

Targeting social and non-social cognition to improve cognitive remediation outcomes in schizophrenia

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ABSTRACT FROM: Muller DR, Schmidt SJ, Roder V. One-year randomized controlled trial and follow-up of Integrated Neurocognitive Therapy for schizophrenia outpatients. *Schizophr Bull* 2015;41:604–16.

WHAT IS ALREADY KNOWN ON THIS TOPIC

Patients with schizophrenia experience broad cognitive impairments in social (eg, perspective-taking) and non-social (eg, processing speed) domains.¹ Cognitive remediation is an effective set of treatments for improving cognition in schizophrenia, although most approaches have not simultaneously addressed problems in social and non-social domains, limiting their efficacy.² Muller and colleagues examined the effects of integrating social cognitive and neurocognitive remediation on cognitive and functional outcomes in schizophrenia.

METHODS OF THE STUDY

One hundred and fifty-six stabilised outpatients with schizophrenia or schizoaffective disorder without intellectual disability or significant substance use problems were studied in eight university-affiliated clinics throughout Switzerland, Germany and Austria (randomised, single-blind). Integrated Neurocognitive Therapy (INT) was the primary experimental treatment based on a refinement of Integrated Psychological Therapy that uses bi-weekly group and computer-based sessions to target domains of social cognitive and neurocognitive impairment. Therapeutic domains targeted by INT ranged from improving processing speed and attention to social perception and theory of mind to executive functioning. The effects of INT were compared directly to usual care. Primary outcomes of the trial included neurocognitive and social cognitive test performance, with effects on symptoms and functioning examined secondarily. Cognitive and functional outcomes were assessed using field standard instruments by raters who were blind to treatment assignment. Neurocognition was assessed using a large battery of neuropsychological tests. Social cognition was assessed using performance-based and survey measures of emotion perception, social understanding and attributional style. Functional outcome measurement consisted of the Global Assessment of Functioning scale (GAF), and symptomatology was assessed using PANSS. Follow-up was at 15 weeks (treatment completion) and 37 weeks (follow-up).

WHAT DOES THIS PAPER ADD

- ▶ This is one of the largest multisite studies of cognitive remediation in schizophrenia internationally. It focused on the benefits of integrating neurocognitive and social cognitive training within a single intervention. Both social and non-social cognitive deficits are related and have been shown to contribute to functional disability in schizophrenia.
- ▶ INT results in small-to-medium-sized improvements in neurocognition ($d=0.43$, $p=0.04$), particularly in processing speed ($d=0.41$, $p=0.02$) and problem solving ($d=0.32$, $p=0.03$); and social cognition ($d=0.32$, $p<0.01$), particularly in emotion perception ($d=0.31$, $p<0.01$) and social understanding ($d=0.33$, $p=0.04$).
- ▶ Functional outcome improvement was greater in INT ($d=0.40$, $p=0.03$), and this difference grew larger as patients were followed up several months after treatment completed.
- ▶ Both positive ($d=0.36$, $p=0.04$) and negative ($d=0.66$, $p<0.01$) symptoms were significantly more improved in INT compared to usual care, with medium-sized effects on negative symptoms.
- ▶ The majority of benefits observed favouring INT during active treatment were maintained for 20 weeks after completing treatment, including

benefits to global functioning as evidenced by maintenance of significant differential effects favoring INT at 22 weeks post-treatment follow-up. Neurocognitive benefits were not maintained at follow-up ($p=0.09$).

LIMITATIONS

- ▶ The study design did not allow for the identification of the unique value added by integrating social and non-social cognitive remediation interventions, which would have required two additional treatment groups, one that only received neurocognitive training and one that only received social cognition training.
- ▶ Individuals receiving INT participated in 30 additional 90 min group therapy sessions not available to those in usual care, which may have contributed to benefits in the outcomes observed rather than the specific treatment components.
- ▶ Functional outcome assessment was measured with GAF only, which is limited in its reliability and validity given its conflation of symptoms and functioning, and lack of domain-specific results.

WHAT NEXT IN RESEARCH

- ▶ Understand the unique benefits and active mechanisms involved in integrating social and non-social cognitive interventions in schizophrenia. Dismantling studies can be conducted to randomise participants to elements of intervention packages (eg, neurocognitive training only) to understand the benefit of individual treatment components.
- ▶ Determine for whom integrated treatment is most effective. Moderator analyses can be employed to examine how therapeutic response varies across personal, cognitive and biological factors. Such studies would require the considerable expansion of the traditional clinical trials framework in psychosocial treatment studies to include neuroimaging and genomics assessments.

DO THESE RESULTS CHANGE YOUR PRACTICES AND WHY?

These results serve to reinforce my practices that have for many years integrated neurocognitive and social cognitive remediation interventions through the application of Cognitive Enhancement Therapy. Like INT, Cognitive Enhancement Therapy was partially inspired by the Integrated Psychological Therapy of Brenner and Pfammatter,³ which views an integrated approach to treating cognitive impairments as important for meaningful functional change. Patients should be offered cognitive remediation interventions that are designed to address social as well as non-social cognitive problems associated with the disorder.

Competing interests None declared.

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