TMS TRENDS

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TMS INVESTIGATED IN AUTISM SPECTRUM DISODER

A new study finds that Transcranial Magnetic Stimulation (TMS) may be a viable treatment strategy to improve executive function in young people with autism spectrum disorder (ASD).

Impairments in executive function are common among higher-functioning people with ASD, and previous studies have found executive function impairments to have common neurobiologic underpinnings, explains Dr. Stephanie Ameis of the Campbell Family Mental Health Research Institute. No Studies to date have investigated TMS on executive function in autism, but previous research by Dr. Ameis's colleague, Dr. Z. Jeff Daskalakis found that a course of TMS significantly improved executive function among people with schizophrenia.

Dr. Ameis and her colleagues hypothesized that a similar treatment approach might be feasible in people with ASD with known executive function impairment. The researchers randomized 18 patients aged 16-35 to either 4 weeks of TMS or a sham treatment.

MRI and cognitive assessment were performed at baseline and 1 month after the treatment period ended. Baseline analysis of diffusion MRI indicated a trend toward a significant association between working memory scores and white matter structures along the interior thalamic region. Though white matter integrity in this part of the brain has been linked to executive function in other disorders, Dr. Ameis cautioned that the MRI findings in her study were preliminary and that it was too early to draw conclusions from them.

The mean age in the study was 23 years. Dr. Ameis said she hopes to continue to recruit a younger cohort, but the recruitment challenges led the group to expand an initial targeted age range of 16-25 years up to 35 years.

She explains, "We want to focus our attention on the transition period to adulthood, as this is a time where effective interventions can really make an impact on individuals' successful transition to work and school as young adults."

The goal, Dr. Ameis said, "is to see if TMS is feasible for this particular indication or treatment target, and so it's the first study that's really used a rigorous sham study design for this indication.

We're seeing whether people are interested and able to tolerate the 4-week protocol, as well as the other aspects of our study and secondarily, whether we are changing things in regard to [executive function]."The pilot study established tolerability and feasibility in this patient group, Dr. Ameis said. Now the investigators will measure differences in executive function after a second year of recruitment to double the current sample size.

SMOKERS WITH DEPRESSION

People diagnosed with depression are about twice as likely to smoke as the general population. A survey of 6811 participants from Australia, Canada, the United Kingdom, and the USA published in the scientific journal *Addiction*, found that although depressed smokers tried to quit smoking more often than other smokers, they were more likely to return to smoking within a month. This tendency seemed to be stronger for women than men.

Health professionals should be aware that smokers with depression may be motivated to quit, but will often need additional support. There is very strong evidence that seeing a stop-smoking specialist and also using nicotine products such as the nicotine skin patch and nicotine gum, or the prescription medicine, varenicline (Chantix), substantially improve smokers' chances of quitting successfully.