

# Behavioral interventions as a treatment for epilepsy

A multicenter randomized controlled trial

## Abstract

**Objective** To evaluate the effect of a stress-reduction intervention in participants with medication-resistant epilepsy.

**Methods** Adults with medication-resistant focal epilepsy (n = 66) were recruited from 3 centers and randomized to 1 of 2 interventions: (1) progressive muscle relaxation (PMR) with diaphragmatic breathing, or (2) control focused-attention activity with extremity movements. Following an 8-week baseline period, participants began 12 weeks of double-blind treatment. Daily self-reported mood and stress ratings plus seizure counts were completed by participants using an electronic diary, and no medication adjustments were permitted. The primary outcome was percent reduction in seizure frequency per 28 days comparing baseline and treatment; secondary outcomes included stress reduction and stress–seizure interaction.

**Results** In the 66 participants in the intention-to-treat analysis, seizure frequency was reduced from baseline in both treatment groups (PMR: 29%,  $p < 0.05$ ; focused

attention: 25%,  $p < 0.05$ ). PMR and focused attention did not differ in seizure reduction ( $p = 0.38$ ), although PMR was associated with stress reduction relative to focused attention ( $p < 0.05$ ). Daily stress was not a predictor of seizures.

**Conclusions** Both PMR and the focused-attention groups showed reduced seizure frequency compared to baseline in participants with medication-resistant focal seizures, although the 2 treatments did not differ. PMR was more effective than focused attention in reducing self-reported stress.

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