

Massage Therapy Review

ANXIETY, SALIVARY CORTISOL AND MELATONIN SECRETION FOLLOWING REFLEXOLOGY TREATMENT

PENNY ROBERTSHAW

McVicar, A, Greenwood C, Fewell F, D'Arcy V, Chandrasekharan S, Alldridge L. Evaluation of anxiety, salivatory cortisol and melatonin secretion following reflexology treatment: A pilot study in healthy individuals. *Complementary Therapies in Clinical Practice* 2007;13:137–145.

Why Was This Study Conducted?

The purpose of this study was to explore the effect of reflexology treatments on anxiety, salivary cortisol, melatonin secretion, pulse rate and blood pressure in healthy adults. It was conducted as a pilot to establish a method for a larger study with breast cancer patients.

What Were The Parameters Of This Study?

Thirty men and women aged between 16 to 59 years took part in this study. All participants were screened for stimulated or deficient steroid secretion due to Cushing's disease, adrenal tumours, Addison's disease and adrenocorticotrophic hormone deficiency disease. Pregnant women and those taking oral contraceptives were also excluded.

The participants were randomly divided into two groups. Group A received a 60 minute reflexology treatment using gentle pressure only. Simultaneously, Group B sat quietly together for 60 minutes in an adjoining room. Both treatment rooms were given the same ambience of colours, temperature and background music.

Three days later, the groups changed around so that Group B received the reflexology treatment and Group A sat together quietly in an adjoining room.

How Were The Measurements Taken?

The state trait anxiety inventory (STAI) for adults was used to measure changes in transitory anxiety experienced before and after each treatment session. This 20 item questionnaire differentiates between temporary anxiety (state) and longer term general anxiety (trait). Higher scores indicate increased psychological stress and lower scores signify relaxation.

Systolic and diastolic blood pressure was measured from the brachial artery using a mercury sphygmomanometer. Pulse rate was measured manually over the radial artery prior to and following reflexology treatments and control sessions.

Saliva samples were taken to measure levels of cortisol and melatonin on treatment days. All participants were requested to abstain from smoking, drinking and eating for 60 minutes prior to giving saliva samples. Participants in Group A provided saliva samples at 12 noon, 1.15 pm (15 minutes after

treatment) and 8 pm. Group B provided samples at 1.15 pm, 11 pm and on waking the following morning. Multiple samples were taken on all occasions to ensure precision and each sample was tested twice.

What Were The Results?

State anxiety scores were significantly lower following reflexology treatments when compared to the non-treatment group. However, trait anxiety scores remained unchanged in both groups. Levels of salivary cortisol and melatonin showed no statistically significant differences between Group A and Group B.

Systolic blood pressure and pulse rates were significantly reduced in participants after treatment with reflexology compared to the non-treatment group. There were no significant changes in diastolic blood pressure in either group.

What Did The Researchers Conclude?

The researchers concluded that 'this pilot study has showed that reflexology significantly reduced 'state' anxiety and related cardiovascular parameters, but had no significant effect on stress-related secretion of cortisol or melatonin in healthy individuals, at the time points chosen'.

The data collected in this pilot study provided sufficient information for a larger study to be conducted with breast cancer patients.

What Were The Limitations Of This Study?

The researchers remarked that the results did not determine whether the positive impact of the reflexology treatments were due to the treatment itself or to the effect of physical contact in general. As there was no massage control group, it could be that touch alone had an anxiety reducing effect.

Despite participants being students and teachers at the university where the study took place, the researchers suggested that participants might feel anxious about sitting quietly with the group although there was no evidence of this.

Of the 30 participants who were enrolled into the study, only 18 completed all three components. The planned larger study will provide more information on the efficacy of reflexology, particularly if a massage control is incorporated. ❖

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