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## Repetitive Transcranial Magnetic Stimulation improves Depressive symptoms and quality of life of Poststroke patients - Prospective case series study

**Hercílio Barbosa da Silva Júnior**

Neuronus Institute, Brazil

Poststroke depression (PSD) is a serious psychiatric complication often reported after a stroke. Nearly a third of stroke survivors experience depressive symptoms at some point, affecting their functional recovery and quality of life. In recent years, repetitive transcranial magnetic stimulation (rTMS) has been studied by many researchers and found to be a safe supporting tool for the treatment of PSD.

**Objective:** We aim to evaluate the effects of rTMS on PSD and on the quality of life of poststroke patients.

**Method:** A prospective clinical case series, performed at CRER Rehabilitation, Brazil, between June 2016 and May 2017. A nonprobabilistic sample (n=15) was divided into 2 groups (excitatory stimulation in F3, n=8; inhibitory stimulation in F4, n=7) and underwent 20 sessions of rTMS. Individuals were assessed according to the 17-item Hamilton Depression Rating Scale (HAM-D17) and World Health Organization Quality of Life-Brief Version (WHOQOL-BREF) questionnaire at 3 different moments: baseline, at the end of the treatment, and in a 1-month follow-up meeting.

**Results:** Both groups presented a significant change in the score of all WHOQOL-BREF domains and in HAM-D17. In the group that received inhibitory stimulation (F4), score


changes were continuous and gradual, comparing the 3 moments. In the excitatory stimulated (F3) group, however, the improvement in scores was more expressive between baseline and the second moment, without significant changes in the follow-up.

**Conclusions:** The findings of this clinical study suggest that rTMS can be a promising tool, capable of relieving depressive symptoms and helping in the improvement of poststroke patients' quality of life.

### Speaker Biography

Hercílio Barbosa da Silva Junior is a Psychologist (2004) and Neuropsychologist (2008) and he has a Master degree in Health Sciences from the Federal University of Goiás, Brazil (2017). He worked in a huge local rehabilitation center for almost 6 years (2011-2016), where he helped to implant the Neuromodulation Lab in 2013. Since then he research non-invasive brain stimulation techniques (rTMS and tDCS) in the treatment of neurological disorders (mood, memory and language recovery after stroke or traumatic brain injuries), psychiatric disorders (anxiety and mood disorders) and learning disorders (ADD and ADHD). He is the founder director of the Neuronus Institute for Trans-disciplinary Brain Studies located in Goiânia, Goiás, Brazil, where he is based.

e: [hercilio@neuronus.com.br](mailto:hercilio@neuronus.com.br)

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