

# **Familial and Functional View of Executive Function Impairment in Schizophrenia: Case Control Study**

## **Abstract**

**Background:** Patients with schizophrenia demonstrate abnormalities in executive function (EF) which stand on a background of diffuse impairment. Structural abnormalities of the temporal lobe, dysfunctional activation of the prefrontal cortex and abnormalities in catecholamine function are presumed mechanisms. **Aim :** To investigate the familial and functional aspect of EF impairment in schizophrenia patients. **Subjects and Methods :** we recruited 30 schizophrenia patients and 28 of their siblings from the outpatient clinic of Mansoura University Hospitals in the period from June 2012 to June 2013. A control group of 30 healthy persons were enrolled also during the same period. All subjects underwent semi-structured psychiatric interview, wisconsin card sorting test (WCST) and magnetic resonance imaging with diffusion images (MRI with DWI). **Results :** patients showed statistically significant differences compared to controls regarding perseverative errors, non-perseverative errors and conceptual level responses (CLR) Meanwhile, siblings showed statistically significant differences compared to controls regarding perseverative responses and perseverative errors only. Comparing the WCST of the patients and their siblings with the corresponding apparent diffusion co-efficient (ADC) values, there was a statistical positive correlation between the right and left lateral prefrontal cortex (rt and lt LPFC) and left medial frontal cortex (lt MFC) on a side and preservative errors on the other side; also, there was a statistical negative

correlation between Category completed and lt MFC. **Conclusion** : the concept of familial pattern of schizophrenia was clear regarding the EF which were localized by imaging studies in rt, lt DLPFC, and lt MFC.