## Disclosure

The authors report no conflicts of interest.

**How to cite this article:** Castellana GB, Shraiber LB, da Silva TF, Barros DM. Decision-making for involuntary commitment in Brazil: elucidating misunderstandings between reasons and justification. Braz J Psychiatry. 2020;42:108-109. http://dx.doi.org/10.1590/1516-4446-2019-0554

## References

1 Brasil, Código Civil. Lei nº 10216. Diário Oficial da União, 06 de abril de 2001. https://www2.camara.leg.br/legin/fed/lei/2001/lei-10216-6-abril-2001-364458-publicacaooriginal-1-pl.html
2 Brasil, Presidência da República, Ministério da Saúde. Portaria n.2391. Diário Oficial da União, 26 de dezembro de 2002. http://bvsms.saude.gov.br/bvs/saudelegis/gm/2009/prt2048_03_09_2009.html
3 Brasil, Associação Nacional de Medicina do Trabalho (ANAMT). Resolução CFM nº 2.057/2013. Diário Oficial da União, 12 de novembro de 2013. https://www.anamt.org.br/portal/2017/03/02/resolucao-cfm-n-o-2-0572013/
4 Barros DM, Serafim AP. Legal criteria for involuntary hospitalization in Brazil. Arch Clin Psychiatry. 2009;36:175-7.
5 Lima MA. Internação involuntária em Psiquiatria: legislação e legitimidade, contexto e ação. In: Conselho Regional de Medicina do Estado de São Paulo (CREMESP). Ética e psiquiatria. 2a ed. São Paulo: CREMESP; 2007. p.115-26.

# Comment on "Transcranial magnetic stimulation of the medial prefrontal cortex for psychiatric disorders: a systematic review"

Braz J Psychiatry. 2020 Jan-Feb;42(1):109-110
doi:10.1590/1516-4446-2019-0707



In a recent issue, the *Brazilian Journal of Psychiatry* published a systematic review on transcranial magnetic stimulation of the medial prefrontal cortex for psychiatric disorders conducted by two of the authors of this letter (RCM and AC).[1] It has since come to our attention that a multicenter clinical trial of great relevance to the topic was not included in the review. This unfortunate oversight was due to the trial's publication taking place after acceptance of the review. Nonetheless, the importance of this trial is such that it would have influenced our overall analysis of the literature on medial prefrontal cortex transcranial magnetic stimulation (mPFC TMS), which motivated this correspondence.

The study in question, conducted by Carmi et al.,[2] is the largest randomized controlled trial to date investigating the use of mPFC TMS in the treatment of a psychiatric disorder. In 11 centers across the United States, Canada, and Israel, the researchers tested the efficacy of 20 Hz mPFC TMS in 99 patients with obsessive-compulsive disorder (OCD). The main outcome measure was the Yale-Brown Obsessive Compulsive Scale (YBOCS). Repetitive TMS was performed with an H-coil, which produces deeper and larger stimulation volumes than those of regular coils. Before and during the TMS session, a personalized OCD symptom provocation technique was used to activate the relevant neural circuitry being targeted. The trial design and sample size were based on a pilot study previously completed by part of the same group.[3]

The intervention resulted in a significantly different decrease in YBOCS measures between the active and sham groups ($p = 0.01$), with an effect size of 0.69. The between-group difference was maintained at 1-month follow-up, with a response rate of 45.2% in the active treatment group vs. 17.8% in the sham group. Had it been included in the review, this trial would have a low risk of bias according to the quality assessment tool. It would also have changed the tone of our conclusions, since it figures as the first high-quality mPFC TMS trial with a relatively large sample, offering solid evidence for the clinical application of this intervention, expanding on findings from pilot trials and smaller studies.

Other than the clinical importance of this publication, the successful therapeutic use of mPFC TMS emphasizes the value of a circuit-based approach to mental illness, and how neuromodulation interventions such as TMS can be effectively used for this purpose.[4] Greater understanding of the neurobiology of mental illnesses has guided a recent shift in attention in TMS research from regions more closely associated with cognition and executive functions (e.g., the dorsolateral prefrontal cortex) to areas involved in limbic processes and emotional regulation (e.g., the mPFC).[5] The results obtained by Carmi et al. are an important example of how this different approach can aid the development of new effective treatments for psychiatric disorders.

Rodrigo C. **Marques**,[1] Amaury **Cantilino**,[1,2] Abraham **Zangen**[3]
[1]*Programa de Pós-Graduação em Neuropsiquiatria e Ciências do Comportamento, Universidade Federal de Pernambuco (UFPE), Recife, PE, Brazil.* [2]*Departamento de Neuropsiquiatria, UFPE, Recife, PE, Brazil.* [3]*Department of Life Sciences and the Zlotowski Centre for Neuroscience, Ben-Gurion University of the Negev, Beer-Sheva, Israel.*

Submitted Sep 12 2019, accepted Dec 09 2019.

## Disclosure

The authors report no conflicts of interest.

**How to cite this article:** Marques RC, Cantilino A, Zangen A. Comment on "Transcranial magnetic stimulation of the medial prefrontal cortex for psychiatric disorders: a systematic review". Braz J Psychiatry. 2020;42:109-110. http://dx.doi.org/10.1590/1516-4446-2019-0707

## References


1 Marques RC, Vieira L, Marques D, Cantilino A. Transcranial magnetic stimulation of the medial prefrontal cortex for psychiatric disorders: a systematic review. Braz J Psychiatry. 2019;41:447-57.

2 Carmi L, Tendler A, Bystritsky A, Hollander E, Blumberger DM, Daskalakis J, et al. Efficacy and safety of deep transcranial magnetic stimulation for obsessive-compulsive disorder: a prospective multicenter randomized double-blind placebo-controlled trial. Am J Psychiatry. 2019;176:931-8.

3 Carmi L, Alyagon U, Barnea-Ygael N, Zohar J, Dar R, Zangen A. Clinical and electrophysiological outcomes of deep TMS over the medial prefrontal and anterior cingulate cortices in OCD patients. Brain Stimul. 2018;11:158-65.

4 Downar J, Blumberger DM, Daskalakis ZJ. The neural crossroads of psychiatric illness: an emerging target for brain stimulation. Trends Cogn Sci. 2016;20:107-20.

5 Peters SK, Dunlop K, Downar J. Cortico-striatal-thalamic loop circuits of the salience network: a central pathway in psychiatric disease and treatment. Front Syst Neurosci. 2016;10:104.