P.O. Box 144345 Austin, TX 78714-4345 ▪ 512.926.4900 ▪ Fax: 512.926.2345 ▪ www.herbalgram.org

HerbClip™

File: ■ Lavender (*Lavandula angustifolia*, Lamiaceae)
■ Aromatherapy
■ Labor Pain

HC 011741-576

Date: September 15, 2017

RE: Effect of Lavender Aromatherapy on Labor Pain and Duration

Yazdkhasti M, Pirak A. The effect of aromatherapy with lavender essence on severity of labor pain and duration of labor in primiparous women. *Complement Ther Clin Pract*. November 2016;25:81-86.

The pain of childbirth labor, while varying greatly in intensity, is among the most severe pain experienced by humans, such that the pain of surgical delivery (Caesarean section) may be preferred. While many pharmacological methods of pain relief are available to women in labor, non-pharmacological methods such as psychoprophylactic preparation, hypnotism, acupuncture, healing touch, relaxation exercises, massage therapy, and music therapy have been shown to not only reduce pain and duration of labor, but also the need for other analgesics or anesthesia. Aromatherapy is another non-pharmacological method to relieve pain, anxiety, depression, insomnia, fatigue, and other conditions often associated with labor. While the mechanisms of how various essential oils work is not completely understood, it has been suggested the action involves chemical signals sent to the olfactory bulb, closely linked to the limbic system, the emotional center of the brain, influencing both the endocrine and autonomic nervous systems. Essential oils are thought to increase secretion of sedative, stimulating, and relaxing neurotransmitters such as, respectively, serotonin, noradrenaline, and endorphins.

Essential oil of lavender (EOL; *Lavandula angustifolia*, Lamiaceae), widely used in aromatherapy, contains linalyl acetate and is an analgesic, sedative, disinfectant, and antidepressant. The herb and its roots are reported to be anticonvulsants; leaves and flowers are used for pain. Studies of lavender used in labor have had varying results. One reported that EOL aromatherapy reduced maternal fear, anxiety, and need for analgesics, but did not significantly reduce labor pain or number of surgical deliveries. A later study led by the same researcher, but using several means of aromatherapy administration, found that it effectively reduced pain and improved birth outcomes. Other studies report that EOL aromatherapy relieved pain after Caesarean surgery and that a lavender cream, compared to honey, was more effective in relieving pain and promoting healing after episiotomy. EOL was also found to reduce perineal pain and vulvar discomfort when administered in baths. A later study found that lavender cream did not reduce episiotomy pain. The authors conducted a single-blind, randomized clinical trial (RCT) to determine the effects of EOL aromatherapy on intensity and duration of labor among first-time mothers at Iran Hospital in Iranshahr, Sistan-Balouchestan Province, Iran.

A pilot study with 15 patients was undertaken to determine sample size for the RCT; 120 women were then enrolled to obtain statistical results with a confidence interval (CI) of 95%. All women entering the hospital for childbirth between September 2011 and January 2012 (n=525) were assessed for eligibility. Inclusion criteria included first-time pregnancy or live birth, singleton pregnancy, gestational age over 37 weeks, cervical dilation greater than 3-4 cm, cephalic presentation, and receiving no analgesics in labor. Exclusion criteria included cephalopelvic disproportion, refusal to participate, a history of allergy to herbs, need for emergency Caesarean section, and diagnosis of underlying maternal disease. Enrollment ceased when 120 women had met study criteria. Randomization to active and control groups was accomplished upon enrollment.

Data collected included patient assessments of pain intensity at several time points via visual analog scale (VAS), demographic information, information on the delivery process (duration of each stage of labor), and neonates' Apgar scores at 1 and 5 minutes postpartum. The first assessment of pain was conducted before intervention, at 3-4 cm dilation. Unfortunately, one or more sentences describing the study procedure seem to have been dropped from the text. It seems that the intervention was performed during contractions occurring when dilations of 5-6, 7-8, and 9-10 cm had been achieved and the VAS was re-administered 30 minutes after those contractions ended. In the active group, 2 drops of EOL 10% (Barij Essence Pharmaceutical Company; Kashan, Iran), diluted with distilled water (1:10), were dropped onto the patient's palms and she was asked to rub her palms together and inhale the fragrance for 3 minutes with the hands 2.5-5 cm from the nose. In the control group, the same procedures were used but distilled water was substituted for diluted EOL.* Descriptive statistics and analytical tests were then applied to the data.

One woman withdrew from the control group due to emergency Caesarean section, leaving 60 in the active group and 59 in the control group. There were no significant demographic or fetal gestational age differences between groups. Pre-intervention pain scores also did not differ significantly between groups; however, pain intensity differed significantly between groups following the intervention (5-10 cm dilated, P=0/001). Pain intensity decreased significantly in the active group 30 minutes after the intervention as compared to pre-intervention pain scores (P=0/001); there were no significant differences in the control group for pre- and post-intervention pain scores. Duration of first stage (active) labor did not differ significantly between the groups (P=0/5), nor did duration of second stage labor (P=0/6). Mean Apgar scores of newborns at 1 and 5 minutes also did not differ significantly between groups (P=0/4 and P=0/33, respectively). Overall, mean pain scores in the active group were significantly improved compared to control (P<0.001). The authors conclude that aromatherapy with EOL is a safe, inexpensive, cost-effective method of pain relief during labor without reported side effects affecting maternal or fetal outcomes.

—Mariann Garner-Wizard

* Notably, hospital midwives participated in this study, administering aromatherapy and the pain VAS; the second author (Pirak) is a midwife and administered aromatherapy in this study.

Referenced article can be accessed at
https://www.researchgate.net/publication/306349518_The_effect_of_aromatherapy_with_lavender_essence_on_severity_of_labor_pain_and_duration_of_labor_in_primiparous_women.