

Transcranial Magnetic Stimulation for the Treatment of Major Depressive Disorder:

A Retrospective Outcome Study in a Private Practice Setting focusing on age and gender.

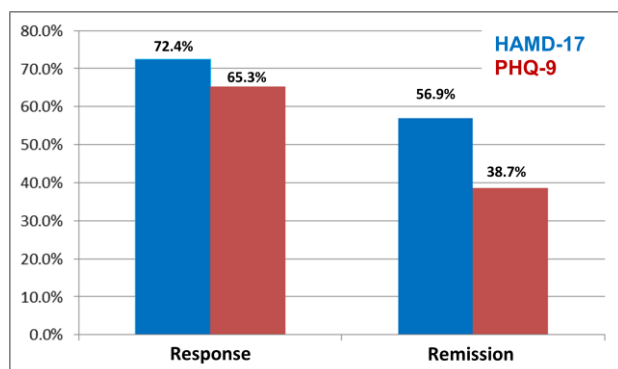
Randy Ian Pardell, MD DFAPA, Medical Director; Riverview Psychiatric & TMS Center of the Hudson Valley, Poughkeepsie, New York

Objective: Major Depressive Disorder (MDD) is a common condition associated with poor outcomes. As many as 30-40% of patients with MDD are found to be unresponsive to multiple trials of antidepressant medications. This retrospective evaluation was designed to evaluate the efficacy of transcranial magnetic stimulation (TMS) by age and gender in patients with major depression in a treatment resistant population in a private practice setting.

Methods: 58 patients suffering from a Major Depressive Episode (54 patients with MDD, 3 patients with Bipolar 2 Disorder Depressed, and 1 patient Depressive Disorder NOS) received Neurostar rTMS treatment at the **TMS Center of the Hudson Valley**. A retrospective chart review focusing upon Response and Remission Rates was undertaken (Table II). Patients were assessed pre and post treatment utilizing the Hamilton Depression Rating Scale (HAMD-17) primary measure and the PHQ-9 as a secondary measure. Response and Remission Rates were evaluated retrospectively to assess postacute phase efficacy and safety. Further stratification was performed assessing response based upon gender and age.

Results: 35 females and 23 males, with a median age of 55, were treated with rTMS. Median number of sessions 30. Mean pretreatment HAMD-17 21.7. Mean pretreatment HAMD-17 Female 21.4, Mean pretreatment HAMD-17 Men 22.3. Mean pretreatment HAMD-17 for those 54 and younger 20.3 and HAMD-17 55 and older was 23.0. Overall, 72.4% of patients showed Response, and 56.9% of patients showed Remission of symptoms on the HAMD-17. Females showed a Response/Remission Rate of 77.1% / 62.9% compared to males who showed a Response/Remission Rate of 65.2% / 47.8%. Patients 54 and younger showed a Response/Remission Rate of 78.6% / 60.7% compared to 66.7% / 46.6 for those 55 and older. Female 54 and younger showed a Response/Remission Rate of 83.3% / 72.2% and Female 55 or older showed a Response/Remission Rate of 70.5% / 52.9%. Males 54 and younger showed a Response/Remission Rate of 70.0% / 50.0% and Males 55 or older showed a Response/Response Rate of 61.5% / 46.2%. No serious adverse events occurred.

**All Groups
Response and Remission Rate**



**Response and Remission
Females vs. Males (HAMD-17)**

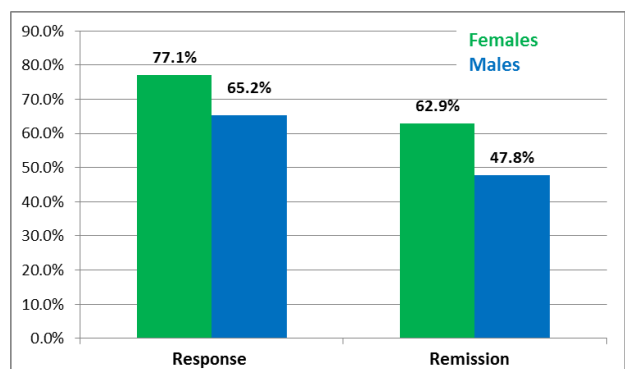
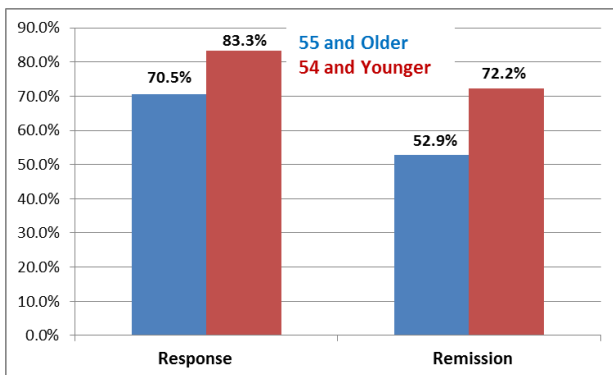


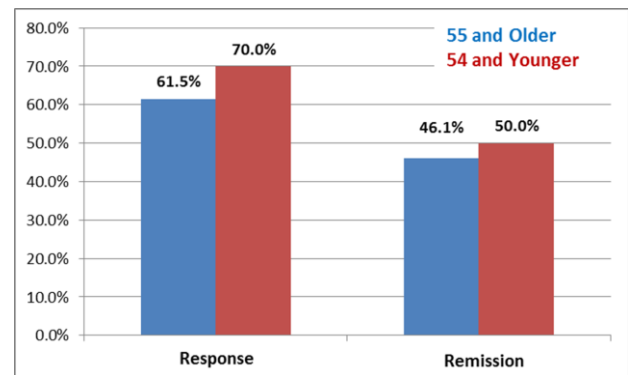
Table II: Response and Remission

	Ham-D 17 N=58		PHQ-9 N=49	
	Response Rate	Remission Rate	Response Rate	Remission Rate
All Groups	72.4%	56.9%	65.3%	38.7%
Females	77.1%	62.9%	64.3%	50.0%
Males	65.2%	47.8%	66.6%	23.8%
55 and older	66.7%	46.6%	64.0%	24.0%
54 and younger	78.6%	60.7%	70.3%	54.2%
55 and older - Females	70.5%	52.9%	61.5%	38.4%
54 and younger - Females	83.3%	72.2%	73.3%	60.0%
55 and older - Males	61.5%	46.1%	66.7%	8.5%
54 and younger - Males	70.0%	50.0%	66.7%	44.4%

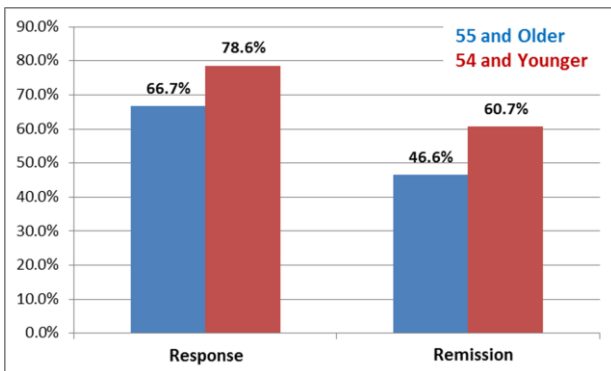
Response and Remission Females by Age Group (HAMD-17)



Response and Remission Males by Age Group (HAMD-17)



Response and Remission by Age Group (HAMD-17)



Conclusions

- In a private practice setting rTMS is an effective treatment for patients suffering from MDD.
- rTMS appears to be more effective in Females compared to Males.
- rTMS may be more effective in younger adults, as demonstrated by Female and Male 54 and younger groups.
- Females 54 years of age and younger appear to respond better to rTMS compared to Females 55 years and older, and the all Male Groups.
- Further studies need to incorporate larger sample populations to determine differential response by age and gender.

Randy Ian Pardell, Medical Director,
Riverview Psychiatric Medicine
Poughkeepsie, NY 12601
www.Riverviewpsychiatric.com
1-845-471-1807

