

Individualized Electromagnetic Treatment in Posttraumatic Stress Disorder: a Randomized, Double-blind, Sham-controlled Trial.

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Introduction

Posttraumatic stress disorder (PTSD) is a disabling and prevalent psychiatric disorder with limited effective treatment options. Pilot data suggest an individualized electromagnetic treatment with individualized treatment frequencies based on EEG and EKG may be effective in its treatment. The objective of this study is to determine whether individualized-frequency magnetic stimulation can improve clinical symptoms in PTSD in a double-blind, sham controlled, randomized trial.

Methods

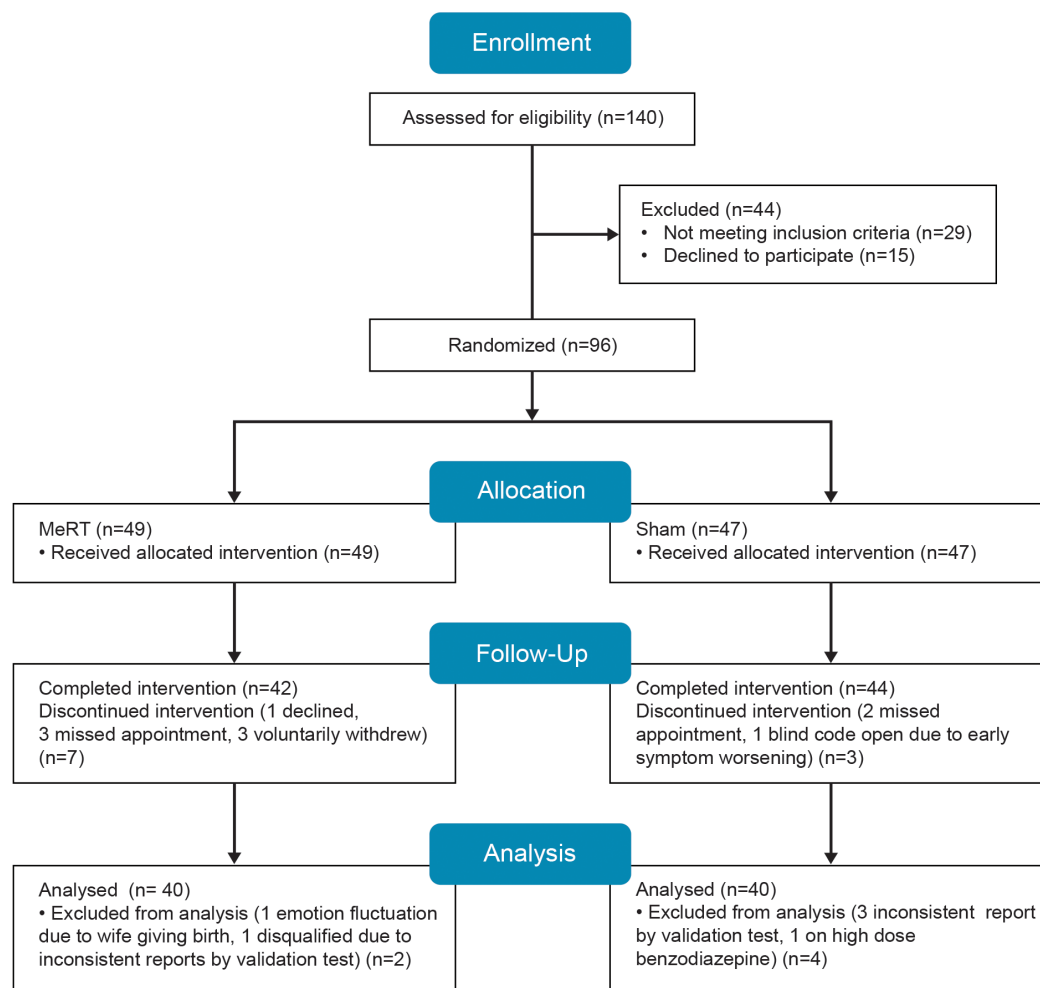
Ninety-six (96) veterans were randomized to receive individualized frequency magnetic stimulation (MeRT) versus sham stimulation for two weeks, followed by open-label active treatment of both groups for two weeks. Stimulation was administered with pulse intensity at 80% of patient motor threshold and stimulation frequency based on analysis of each patient resting EEG and heart rate. The primary outcome variable was the change in PTSD Check List – Military (PCL-M). The Pittsburgh Sleep Quality Index Addendum for PTSD (PSQI-A) was collected as a secondary outcome measure. Scales were collected at baseline, and weeks 1, 2 and 4 of treatment.

Results

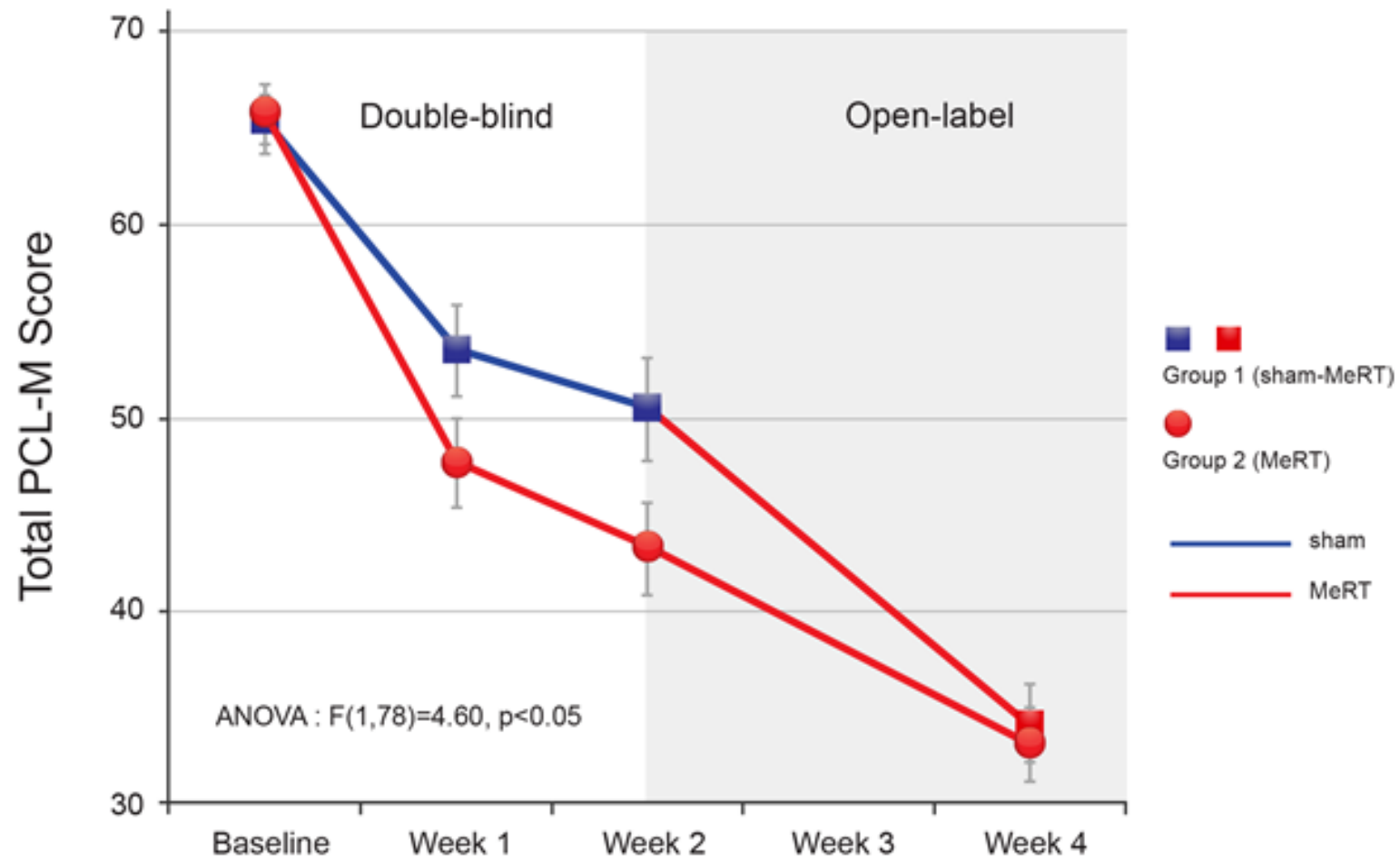
Of the 96 patients randomized, 80 completed the study. By end of week two, active stimulation treated patients had statistically significant reduction in symptoms as compared to sham ($p < 0.05$). Group differences in PSQI-A also reached statistical significance at week 2 ($p < 0.05$). Similar change in all measures in the sham group were also found after two weeks of open label treatment ($p < 0.01$).

Subject Flow

Figure 1. Subjects Flow Diagram



Results



Discussion

During the double blind phase, both arms saw improvement in the PCL-M score, with more profound improvements in the active treatment arm versus sham stimulation arm. This reached statistical significance. During the open label phase both arms improved. Improvements in these patients were seen in PCL-M as well as sleep scores.

Summary

This double-blind, randomized, controlled trial shows that transcranial magnetic therapy based on individualized frequencies derived from EEG/EKG is an effective therapy for PTSD in improving overall symptoms and quality of sleep.