

Pain Relief

Burns, E., Zobbi, V., Panzeri, D., Oskrochi, R., Regalia, A. (2007). Aromatherapy in childbirth: a pilot randomized controlled trial. *BJOG: An International Journal of Obstetrics & Gynaecology*, 114(7), 838-44.

This study of 513 mothers aimed to determine the feasibility of conducting a randomized controlled trial on the use of aromatherapy during labor as a care option that could improve maternal and neonatal outcomes. Pain perception was reduced in the aromatherapy group for nulliparae (first time delivery of a child). There were no associated adverse effects of using EO's on maternal or neonatal outcomes.

Burns, E., Blamey, C., Ersser, S. J., Barnetson, L., & Lloyd, A. (2000). An investigation into the use of aromatherapy in intrapartum midwifery Practice. *The Journal of Alternative and Complementary Medicine*, 6(2), 141-7.

The maternal comfort of 8,058 mothers who presented in labor at the Oxford Radcliffe Hospital Women's Center between 1990 and 1998 were evaluated after being offered aromatherapy compared with those in a comparison group from the unit audit not given aromatherapy (n=15,799). The results indicate that aromatherapy offered a potentially effective therapy during labor to relieve anxiety, pain, nausea, or poor contractions.

Gedney, J., Glover, T., Fillingim, R. (2004). Sensory and affective pain discrimination after inhalation of essential oils. *Psychosomatic Medicine*, 66(4), 599-606.

A sex-balanced (13 men and 13 women) randomized crossover design demonstrated that inhalation of essential oil of lavender and rosemary does not produce a detectable analgesic effect. However, subjects' retrospective evaluations of aroma-induced changes in pain intensity suggest that they perceive some benefit of the intervention, especially for lavender. These findings suggest that aromatherapy may not elicit a direct analgesic effect but instead may alter affective appraisal of the experience.

Ghelardini, C., Galeotti, N., Salvatore, G., & Mazzanti, G. (1999). Local anaesthetic activity of the essential oil of *lavandula angustifolia*. *Planta Medica*, 65, 700-3.

The study compared the local anaesthetic activity of the essential oils obtained from *Lavandula angustifolia* and two citrus fruits. The essential oils of *L. angustifolia* and its two major pure components, but not the oils of *Citrus reticulata* and *Citrus limon*, were found to be able to greatly reduce the electrically evoked contractions of a rat's diaphragm in a dose-dependent manner.

Gobel, H., Schmidt, G., Soyka, D. (1994). Effect of peppermint and eucalyptus oil preparations on neurophysiological and experimental algometric headache parameters. *Cephalalgia*, 14, 228-34.

Thirty-two healthy males were included in a double-blind, placebo-controlled, randomized study with a cross-over design. The study found that the combination of peppermint oil, eucalyptus oil, and ethanol had significant muscle and mental relaxing effects, which increased cognitive performance. However, little influence on pain sensitivity was indicated.

Han, S., Hur M., Buckle, J., Choi, J., Lee, M. (2006). Effect of aromatherapy on symptoms of dysmenorrheal in college students: A randomized placebo-controlled clinical trial. *The Journal of Alternative and Complementary Medicine*, Jul-Aug, 12(6), 535-41.

This study of 67 female college students suggests that aromatherapy using topically applied lavender, clary sage, and rose is effective in decreasing the severity of menstrual cramps and can be offered to women experiencing menstrual cramps or painful periods. The study consisted of a double-blind, three-group experimental pre-test/post-test design, and the results indicated that menstrual cramps were significantly lowered in the aromatherapy group than in the other two groups after the post-tests.

Kim, J. et al. (2006). Evaluation of aromatherapy in treating post-operative pain: pilot study. *Pain Practice*, 6(4), 273-277.

The results of studies evaluating aromatherapy in treating post-operative breast biopsy pain indicated that lavender essential oil did not significantly affect pain scores; however, patients reported significantly higher satisfaction with pain control. (Kim et al, 2006).

Pittler, M. H., Ernst, E. (1998). Peppermint oil for irritable bowel syndrome: a critical review and metaanalysis. *The American Journal of Gastroenterology*, 93(7), 1131-5.

The results of a meta-analysis of five double-blind, placebo-controlled, randomized controlled trials indicate that peppermint oil had a significant effect in improving symptoms of patients with irritable bowel syndrome (IBS). However, due to the methodological flaws of most of the studies, conclusions about the role of peppermint oil in the symptomatic treatment of IBS could not be drawn.

Srivasta, K. C., Mustafa, T. (1992). Ginger (*Zingiber officinale*) in Rheumatism and Musculoskeletal Disorders. *Medical Hypotheses*, 39, 342-8.

The questionnaire-based open-trial involving 56 patients evaluated the effects of ginger in rheumatoid arthritis, osteoarthritis, and muscular discomfort. More than 75% of the arthritis patients experienced relief in pain and swelling to varying degrees, and all the patients with muscular discomfort experienced relief in pain. Ginger's positive effects could be due to inhibition of prostaglandin and leukotriene biosynthesis.