Transcranial magnetic stimulation (TMS) for major depression: a multisite, naturalistic, observational study of quality of life outcome measures in clinical practice

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Background. Transcranial magnetic stimulation (TMS) is an effective and safe therapy for major depressive disorder (MDD). This study assessed quality of life (QOL) and functional status outcomes for depressed patients after an acute course of TMS.

Methods. Forty-two, U.S.-based, clinical TMS practice sites treated 307 outpatients with a primary diagnosis of MDD and persistent symptoms despite prior adequate antidepressant pharmacotherapy. Treatment parameters were based on individual clinical considerations and followed the labeled procedures for use of the approved TMS device. Patient self-reported QOL outcomes included change in the Medical Outcomes Study 36-Item Short-Form Health Survey (SF-36) and the EuroQol 5-Dimensions (EQ-5D) ratings from baseline to end of the acute treatment phase.

Results. Statistically significant improvement in functional status on a broad range of mental health and physical health domains was observed on the SF-36 following acute TMS treatment. Similarly, statistically significant improvement in patient-reported QOL was observed on all domains of the EQ-5D and on the General Health Perceptions and Health Index scores. Improvement on these measures was observed across the entire range of baseline depression symptom severity.

Conclusion. These data confirm that TMS is effective in the acute treatment of MDD in routine clinical practice settings. This symptom benefit is accompanied by statistically and clinically meaningful improvements in patient-reported QOL and functional status outcomes.

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Key words: Clinical trial, depression, functional status, quality of life, transcranial magnetic stimulation.

Introduction

Major depressive disorder (MDD) is a debilitating and often chronic disease. By 2020, it is projected to be the second leading cause of disability based on disability-adjusted life-years (DALYs).1 In addition, MDD is considered one of the primary causes of disease burden in developed nations, as it is associated with increases in both healthcare service utilization and in public health costs.2,3

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