Can brain stimulation benefit individuals with schizophrenia?

DECEMBER 06, 2023 - Most people with schizophrenia have extensive impairment of memory, including prospective memory, which is the ability to remember to perform future activities. Results from a randomized clinical trial published in Neuropsychopharmacology Reports indicate that repetitive transcranial magnetic stimulation (rTMS), a non-invasive method that uses alternating magnetic fields to induce an electric current in the underlying brain tissue, may help ameliorate certain aspects of prospective memory in individuals with schizophrenia.

The trial included 50 patients with schizophrenia and 18 healthy controls. Of the 50 patients, 26 completed active rTMS and 24 completed a sham rTMS. Healthy controls received no treatment.

Investigators assessed both event-based prospective memory—remembering to perform an action when an external event occurs, such as remembering to give a message to a friend the next time you see them - and time-based prospective memory - remembering to perform an action at a certain time, such as remembering to attend a meeting scheduled in the future.

Both event-based prospective memory and time-based prospective memory scores at the baseline of the trial were significantly lower in patients with schizophrenia than in controls. After rTMS treatments, the scores of event-based prospective memories in patients were significantly improved and were similar to those in controls, while patients' scores of time-based prospective memory did not improve.

"The findings of this study may provide one therapeutic option for prospective memory in patients with schizophrenia," said co–corresponding author Su-Xia Li, MD, PhD, of Peking University, in China.

Full Citation: "Effects of bilateral repetitive transcranial magnetic stimulation on prospective memory in patients with schizophrenia: a double-blind randomized controlled clinical trial" Fen Xue, Xin-Fu Wang, Fan-Ni Kong, Tian-Lu Yin, Yu-Hong Wang, Li-Da Shi, Xiao-Wen Liu, Hui-Jing Yu, Li-Jun Liu, Ping Zhu, Xiao-Xue Qi, Xue-Jing Xu, Hong-Pu Hu, and Su-Xia Li. NPPR; Published Online: 06 December 2023 (DOI: 10.1002/npr2.12397).

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