

Oral presentation

## **Cognitive enhancement in schizophrenia with pharmacological interventions**

Tonmoy Sharma\*

Address: Clinical Neuroscience Research Centre, Kent, UK

\* Corresponding author

from International Society on Brain and Behaviour: 2nd International Congress on Brain and Behaviour  
Thessaloniki, Greece. 17–20 November 2005

Published: 28 February 2006

*Annals of General Psychiatry* 2006, **5**(Suppl 1):S36 doi:10.1186/1744-859X-5-S1-S36

Cognitive impairment is a central feature of schizophrenia. Most patients have a poor functional outcome, including deficits in social, occupational, and self-care activities. The cost borne by the society in terms of social welfare administration and criminal justice, the time spent by unpaid caregivers, and the great loss of productivity due to the illness itself, are perhaps greater than the direct costs, such as, hospitalization. Functional deficits in schizophrenia are most strongly predicted by the current severity of cognitive impairment, followed by the severity of negative symptoms. Severity of positive symptoms is not strongly associated with the level of functional impairments, even in those with very poor outcome schizophrenia. There is thus an urgent need to find strategies for improving cognitive functioning in schizophrenia.

Functional MRI (fMRI) is a non-invasive technique with good temporal and spatial resolution. It requires no radioactivity and offers the ability to map, almost in real-time, the physiological events occurring in the brain. fMRI can be used as a tool to map the longitudinal effects of antipsychotic drugs on the brain in schizophrenia. It allows us to carry out repeated measurements of cerebral neuronal activity and to investigate functional changes in the brain in treatment responders and non responders. It is thus possible to map the functional anatomy of neurocognitive improvement with atypical antipsychotics in schizophrenia. This presentation will outline new methods of brain imaging and how these methods may allow us to understand the long-term effects of cognitive improvement with antipsychotic drugs in schizophrenia.