

## **Heart rate variability and the influence of craniosacral therapy on autonomous nervous system regulation in persons with subjective discomforts: a pilot study**

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### **Abstract**

**BACKGROUND:** Subjective discomforts in a preclinical range are often due to imbalanced autonomic nervous system activity, which is a focus of craniosacral therapy.

**OBJECTIVE:** The aim of this work was to determine any changes in heart rate variability (HRV) in a study on craniosacral therapy.

**DESIGN, SETTING, PARTICIPANTS AND INTERVENTIONS:** This is a quasi-experimental (controlled) study with cross-over design. In a private practice, measurements were performed on 31 patients with subjective discomforts before and after a control and an intervention period. HRV was determined using a device that requires a measuring time of 140 s and electrode contact only with the fingertips.

**PRIMARY OUTCOME MEASURES:** HRV change under the influence of a defined one-time intervention (test intervention) with craniosacral therapy versus control (defined rest period).

**RESULTS:** Standard deviation of all RR-intervals (ms) and total power of RR-interval variability in the frequency range (ms<sup>2</sup>) were together interpreted as an indicator of test subjects' autonomic nervous activity and as a measure of their ability to cope with demands on their health. Neither of these parameters increased during the control period ( $P > 0.05$ ), whereas during the test intervention period there was an increase in both ( $P < 0.05$ ,  $P < 0.01$ ). Nevertheless, interactions between treatment and the increase were statistically not significant ( $P > 0.05$ ). No changes were observed in the low frequency/high frequency ratio (sympathetic-vagal balance) in the course of the control or the test intervention period ( $P > 0.05$ ).

**CONCLUSION:** Craniosacral treatment had a favourable effect on autonomic nervous activity. This in itself is an interesting result, but further research will be needed to distinguish specific effects of craniosacral therapy technique from less specific therapist-client interaction effects.