

HIGH FREQUENCY REPETITIVE TRANSCRANIAL MAGNETIC STIMULATION CAN IMPROVE THE QUALITY OF LIFE AND DEPRESSION IN PARKINSON'S DISEASE: A RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED STUDY

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The efficacy of repetitive transcranial magnetic stimulation (rTMS) on health-related quality of life has not been evaluated in depressive Parkinson's disease (PD) patients. Therefore, we conducted a randomized, double-blind, placebo-controlled study to evaluate the efficacy of rTMS over bilateral motor cortex.

Forty-six patients with PD and mild-moderate depression randomly assigned to active (n=23) and sham (n=23) rTMS. High frequency rTMS was applied over the primary motor cortex for 10 days. An investigator blinded to the treatment performed three video-taped examinations on each patient: before stimulation (baseline), 1 day (short term), and 30 days after treatment session ended (long-term effect). Primary endpoint was the changes in quality of life measurement (PDQ-39) while secondary endpoints included depression scales and Movement Disorders Society Unified Parkinson's Disease Rating Scale (MDS-UPDRS).

In the actively-treated group not only the health-related quality of life improved (from 25.4 to 9.6 points, PDQ-39 summary index, median values, p0.001), but also the severity of depression (from 17 to 7 points, Montgomery-Asberg Depression Rating Scale, median values, p0.001). We could also demonstrate an insignificant improvement in MDS-UPDRS Motor Examination by 6 points (p=0.229). In the sham-treated group none of the examined tests and scales improved significantly after sham stimulation.

Our results demonstrate the beneficial effects of high frequency rTMS over the motor cortex on health-related quality of life and depression in PD. However, this result should be confirmed in patients with severe depression by further clinical trials.