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Article

Transcranial magnetic stimulation (TMS) for major depression: A multisite, naturalistic, observational study of acute treatment outcomes in clinical practice

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ABSTRACT

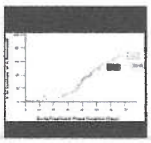
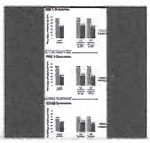
Few studies have examined the effectiveness of transcranial magnetic stimulation (TMS) in real-world clinical practice settings.

Forty-two US-based clinical TMS practice sites treated 307 outpatients with Major Depressive Disorder (MDD), and persistent symptoms despite antidepressant pharmacotherapy. Treatment was based on the labeled procedures of the approved TMS device. Assessments were performed at baseline, week 2, at the point of maximal acute benefit, and at week 6 when the acute course extended beyond 6 weeks. The primary outcome was change in the Clinician Global Impressions-Severity of Illness from baseline to end of acute phase. Secondary outcomes were change in continuous and categorical outcomes on self-report depression scales (9-Item Patient Health Questionnaire [PHQ-9], and Inventory of Depressive Symptoms-Self Report [IDS-SR]).

Patients had a mean ± SD age of 48.6 ± 14.2 years and 66.8% were female. Patients received an average of 2.5 (± 2.4) antidepressant treatments of adequate dose and duration without satisfactory improvement in this episode. There was a significant change in CGI-S from baseline to end of treatment (-1.9 ± 1.4, $P < .0001$). Clinician-assessed response rate (CGI-S) was 58.0% and remission rate was 37.1%. Patient-reported response rate ranged from 56.4 to 41.5% and remission rate ranged from 28.7 to 26.5%, (PHQ-9 and IDS-SR, respectively).

Outcomes demonstrated response and adherence rates similar to research populations. These data indicate that TMS is an effective treatment for those unable to benefit from initial antidepressant medication.

Figures in this publication

Source

"In this context, inter-hemispheric asymmetry of occipital alpha and prefrontal theta bands have been reported as a valuable pretreatment EEG features to differentiate responders from nonresponders (Bruder et al., 2008; Carpenter et al., 2012; Fitzgerald et al., 2006; George et al., 2000, 1995; Iosifescu et al., 2009; Pascual-Leone et

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