



AMERICAN
BOTANICAL
COUNCIL

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

HerbClip™

Laura Bystrom, PhD
Mariann Garner-Wizard

Alexis Collins, MS
Shari Henson

Amy Keller, PhD

Blake Ebersole, MBA
Heather S Oliff, PhD

Executive Editor – Mark Blumenthal

Managing Editor – Lori Glenn

Consulting Editors – Wendy Applequist, PhD, Thomas Brendler, Lisa Anne Marshall, Allison McCutcheon, PhD, J. Erin Smith, MSc, Carrie Waterman, PhD

Assistant Editor – Tamarind Reaves

File: ■ Damask Rose (*Rosa damascena*, Rosaceae)

■ Aromatherapy

■ Burns

■ Pain

HC 071646-563

Date: February 28, 2017

RE: Aromatherapy with Damask Rose Essence Reduces Pain Caused by Treatment of Burn Injuries

Bikmoradi A, Harorani M, Roshanaei G, Moradkhani S, Falahinia GH. The effect of inhalation aromatherapy with damask rose (*Rosa damascena*) essence on the pain intensity after dressing in patients with burns: a clinical randomized trial. *Iran J Nurs Midwifery Res*. May-June 2016;21(3):247-254.

The severe pain of serious burns is exacerbated by the need to clean, debride, and re-dress wounds daily. Pain control is important in healing and recovery from burns, with narcotic and non-narcotic drugs most commonly used. Adverse effects and/or increased tolerance may limit their efficacy. Aromatherapy is increasingly accepted as an adjunct pain control method, and is used to reduce stress, anxiety, fatigue, and depression, symptoms that often affect patients with burn wounds. Aromatherapy's mechanisms of action remain unknown. Damask rose (*Rosa damascena*, Rosaceae) essential oil (DREO) has been little-studied in relation to pain, although some studies report palliative, sleep-promoting, anticonvulsant, and relaxing effects.

The authors conducted a randomized, placebo-controlled, clinical trial of DREO with patients in the burn ward of Besat Therapeutic and Educational Center, Hamadan University of Medical Sciences, Hamadan, Iran, from May to October 2013. Patients were 18-65 years of age; could speak, see, and communicate; and had second- and/or third-degree burns. Patients with inhalation, self-inflicted, or electrical burns; burns on the face or eyes; a history of allergies or respiratory illness; or apparent allergy to DREO during the study were excluded. With minimum sample size calculated as 23 patients in active and control groups, patients were referred until 54 (27 per group) were enrolled. All received analgesic and sedative drugs 1 hour before and immediately after wound dressing.

Data were collected via a questionnaire covering demographic information and the cause and extent of burn wounds. A visual analog scale was used to measure pain intensity, with 0 representing no pain; 1-3, some pain; 4-6, moderate pain; and 7-10, severe pain. Pain scores were recorded for 2 days at 30 minutes before entering and at 15 and 30 minutes after leaving the wound-dressing room. Following the initial daily pain measurement, patients in the active group inhaled 5 drops of 40% DREO (manufacturer information not provided) in distilled water for 20 minutes via gauze pads attached to their collars; those in the control group inhaled 5 drops of distilled water by the same method. This intervention was administered by nurses, with patients in the DREO group treated in a different room to avoid

carryover between patients, without researchers' knowledge. Gauze pads were then removed before patients were treated by researchers whose noses were covered.

Most patients were male (60% in the active group, 52% in the control group) and the average age of patients in the active group was 33.2 ± 10.6 years and in the control group, 34 ± 12.4 years. The most common cause of burns was fire (84% active, 96% control); although figures for other causes are not given, caustic substances are mentioned as causing some. Mean length of hospitalization was 22.5 ± 10.6 days for those in the active group, who had burns over $23.68\% \pm 8.6$ of their bodies, and 22.6 ± 9.7 days for the control group, with burns covering $23.2\% \pm 8.9$ of their bodies. There were no significant differences between groups in demographic characteristics. Four enrolled patients were removed from the study due to discharge from the hospital (1 in each group), unwillingness to participate (1 in the placebo group), and intolerance of the treatment (1 in the active group).

Before the first intervention, the mean pain score was 5.4 in both groups (standard deviation [SD]=1.2 for the active group; SD=0.7 for the control group); 80% of patients in the active group and 96% in the control group reported moderate pain. At 15 minutes after patients' burns were dressed, average pain scores were 6.8 (SD=1.1) in the active group and 7.6 (SD=0.7) in the control group; 68% of patients in the active group versus 96% of patients in the control group reported severe pain. At 30 minutes after treatment, average pain scores had diminished to 6.4 in the active group and 7.3 in the control group, with 40% vs. 92%, respectively, still reporting severe pain. Before the second intervention, mean pain scores were 5.4 in both groups, with 96% of the active group and 100% of the control group reporting moderate pain. At 15 minutes after the second burn dressing, mean pain scores were 6.8 in the active group vs. 7.6 in the control group, with 72% vs. 96%, respectively, reporting severe pain. Thirty minutes after the second treatment, mean pain scores were 6.5 in the active group vs. 7.4 in the control group, with 52% of the active group vs. 96% of the control group still reporting severe pain.

There was a statistically significant difference in mean pain intensity between the 2 groups for the first intervention at 15 minutes ($P=0.010$) and 30 minutes ($P=0.001$) after treatment. This was repeated for the second intervention at 15 minutes ($P=0.001$) and 30 minutes ($P=0.001$) after treatment. The increase in pain caused by dressing of burns was significantly less in the active group ($P=0.01$). Analysis of variance using repeated measures showed a significant difference in pain severity between the 2 groups before and after treatment ($F=5.2$, $P=0.027$). Mean pain intensity during the 3 time periods reported (30 minutes before treatment, 15 minutes after treatment, and 30 minutes after treatment) was significantly different between the 2 groups ($F=256$, $P=0.001$). This study was small and of short duration, and the effect size was moderate (on average, slightly less than 1 point on a 10-point scale of pain). However, given the intense pain of burn wounds and their treatment, and the low cost and ease of administration of aromatherapy, DREO may be suggested as an adjunct pain treatment. More research is warranted.

—Mariann Garner-Wizard

Referenced article can be accessed at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4857658/>.