



# HerbClip™

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**File: ■ Lavender (*Lavandula angustifolia*, Lamiaceae)**

- Pregnancy
- Anxiety and Stress
- Depression

HC 051551-521

**Date: May 29, 2015**

**RE: Topical Lavender Cream Alleviates Anxiety, Stress, and Depression in Pregnant Women**

Effati-Daryani F, Mohammad-Alizadeh-Charandabi S, Mirghafourvand M, Taghizadeh M, Mohammadi A. Effect of lavender cream with or without foot-bath on anxiety, stress and depression in pregnancy: a randomized placebo-controlled trial. *J Caring Sci.* 2015;4(1):63-73.

Maternal anxiety, stress, and/or depression during pregnancy have a negative effect on the health of both mother and child. Lavender (*Lavandula angustifolia*, Lamiaceae) flower essential oil has been shown to decrease anxiety, stress, and depression. Foot bathing has also been found to improve autonomic function, sleep quality, and relaxation. The purpose of this randomized, double-blind, placebo-controlled study was to compare the effect of lavender cream, foot bathing, and placebo treatment on anxiety, stress, and depression in pregnant women.

Healthy pregnant women (n=141, aged 18-40 years) at 25-28 weeks gestation participated in this study conducted at Tabriz University of Medical Sciences; Tabriz, Iran. Excluded patients had a history of any chronic disease; were taking any medication (e.g., sedatives) that might interfere with the interventions; smoked; had a history of infertility; had a recent unwanted pregnancy; had a history of allergy to herbal medicines; had inflammation at the site of cream application; had current severe depression, anxiety, or stress (score of  $\geq 10$  on the anxiety sub-scale,  $\geq 17$  on the stress sub-scale, or  $\geq 14$  on the depression sub-scale of the Depression Anxiety Stress Scales-21 [DASS-21]); were obese (body mass index  $\geq 30$ ); were illiterate; worked a night shift; or lived outside of Tabriz city. The sample size was calculated to detect a reduction of at least 43% in mean anxiety score and 40% in mean depression score on the DASS-21. P-values of  $< 0.05$  were considered significant.

Patients were randomly assigned into 3 groups as follows: placebo, lavender cream (Barij Essence Pharmaceutical Company; Kashan, Iran), and lavender cream + foot bath. The lavender cream contained 1.25% lavender essential oil; the placebo was the base cream consisting of stearic acid, acetyl alcohol, Vaseline®, and glycerin. Patients

were instructed to rub 2 g of lavender or placebo cream on their legs for 10-20 minutes, 1.5 hours before bedtime for 8 weeks. The lavender + foot bath group was told to soak their feet in 40-42°C tap water, at a depth of 5 cm above the ankle, for 30 minutes after applying the cream. To facilitate blinding, patients only knew that the effect of an herbal cream was being investigated; the name of the plant was not mentioned.

The patients completed the DASS-21 questionnaire at baseline, 4 weeks, and 8 weeks. Based on their responses, anxiety, stress, and depression sub-scores were calculated. To assess compliance, patients were asked to keep a daily diary of treatment application and to return cream tubes at the week 4 and week 8 visits.

At baseline, the groups had similar characteristics. Compliance was similar among all 3 groups. No serious side effects were reported. One patient in the lavender + foot bath group and 3 patients in the placebo group were lost to follow-up.

At 4 weeks, a significant improvement in stress and anxiety scores ( $P < 0.05$  for both) was observed in the lavender group compared to placebo. The lavender + foot bath group had significantly improved stress scores compared to placebo ( $P < 0.05$ ).

At 8 weeks, there was a significant improvement in anxiety, stress, and depression in the lavender group compared with the placebo group ( $P < 0.05$  for all), and in the lavender + foot bath group compared with the placebo group ( $P < 0.05$  for all). There was no significant difference in DASS-21 scores between the lavender group and the lavender + foot bath group.

Acknowledged limitations of the study include the lack of a placebo + foot bath treatment arm, the lack of physiological measures of stress such as saliva cortisol levels, and that the results cannot be generalized to pregnant women with psychological disorders. In addition, this study only used one instrument (DASS-21) to measure anxiety, stress, and depression.

The authors conclude that lavender cream with or without foot bathing for 8 weeks significantly improved anxiety, stress, and depression in pregnant women. They recommend further studies to assess the effect of lavender on pregnant women with psychological disorders and women with postpartum depression. It is important to note that this study applies to the topical use of lavender essential oil. Future studies should consider the use of a natural carrier oil rather than a petroleum-based carrier.

—Heather S. Oliff, PhD

**Editorial Comment:**

Although this article is marred with typographical and grammatical errors, the reported methodology is rigorous.

Referenced article can be accessed at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4363653/>.

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