

〈Regular Article〉

Influence of Counseling Intervention on the Effectiveness of Aromatherapy with Bergamot Oil in Healthy Women Volunteers Measured with a Brain Monitoring System

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(Accepted: December 11, 2013)

Abstract

There is growing evidence that aromatherapy can improve mood. Since pharmacists may be requested to counsel patients about aromatherapy, this study was designed to evaluate the influence of counseling on the effectiveness of aromatherapy in 14 healthy young women. Participants completed a self-reported questionnaire (motivation, feeling of drowsiness and general fatigue) and multi-dimensional fatigue inventory-20 (MFI-20) in a room filled with the fragrance of bergamot, with or without counseling. Further, as an objective measure of changes in stress, blood flow in the inferior frontal cortex was evaluated by means of near-infrared spectroscopy (NIRS). MFI-20 showed that aromatherapy with counseling significantly improved activity and motivation, as compared to aromatherapy only. The self-reported questionnaire showed no significant difference. Regional blood flow in the inferior frontal cortex was significantly decreased by exposure to aromatherapy with counseling, compared to aromatherapy alone ($p < 0.01$, $p < 0.05$). The value of the laterality index (LI) derived from NIRS measurements, which is considered to be a measure of stress, was decreased by aromatherapy with counseling, indicating that bergamot oil reduces stress. Overall, the results indicated that counseling intervention markedly increased the effectiveness of aromatherapy.

Key words: aromatherapy, influence of counseling, near-infrared spectroscopy, the laterality index.