

Depression, mood, stress, and Th1/Th2 immune balance in primary breast cancer patients...

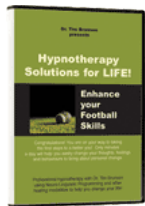
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Full Title: Depression, mood, stress, and Th1/Th2 immune balance in primary breast cancer patients undergoing classical massage therapy

PURPOSE: Cancer patients frequently suffer from psychological comorbidities such as depression and elevated stress. Previous studies could demonstrate that cancer patients benefit from massage therapy on the physical and psychological level. This pilot study investigates the effects of massage on depression, mood, perceived stress, and the Th1/Th2 ratio in breast cancer patients. **METHODS:** Thirty-four breast cancer patients were randomly assigned to a massage group (n = 17) and a control group (n = 17). Patients of the massage group received two 30-min classical massages per week for 5 weeks. At baseline, at the end of the intervention period, and 6 weeks after the end of intervention, patients of both groups completed the Perceived Stress Questionnaire (PSQ), the Patient Health Questionnaire (PHQ), and the Berlin Mood Questionnaire (BFS) and blood was withdrawn for determining cytokine concentrations and the Th1/Th2 ratio. **RESULTS:** Twenty-nine patients were included in the statistical analysis. Depression (PHQ) and anxious depression (BSF) were significantly reduced immediately after massage compared to the control group. Stress (PSQ) and elevated mood (BSF) did not show significant alterations after massage therapy. Changes of cytokine concentrations and Th1/Th2 ratio were insignificant as well, although there was a slight shift towards Th1 in the massage group over time. **CONCLUSIONS:** Massage therapy is an efficient treatment for reducing depression in breast cancer patients. Insignificant results concerning immunological parameters, stress, and mood indicate that further research is needed to determine psychological and immunological changes under massage therapy.

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