomen.org.uk/your-wellbeing/your-health/pms/](http://www.wellbeingofwomen.org.uk/your-wellbeing/your-health/pms/)

NHS Choices [www.nhs.uk/conditions/premenstrual-syndrome](http://www.nhs.uk/conditions/premenstrual-syndrome)

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