

# DYSMENORRHEA, MENSTRUAL CRAMPING

Dysmenorrhea is defined as painful pelvic cramping associated with menses, which may be associated with low back and thigh pain, headache, nausea, diarrhea, and fatigue. Symptoms often start a few days before menses and last through the first few days of bleeding. Many women are affected by this condition, with estimates ranging from 16%-97%.<sup>[1,2]</sup>

Primary dysmenorrhea, not explained by an alternative diagnosis, is thought to be secondary to elevated prostaglandin levels that cause uterine hypercontractility and subsequent ischemia.<sup>[3]</sup> Associated symptoms, including pain and nausea, can also be explained by high prostaglandin levels. Secondary causes of dysmenorrhea must be ruled out, including infection, cervical stenosis, adenomyosis, fibroids, or endometriosis. Diagnosis may require a pelvic exam, transvaginal ultrasound, or even laparoscopy.

The standard approach to treatment of dysmenorrhea includes NSAIDs and hormonal contraception, both of which help to suppress prostaglandin production. Research supports the use of many self-care and complementary approaches that should also be considered.

## 1. MOVING THE BODY

Exercising 45-60 minutes at least three times a week may result in improved menstrual pain.<sup>[4]</sup> This improvement was seen in both low-intensity activities (such as yoga) and high-intensity exercise.<sup>[5]</sup>

## 2. SUBSTANCE USE

Tobacco use is a risk factor for dysmenorrhea and alcohol can increase the duration and intensity of cramping.<sup>[6]</sup> Work on a plan to support limiting tobacco and alcohol use.

## 3. FOOD & DRINK

Eat an anti-inflammatory diet that is high in omega-3 fatty acids to modulate prostaglandin production and decrease painful cramping. Small studies support the use of fish oil supplementation to decrease painful contractions.<sup>[3]</sup> Review methods for increased dietary consumption of omega-3 fatty acids, and consider supplementing with 1,000-2000 mg of combined DHA (*docosahexaenoic acid*) and EPA (*eicosapentaenoic acid*) if dietary intake is insufficient. Refer to "[Top Supplements for Every Clinician to Know.](#)"

## 4. HEAT

Apply a heating pad to the pelvic region. Some small studies suggest that heat is effective in reducing menstrual pain.[7]

## 5. SUPPLEMENTS

Supplements may help improve the symptoms of dysmenorrhea, although large, high-quality trials are lacking. A 2016 Cochrane review examined the evidence for dietary supplements in the treatment of dysmenorrhea.[1] Although authors concluded that no significant evidence supports their use, some small studies show promise. Many women may prefer a trial because of their low risk and rare side effects.

**Magnesium** decreases menstrual pain compared to placebo, according to three small trials.[8] Encourage magnesium-rich foods including fish, nuts, and leafy greens. Consider a trial of 300-600 mg supplement daily. Magnesium glycinate, gluconate, or chloride have decreased tendency to cause loose stools. Use with caution in individuals with renal disease. While magnesium is generally well tolerated, toxicity presents as diarrhea.

**Vitamin B1** (*thiamine*) supplementation improved menstrual pain in a research study performed in India, only after use of 100 mg for at least 30 days.[8,9] Some question exists as to whether these results would apply to other populations. Consider supplementing 100 mg daily for one to three months and monitor for improvement. Vitamin B1 is generally well tolerated.

**Vitamin B6** (*pyridoxine*) may improve pain scores in dysmenorrhea according to one small trial.[8,10] Consider a trial of 100 mg daily. It is generally well tolerated. Toxicity presents as neuropathy.

**Vitamin E** has mixed evidence of its use in dysmenorrhea. A small study concluded no difference when vitamin E was added to NSAIDs for treatment of dysmenorrhea.[8,11] However, a few small, randomized studies have shown some benefit in decreasing the duration and severity of menstrual pain.[6,12] The typical dose is 150-500 units daily used from two to 10 days before to three to four days after the onset of menses. Vitamin E is generally well tolerated and safe at these doses.

## 6. BOTANICALS

**Note:** Please refer to the [Passport to Whole Health](#), Chapter 15, “Biologically Based Approaches: Dietary Supplements,” for more information about how to determine whether or not a specific supplement is appropriate for a given individual. Supplements are not regulated with the same degree of oversight as medications, and it is important that clinicians keep this in mind. Products vary greatly in terms of accuracy of labeling, presence of adulterants, and the legitimacy of claims made by the manufacturer.

Botanicals may also help improve the symptoms of dysmenorrhea. Although a Cochrane review concluded that no high-quality evidence supports the use of botanicals in the

treatment of dysmenorrhea at this time, some small studies show promise.[1] Many women may prefer a trial because of their low risk and rare side effects.

**Fennel** (*Foeniculum vulgare*) may improve menstrual pain by inhibiting prostaglandin-induced contractions. A few small trials support its use.[2,3] The typical dose is 30-40 mg four times daily or 30 drops of fennel extract three times daily taken at the onset of menses and for the first three days of bleeding. It has GRAS status, or Generally Recognized As Safe, with no reported adverse reactions.

**Other botanicals** including willow bark extract (*Salix cortex*), cramp bark (*Viburnum opulus*), and black haw (*Viburnum prunifolium*) may act in decreasing prostaglandins, but at this time there is little evidence to support their use in the treatment of dysmenorrhea.

## 7. POWER OF THE MIND

Explore the relationship between the chronic menstrual pain and its impact on a woman's overall well-being. A Cochrane review concluded that behavioral interventions may be beneficial in dysmenorrhea, but the evidence came from small studies with poor methodology.[13] Consider mind-body practices such as meditation, breathing exercises and relaxation, hypnosis, Guided Imagery, and biofeedback. These techniques help to decrease stress, improve coping skills, and facilitate relaxation with little risk. For more information, refer to the "[Power of the Mind](#)" Whole Health overview.

## 8. TRANSCUTANEOUS ELECTRICAL NERVE STIMULATION

Use of a transcutaneous electrical nerve stimulation (TENS) device may be helpful in decreasing pain from dysmenorrhea. A Cochrane review concluded that high-frequency TENS therapy (50-100 Hz) was effective in reducing pain.[14]

## 9. ACUPUNCTURE AND ACUPRESSURE

Using acupuncture and acupressure may help with the symptoms of dysmenorrhea. Data is inconclusive because of the limitations of many research studies. A Cochrane review found that the evidence was insufficient for the use of acupuncture and acupressure in treating dysmenorrhea.[15] However, meta-analysis of higher-quality studies suggests that acupuncture and acupressure are effective for treatment of dysmenorrhea.[6,16] Furthermore, the World Health Organization lists dysmenorrhea as an indication for acupuncture.[17]

## 10. AROMATHERAPY

Aromatherapy is the therapeutic use of essential oils. There is significant variation in the use of aromatherapy, given the many types and formulations of oil and the multiple methods of administration including ingestion, inhalation, and massage. However, some small studies have shown that aromatherapy can reduce menstrual pain compared to

placebo.[18,19] Inhaled aromatherapy or massage with aromatherapy could be considered, given the low risk of side effects.

## 11. OTHER HEALING MODALITIES

Despite limited research, other healing traditions should be considered if women are interested and risks are minimal, including traditional Chinese medicine, Ayurveda, and homeopathy. Evidence for Chinese and Japanese herbs has been promising, although studies are difficult to interpret because these therapies are often individualized to each woman.[8]

## RESOURCE LINKS

- Top Supplements for Every Clinician to Know: [http://projects.hsl.wisc.edu/SERVICE/modules/15/M15\\_CT\\_Top\\_Supplements\\_for\\_Every\\_Clinician\\_to\\_Know.pdf](http://projects.hsl.wisc.edu/SERVICE/modules/15/M15_CT_Top_Supplements_for_Every_Clinician_to_Know.pdf)
- Passport to Whole Health: <https://wholehealth.wiscweb.wisc.edu/wp-content/uploads/sites/414/2018/09/Passport-to-Whole-Health-3rd-Edition-2018.pdf>
- Power of the Mind: <https://wholehealth.wisc.edu/overviews/power-of-the-mind/>

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## REFERENCES

1. Pattanittum P, Kunyanone N, Brown J, et al. Dietary supplements for dysmenorrhoea. *Cochrane Database Syst Rev.* 2016;3:Cd002124.
2. Sharghi M, Mansurkhani SM, Larky DA, et al. An update and systematic review on the treatment of primary dysmenorrhea. *JBRA assisted reproduction.* 2019;23(1):51-57.
3. Low Dog T, Micozzi M. *Women's Health in Complementary and Integrative Medicine: A Clinical Guide.* St Louis, MO: Elsevier Churchill Livingstone; 2005.
4. Armour M, Ee CC, Naidoo D, et al. Exercise for dysmenorrhoea. *Cochrane Database Syst Rev.* 2019;9:Cd004142.
5. Kim SD. Yoga for menstrual pain in primary dysmenorrhea: a meta-analysis of randomized controlled trials. *Complement Ther Clin Pract.* 2019;36:94-99.
6. Kuphal G. Dysmenorrhea. In: Rakeil D, ed. *Integrative Medicine.* 4th ed. Philadelphia: Elsevier Saunders; 2018:569-577.

7. Armour M, Smith CA, Steel KA, Macmillan F. The effectiveness of self-care and lifestyle interventions in primary dysmenorrhea: a systematic review and meta-analysis. *BMC Complement Altern Med*. 2019;19(1):22.
8. Proctor M, Murphy PA. Herbal and dietary therapies for primary and secondary dysmenorrhoea. *Cochrane Database Syst Rev*. 2001;3.
9. Gokhale LB. Curative treatment of primary (spasmodic) dysmenorrhoea. *Indian J Med Res*. 1996;103:227-231.
10. Davis L. *Stress, Vitamin B6 and Magnesium in Women with and Without Dysmenorrhea: A Comparison and Intervention Study* [dissertation]. Austin, TX, University of Texas at Austin; 1988.
11. Esperanza-Salazar-De-Roldan M, Ruiz-Castro S. Primary dysmenorrhea treatment with ibuprofen and vitamin E. *Revista de Obstetricia y Ginecologia de Venezuela*. 1993;53(1):35-37.
12. Kashanian M, Lakeh MM, Ghasemi A, Noori S. Evaluation of the effect of vitamin E on pelvic pain reduction in women suffering from primary dysmenorrhea. *J Reprod Med*. 2013;58(1-2):34-38.
13. Proctor M, Murphy PA, Pattison HM, Suckling JA, Farquhar C. Behavioural interventions for dysmenorrhoea. *Cochrane Database Syst Rev*. 2007;3.
14. Proctor M, Smith CA, Farquhar CM, Stones RW. Transcutaneous electrical nerve stimulation and acupuncture for primary dysmenorrhoea. *Cochrane Database Syst Rev*. 2002;1.
15. Smith CA, Armour M, Zhu X, Li X, Lu ZY, Song J. Acupuncture for dysmenorrhoea. *Cochrane Database Syst Rev*. 2016;4:Cd007854.
16. Xu Y, Zhao W, Li T, et al. Effects of acupoint-stimulation for the treatment of primary dysmenorrhoea compared with NSAIDs: a systematic review and meta-analysis of 19 RCTs. *BMC Complement Altern Med*. 2017;17(1):436.
17. World Health Organization. Acupuncture: review and analysis of reports on controlled clinical trials. 2002; <http://apps.who.int/medicinedocs/pdf/s4926e/s4926e.pdf>. Published 2014. Accessed January 4.
18. Lee MS, Lee HW, Khalil M, Lim HS, Lim HJ. Aromatherapy for managing pain in primary dysmenorrhea: a systematic review of randomized placebo-controlled trials. *Journal of clinical medicine*. 2018;7(11).
19. Song JA, Lee MK, Min E, Kim ME, Fike G, Hur MH. Effects of aromatherapy on dysmenorrhea: a systematic review and meta-analysis. *Int J Nurs Stud*. 2018;84:1-11.