Cognitive Impairment among Long Stay Inpatients with Schizophrenia

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By

Hamed Mahmoud Safwat Faried Nagi

M.B.B.Ch.

Under the supervision of

***Prof. Dr.* Tarek Ahmed Okasha**

Professor of Psychiatry

Faculty of Medicine

Ain shams University

***Prof. Dr.* Hanan Hussein Ahmed**

Professor of Psychiatry

Faculty of Medicine

Ain shams University

***Dr.* Doha Mostafa El Serafi**

Lecturer of Psychiatry

Faculty of Medicine

Ain shams University

Faculty of Medicine/Ain shams University

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بسم الله الرحمن الرحيم
قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا
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List of Abbreviations

AEP	**Auditory evoked potentials**
ANOVA	Analysis of Variance
APA	American Psychiatric Association
BACS	Brief Assessment of Cognition in Schizophrenia
B.C.	Before Christ
CBT	Cognitive Behavioral Therapy
DSM	Diagnostic and statistical manual of mental disorders
DSM-TR	Diagnostic and statistical manual of mental disorders text revision
ECT	Electro-Convulsive Therapy
GAF	Global Assessment of Function
HS	Highly significant
ICD-10	International Classification of Disease

IQ	Intelligence Quotient
MATRICS	Measurement and Treatment Research to Improve Cognition in Schizophrenia
MCCB	MATRICS™ Consensus Cognitive Battery
MMSE	Mini Mental State Examination
PANSS	Positive And Negative Symptoms Scale
PPI	Prepulse inhibition
SCID-I	Structured clinical interview for DSM-IV Axis I Disorder
SD	Standard Deviation
SIGN	Significant
SPSS	Statistical Package for Social Science
UK	United Kingdom
Vs.	Versus
WAIS	Wechsler Adult Intelligence Scale
WCST	Wisconsin Card Sorting Test

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Introduction

Schizophrenia is the most common chronic variety of psychosis in Egypt, and represents the major bulk of inpatients in our mental hospitals ***(Okasha, 2005)***.

According to DSM-IV-TR the symptoms of the Schizophrenia can be classified into two categories: positive symptoms and negative symptoms. The positive symptoms appear to reflect an excess or distortion of normal function, where as the negative symptoms appear to reflect a diminution or loss of normal function. Positive symptoms refer to what is added to the individual because of disease, negative symptoms refer to things that individual lose because of disease. It is important to note that negative symptoms are considered much more difficult to treat and often much more disabling than positive symptoms ***(Pratt, 2007).***

Schizophrenia was originally described over a century ago with the earlier name "dementia praecox," which literally means "cognitive decline with onset in youth." Cognitive impairment is highly prevalent in patients with schizophrenia as determined by the majority of patients who show cognitive decrement relative to

parental education ***(Keefe et al, 2005)*** or to their own estimate of premorbid intelligence measured by single word identification ***(Kremen, 1995).***

Some authors maintained that cognitive impairments are considered a central feature of schizophrenia and a major determinant of poor psychosocial functioning ***(Green et al, 2004).***

More recent studies indicate that approximately 15% to 30% (with most estimates between 20% to 25%) of schizophrenia patients have neuropsychological profiles in the normal range ***(Leung et al, 2008).***

The larger literature examining the association between severity of cognitive deficits and psychopathologic symptoms is consistent in showing a significant but modest association between severity of cognitive deficits and negative symptoms, but no association between cognitive deficits and positive symptoms, such as hallucinations and delusions ***(de GraciaDominguezet et al., 2009).***

Cognitive performance deficits in schizophrenia have been identified in almost every measurable cognitive ability domain, from basic sensory and perceptual functions through preconscious information processing and early

attention to higher order cognition, including selective and sustained attention, working memory, episodic memory in verbal and nonverbal domains, processing speed, and problem solving ***(Dickinson et al , 2007).***

Mild cognitive impairment is a decline in many cognitive domains such as psychomotor speed, executive functioning and episodic memory that does not interfere with activities of daily living and is not severe enough to meet criteria for dementia. In the elderly, it is a major risk factor for dementia. About 80% of patients eventually convert to dementia by 6 years ***(Nima, 2007).***

Cognitive performance deficits are seen in high-risk groups prior to the onset of psychotic illness ***(Erlenmeyer-Kimling et al, 2000).*** Deficits are broadly evident and well established at first episode and remain fairly stable through middle age ***(Albus et al, 2002; Hughes et al, 2003),*** but there is evidence of exacerbation of deficits in later life ***(Friedman et al, 2001),*** perhaps due to the duration of initially untreated psychosis ***(Waddington, 1995).***

Antipsychotic drug development in schizophrenia has focused mainly on developing drugs that reduce the positive symptoms of schizophrenia ***(Miyamoto, 2005).*** In a recent meta-analysis, patients treated with typical

antipsychotics were actually shown to have small but detectable improvements in several cognitive domains ***(Mishara , 2004).***

There has been an increasing recognition of the need for psychosocial rehabilitative interventions for schizophrenia (***Insel, 2009).*** In that regard, efforts to develop cognitive training programs for schizophrenia offer promise (***Twamley, 2003; Velligan, 2006).***

Rehabilitation include wide range of interventions as: vocational rehabilitations, social skill training, cognitive rehabilitation (distinguished from cognitive-behavioral therapy and cognitive therapy, which focus on reducing psychotic symptoms) ***(Sadock's&Sadock's, 2007).*** Cognitive remediation seeks to retrain and improve processes of memory, attention and speed of information processing using a variety of 'exercise' programmes that were originally developed for neurological rehabilitation ***(Craig, 2006).***

Cognitive rehabilitation is done through the application of a lot of procedures in order to enhance development of skills and strategies necessary to overcome cognitive deficits. Computer-based tools can be fruitfully used in the assessment and rehabilitation of cognitive and