

Cognitive enhancement therapy for schizophrenia

Used early on, this hybrid therapy may improve mental and social functioning.

Difficulties in thinking and socializing, known as “negative” symptoms, often develop in patients with schizophrenia and typically persist even after hallucinations, delusions, and other “positive” symptoms of the disorder are under control. Various types of cognitive remediation therapies exist to improve mental and social functioning, but most have been studied only in patients with chronic schizophrenia.

In a study testing a cognitive intervention earlier in the schizophrenia disease process, researchers at the University of Pittsburgh published a series of papers about a randomized controlled trial evaluating a hybrid therapy, cognitive enhancement therapy, that combines cognitive remediation techniques with social skills training. The core study involved 58 young adult outpatients (the average age was 26) who were diagnosed either with schizophrenia or schizoaffective disorder. Patients had experienced their first psychotic symptom an average of three years prior to entry into the study; nearly 80% had been ill for fewer than five years. All had symptoms under control as the study began and continued taking their antipsychotic medications.

Repetitive skills training

Cognitive enhancement therapy is based on the premise that schizophrenia is a brain disorder that affects attention and verbal memory, and that these deficits contribute to disorganized thoughts and loss of social competence. This therapy involves a series of interactive drills and exercises, so that patients learn to improve aspects of cognitive function, such as appraisal of social context. Some of the techniques used during cognitive enhancement therapy were adapted from the treatment of traumatic brain injuries, and take advantage of the brain’s remark-

able plasticity—its ability to form new neural connections that can help people compensate for loss of brain function.

In the initial two-year trial, investigators randomly assigned 31 patients to cognitive enhancement therapy, consisting of weekly computer training in attention, memory, and problem solving, coupled with group therapy sessions designed to improve social skills and ability to function at home and in the community. Patients underwent a total of 60 hours of computer training and 45 hours of group therapy. The researchers assigned the other 27 participants to a control intervention, enriched supportive therapy, consisting of stress reduction techniques and coping skills to reduce risk of relapse.

In their first paper, the investigators reported that patients assigned to cognitive enhancement therapy improved significantly more than the other participants on composite assessments of cognitive style (such as rigid or disorganized thinking), social cognition (foresight or emotional processing), social adjustment (ability to function socially or work), and overall symptoms.

Initial and follow-up results

One year after the trial ended, the researchers reassessed participants to see whether benefits were maintained over time. They found that participants assigned to cognitive enhancement therapy remained significantly better in terms of overall social adjustment than those assigned to enriched supportive therapy. For example, they were more likely to have friends and participate in social activities.

In another paper—the first to examine the long-term brain effects of cognitive rehabilitation—the researchers reported results for the 53 participants who had undergone magnetic resonance imaging (MRI) scans, which were then used to estimate the amount

of grey matter in specific areas of the brain. (Grey matter is largely made up of interconnected nerve cell bodies.) They found that patients assigned to cognitive enhancement therapy were more likely than those assigned to the control intervention to retain grey matter in brain regions associated with social and cognitive functioning.

Questions remain

The study had several limitations. While the imaging data are intriguing, for example, the investigators note that the absolute differences in grey matter between the two groups or among participants were small. In addition, other researchers have found that moderate exercise can increase gray matter in patients with schizophrenia, suggesting that brain volume change is not specific to any particular intervention. Finally, the investigators note that enriched supportive therapy also improved social functioning, albeit not as significantly as cognitive enhancement therapy.

Even with these caveats, however, these three reports add to the evidence that psychosocial treatment has value as an adjunct to medication, even early on in the schizophrenia disease course. Only time and additional study will reveal how much and for how long a combined approach reduces the disability caused by this disorder. ♥

Eack SM, et al. “Cognitive Enhancement Therapy for Early-Course Schizophrenia: Effects of a Two-Year Randomized Controlled Trial,” *Psychiatric Services* (Nov. 2009): Vol. 60, No. 11, pp. 1468–76.

Eack SM, et al. “One-Year Durability of the Effects of Cognitive Enhancement Therapy on Functional Outcome in Early Schizophrenia,” *Schizophrenia Research* (July 2010): Vol. 120, No. 1–3, pp. 210–16.

Eack SM, et al. “Neuroprotective Effects of Cognitive Enhancement Therapy Against Gray Matter Loss in Early Schizophrenia: Results from a 2-Year Randomized Controlled Trial,” *Archives of General Psychiatry* (July 2010): Vol. 67, No. 7, pp. 674–82.

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