

Does Comorbid Depression severity impact TMS treatment outcomes for OCD?

Rio Madan MSc BSc, Athana Thangarajah MSc BSc & Dr Leigh A Neal MB BCh FRCPsych MRCGP MD

Introduction

People with treatment resistant Obsessive Compulsive Disorder (OCD) also tend to suffer from **comorbid depression** (Overbeek et al, 2002).

It remains **inconclusive** whether comorbid depression can impact TMS treatment outcomes for OCD (Singh et al, 2019; Mantovani et al, 2006).

This study investigated the impact of **comorbid depression severity** on the outcome of repetitive Transcranial Magnetic Stimulation (rTMS) treatment for **refractory OCD**.

Method

A retrospective chart review of 105 patients was analysed using multiple regression.

Inclusion Criteria

- Patients who received at least 5 treatment sessions
- Patients who received either of the standard OCD protocols

Psychometrics

- OCD symptoms were measured using the Yale-Brown Obsessive Compulsiveness Scale (YBOCS)
- Comorbid depression severity was measured using the Patient Health Questionnaire (PHQ-9)

Descriptive Data

Total N	105
Age of Patients (Years)	Mean: 36.4 Range: 17-73
Gender (Males:Females)	64:41
Baseline PHQ-9	Mean: 14.65 Range: 1-27
Baseline YBOCS	Mean: 25.9 Range: 4-40
Number of Sessions	Mean: 18.0 Range: 5-36

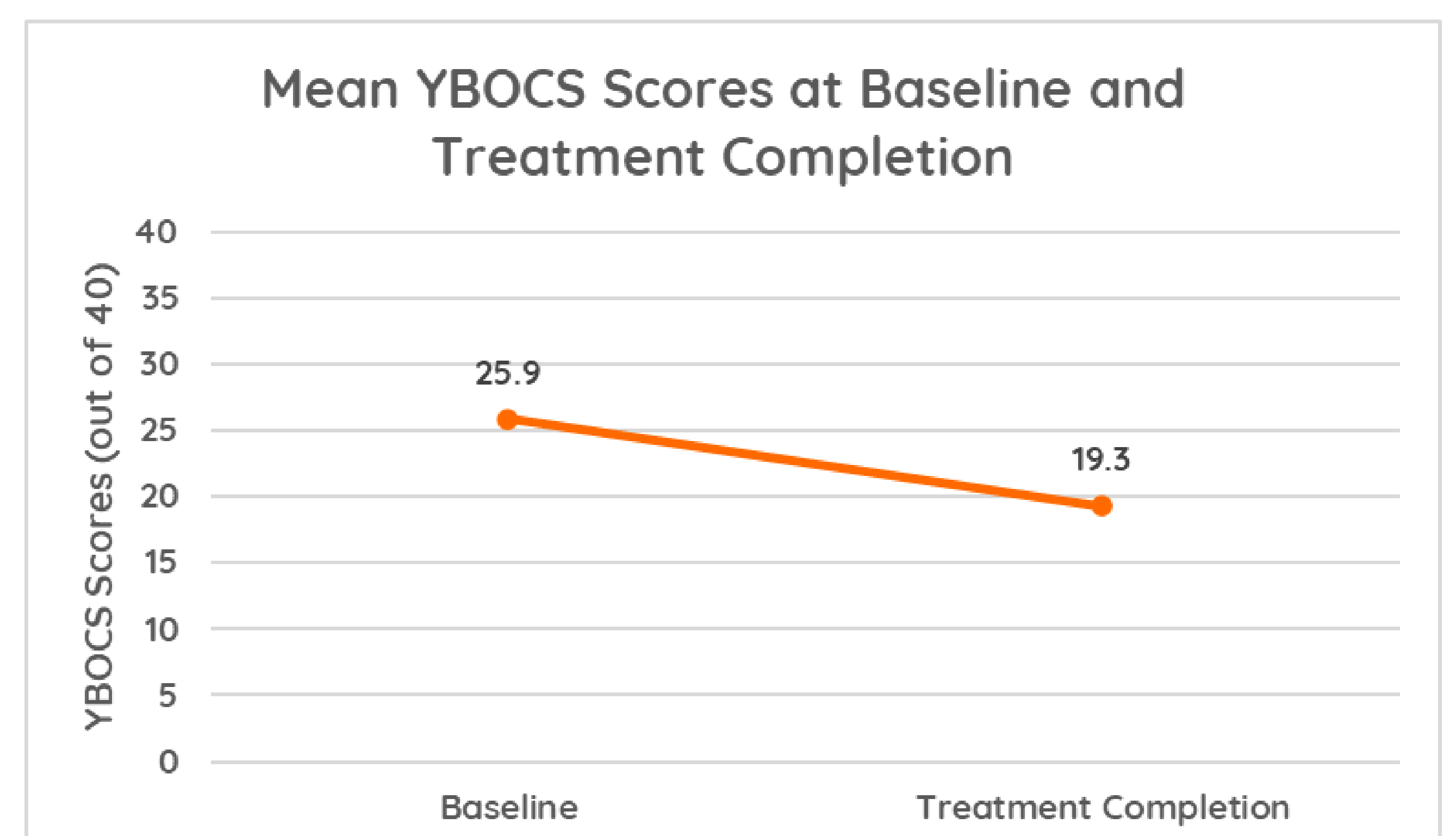
Variables

- The main outcome variable was percentage reduction of YBOCS scores from baseline (Mean = 25.9, Range = 4-40) to treatment completion (Mean = 19.3, Range = 0-38)
- **The mean reduction in YBOCS was 24.5%**
- The independent variables (IVs) included: baseline PHQ-9 score, baseline YBOCS score, number of sessions, age and sex.

Procedure

Patients were treated for OCD with 1Hz over either the SMA (20 minutes, 1200 pulses) or OFC (17 minutes, 120 pulses).

These have been shown to deliver equivalent outcomes (Singh et al, 2019).



Results

A multiple regression was performed to analyse associations between the dependent and independent variables.

Collectively, the IVs predicted YBOCS reduction at a statistically significant level ($F(5, 99) = 6.51, p = 2.84E-05, R^2 = 0.25$).

Only **number of sessions** ($t = 4.90, p = 3.69E-06$) and **baseline YBOCS scores** ($t = 2.20, p = 0.03$) significantly predicted YBOCS reduction.

Baseline PHQ-9 severity **could not predict** YBOCS reduction at a statistically significant level ($F(1, 104)=1.22, P=0.27, R^2 = 0.01$).

Conclusions

Comorbid depression severity **is not a moderator** of TMS treatment outcomes for OCD.

OCD patients with comorbid depression are **just as likely to see improvements** in their OCD symptoms with TMS compared to **those without** comorbid depression.

As baseline YBOCS scores predicted YBOCS reduction, those with **less severe OCD** tend to respond **better** to TMS treatment.

Conflict of Interest & Funding

Conflicts of Interests: All authors are paid employees of Smart rTMS Ltd.

Funding: None