

EVALUATION OF THE EFFECTIVENESS OF AROMATHERAPY USING COMBINATION OF QUESTIONNAIRE AND NEAR-INFRARED SPECTROSCOPY

**Minae Isawa¹, Akemi Shinno¹, Hiroshi Itoh¹, Noriko Kose¹, Haruyuki Ishino¹,
Tomohiro Nishimura¹, Masatoshi Tomi¹, Takeo Tsujii²,
Hideyo Shimada³, Hidetsugu Saito¹ and Emi Nakashima¹**

¹Faculty of Pharmacy, Keio University, Tokyo, Japan,

²Department of Neurological Surgery, Nihon University,

³Shimada Clinic, Nihon University, Japan

E-mail: isawa-mn@pha.keio.ac.jp

ABSTRACT

The purpose of this research was to evaluate noninvasively the influence of aromatherapy on work performance in 14 healthy young adults using both subjective and objective indicators. Participants in a room filled with the smell of lavender completed a self-reported questionnaire and multi-dimensional fatigue inventory-20 (MFI-20). Further, as an objective measure, blood flow in the inferior frontal cortex was evaluated by means of near-infrared spectroscopy (NIRS) as a parameter of working memory capacity. Compared to the control stage (no aromatherapy), aromatherapy produced a significant reduction in general fatigue and mental fatigue according to MFI-20. Self-reported questionnaires also indicated that aromatherapy improved subjective mood, but the difference was not statistically significant. NIRS measurement during task performance of an N-back program indicated that blood flow in the inferior frontal cortex was significantly increased by aromatherapy, compared to that without aromatherapy. The prefrontal area in the brain is involved in working memory, attention concentration and judgment. These results suggest that aromatherapy may improve cognitive ability as well as mood. A larger study with more aroma oils seems warranted.

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