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# Premenstrual disorders in adolescent females

## Integrative management

**Premenstrual symptoms affect many adolescent females with studies suggesting an incidence range of 31–61% in this age group.<sup>1,2</sup> The presentation of premenstrual syndrome (PMS) can be varied and can include psychological and/or somatic symptoms.**

Common treatments for PMS include nonsteroidal anti-inflammatories, the oral contraceptive pill (OCP), and serotonin reuptake inhibitors for premenstrual dysphoric disorder. Other options are important to consider for young women who prefer natural alternatives or for whom the above treatments are contraindicated. Research into the use of herbal, nutritional and pharmacological therapies for premenstrual disorders, specifically in adolescents is unfortunately sparse.

The studies included in this article do not differentiate younger from older women with most defining their sample groups as being women in 'reproductive age'. There is also no readily available data to identify the commonality of use of natural therapies to treat premenstrual symptoms in this age group. A 2003 survey of over 14 000 young women (aged 18–23 years) demonstrated that 19% of this group had consulted a complementary and alternative medicine practitioner in the previous 12 months.<sup>3</sup>

### Premenstrual syndrome

While high quality, long term studies are limited, there are a number of dietary supplements and herbal therapies that may play a role in amelioration of somatic and psychological premenstrual symptoms.

Calcium supplementation has been shown to be of benefit in a number of studies. The largest double blinded, placebo controlled, randomised study involved 466 women who received 1200 mg of elemental calcium for three cycles. Women in the calcium group demonstrated a significant reduction in mood, fluid retention and pain symptoms.<sup>4</sup> Uncommon side effects include constipation, nausea and loss of appetite. Calcium has the capacity to interfere with a number of prescribed medications that may be used by teenagers, particularly tetracyclines and thyroxine.

Concurrent use is not contraindicated, however the doses need to be separated by a minimum of 2 and 4 hours respectively as calcium can impair absorption.<sup>5</sup>

Chaste berry (*Vitex agnus castus*) has been shown to relieve common symptoms of PMS in a double blinded, placebo controlled study involving 170 women, some of whom were concomitantly taking the OCP. There was a significant improvement in symptoms such as headache, irritability, mood changes and breast symptoms in women in the chaste berry group.<sup>6</sup>

Chaste berry is generally well tolerated, uncommon side effects include nausea, headache and skin rashes, however more long term studies are required to assess safety. There are theoretical concerns as to whether chaste berry may interfere with the OCP through its action on oestrogen receptors which requires further research. Effective dosages of 3–6 g/day (dried herb) and 1000 mg/day (dried fruit flesh) should be taken daily throughout the menstrual cycle.<sup>5</sup>

### Primary dysmenorrhoea

Vitamin B1 (thiamine) at a dose of 100 mg/day has been shown in one randomised controlled trial to be 'more effective than placebo at reducing dysmenorrhoea'<sup>7</sup> and is usually well tolerated. When prescribing thiamine, be aware that antibiotics, iron and tannins (found in tea) can impair absorption, so attempt to separate intakes of these substances by 2 hours.<sup>6</sup>

Magnesium supplementation (200 mg/day) may also play a role.<sup>5</sup> A 2001 Cochrane review analysed three small, randomised controlled trials and demonstrated that 'magnesium was more effective than placebo for pain relief and the need for additional medication was less. There was no significant difference in the number of adverse effects experienced'.<sup>7</sup>

### Mastalgia

The place of evening primrose oil (*Oenothera biennis*) (EPO) in the management of cyclical mastalgia remains under debate. Evening primrose, which contains gamma linolenic acid, is thought to have a beneficial action through

its metabolism to prostaglandin E1. Three small randomised trials have demonstrated favourable results for EPO<sup>8</sup> however, a more recent randomised, double blind trial demonstrated no benefit.<sup>9</sup> This trial was primarily focused on women with severe, chronic symptoms therefore the question is whether women with milder symptoms may benefit when EPO is used. Evening primrose oil should be used in caution in adolescents with epilepsy as it may lower the seizure threshold and therefore is best avoided. The dosage range is 2.5–5.0 g/day and side effects include mild gastrointestinal reactions.<sup>5</sup>

## Conclusion

Complementary therapies have a role in the management of PMS and primary dysmenorrhea in adolescent females. It is important for general practitioners to have an understanding of these therapies and their potential interactions and side effects in order to offer alternatives to young women who choose not to, or who are unable to use conventional medications to treat their symptoms.

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