

Editorial

Άρθρο Σύνταξης

Longitudinal course of cognitive deficits in schizophrenia

Cognitive deficits are a core feature of schizophrenia, and patients with schizophrenia demonstrate deficits, early in the course of the illness, in most domains of cognitive functioning compared to healthy control subjects, suggesting a generalized cognitive impairment.^{1,2} The neuropsychological profile of patients typically consists of deficits in speed of processing, attention/vigilance, working memory, verbal learning and memory, visual learning and memory, reasoning and problem solving, and social cognition (emotion recognition, theory of mind). Cognitive skills have been shown to be associated with the functional status of patients with schizophrenia, and may have a greater influence on outcome than positive or negative symptoms.³

The delineation of the longitudinal course of cognitive deficits in patients with schizophrenia may have important implications for theories of pathophysiology, as well as for the treatment and outcome of the illness. For one, it could settle the debate between those that view schizophrenia as a neurogenerative disorder, and those that conceptualize it as a developmental neural insult that remains stable over time. Moreover, cognitive deficits that are found to remain stable over time, or their course is predictably influenced by specific identifiable non-genetic factors, might serve as potential endophenotypes. Finally, the identification of those cognitive deficits that are fixed and those that are most sensitive to change would facilitate the evaluation of interventions, pharmacological treatments or cognitive rehabilitation programmes, aiming at the improvement of cognitive functions. If schizophrenia is characterized by a gradual worsening of some cognitive domains, interventions that stabilize these cognitive deficits would be judged as efficacious whereas, if the cognitive status is static over time, an intervention would need to lead to measurable improvements in cognitive functions in order to be considered as successful.^{4,5} Literature reviews of longitudinal studies investigating the trajectory of neurocognitive deficits across the lifespan in schizophrenia have concluded that neurocognitive deficits evident upon illness onset appear to be stable, at least in community-dwelling outpatients.^{4,6} In a recent meta-analysis of longitudinal studies of cognition in schizophrenia,⁵ patients with schizophrenia showed a significant improvement in most cognitive tasks.

One strategy of special relevance when it comes to evaluating the course of cognition over the course of schizophrenia is the longitudinal assessment of first episode (FES) patients. Such studies provide an adequate and realistic baseline measure of cognitive performance; moreover, they minimize the effect of confounding variables associated with chronicity (such as institutionalisation, as well as long-term treatment effects and disease processes). An overview of such studies suggests that neuropsychological deficits that are present following a first episode of schizophrenia generally seem to remain stable over time. A possible exception in this pattern might be the domain of verbal memory, where there is some evidence of further deterioration over the long term; since this specific cognitive ability is closely dependent on cortical structures known to show progressive volume reductions during the course of the illness, further studies are warranted to confirm this observation. Moreover,

improvements in psychopathology appear to positively influence the course of cognitive deficits; hence, sufficient and comprehensive treatment of these symptoms is of utmost importance, although further research is needed in order to investigate specific medication effects.⁷

Konstantinos Fokas

Professor of Psychiatry
1st Department of Psychiatry
Aristotle University of Thessaloniki

Vasilis Bozikas

Ast. Professor of Psychiatry
1st Department of Psychiatry
Aristotle University of Thessaloniki

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