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Spanish version of the Screen for Cognitive Impairment in Psychiatry (SCIP-S): Psychometric properties of a brief scale for cognitive evaluation in schizophrenia

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Abstract

Objective: The Screen for Cognitive Impairment in Psychiatry (SCIP) is a brief scale designed for detecting cognitive deficits in several psychotic and affective disorders. This study examined the psychometric properties of the Spanish version of the SCIP in a sample of outpatients suffering schizophrenia-spectrum disorders.
Methods: Psychometric properties were evaluated in a sample of 126 stable patients with schizophrenia. Men and women 18 to 55 years of age were recruited from consecutive admissions to 40 psychiatric outpatient clinics in Spain and asked to complete a series of cognitive measures at baseline, as well as three versions of the SCIP separated by one week intervals. A matched sample of 39 healthy controls was also subjected to the baseline examination. The feasibility, reliability and validity of the SCIP was examined; concurrent validity was assessed by means of a complete neuropsychological battery.
Results: Average time for SCIP administration was 16.02 (SD=5.01) minutes. Test–retest reliability intra-class correlation coefficients ranged from 0.74 to 0.90, with an internal consistency Cronbach's alpha value of 0.73. The three parallel forms of SCIP were shown to be equivalent. The SCIP scales were correlated with corresponding neuropsychological instruments, with

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Pearson's r between 0.38 and 0.60, $p<0.01$. The SCIP effectively discriminated between the patient and control samples. Factor analysis revealed one significant dimension, cognitive performance, that accounted for 49.8% of the total variance.
Conclusions: The Spanish version of the SCIP is a simple, brief, valid and reliable tool for detection of cognitive impairment in patients with schizophrenia by minimally trained healthcare personnel.

Keywords: Schizophrenia; SCIP; Cognitive functions; Screening

1. Introduction

Patients with schizophrenia exhibit a wide range of cognitive deficits (Cuesta and Peralta, 1995; Cuesta et al., 1998) that may approach two standard deviations below scores from a healthy normative sample (Heinrichs and Zachzanis, 1998; Daban et al., 2006). The cognitive deficits are relevant to rehabilitation and functional outcome (Green, 1996; Green et al., 2004; Green et al., 2005), but they show only small reliable improvements with novel antipsychotic therapies (Cuesta et al., 2001; Woodward et al., 2005; Woodward et al., 2007). The relevance of the latter was recently underscored by a recent National Institutes of Mental Health initiative, Measurement and Treatment Research to Improve Cognition in Schizophrenia (MATRICS) (Green and Nuechterlein, 2004; Kern et al., 2004), towards delineation of the domains and measures most relevant to pharmacotherapeutic change. The expert panel from MATRICS has recommended the quantification of working memory, attention, verbal learning and memory, visual learning and memory, reasoning and problem solving, speed of information processing, and social cognition in clinical trials with schizophrenia (Nuechterlein et al., 2004).

Although the cognitive domains and measures with primary relevance to psychosocial outcome have not received similar scrutiny, several studies have implicated the relative importance of working memory, new verbal learning and memory, and reasoning and problem solving (Meltzer et al., 1996; Penadés et al., 2001; Martinez-Aran et al., 2002). A variety of instruments are available to quantify the nature and severity of the cognitive impairment in schizophrenia, and a rational selection of a tool for routine clinical practice will require a clear a priori consideration of the goals and expectations from the cognitive assessment. The MATRICS protocol, for example, was designed to assess change to medications, and it entails the administration by specially trained staff of approximately 60 to 120 min of standardized neuropsychological instruments. It is relatively brief and will produce a wide range of scores, but it is also expensive and requires advanced training in psychological assessment. At the opposite end of the spectrum is the Mini-Mental State Examination (MMSE; Folstein et al., 1975). The MMSE requires minimal training or special assessment equipment, and it can be administered bedside in a matter of minutes. Although it is sensitive to the cognitive deficits associated with the degenerative dementias for which it was designed, the MMSE is often too basic for application to psychiatric populations (Manning et al., 2007), and the very high scores tend to reach a ceiling that limit its validity, sensitivity, and reliability for such patients (Faustmann et al., 1990).

Several assessment scales that are less cumbersome than the MATRICS protocol, but more sensitive than the MMSE, have been developed with potential value to schizophrenia. Cognistat (Kiernan et al., 1987), before 1995 known as Neurobehavioural Cognitive Status Examination, consists of ten scales that quantify orientation, attention, memory, language and reasoning problems. This test can be completed in approximately 10–20 min, and has been developed for patients with neurological damage, the main limitation being the underestimation of the cognitive deficit of the psychiatric patients. Another drawback is the lack of alternative forms to minimize practice effects. The Repeatable Battery for the Assessment of Neuropsychological Status (RBANS; Randolph et al., 1998) is possible to administer in approximately 20–30 min and presents two parallel forms. The RBANS evaluates immediate memory, visuospatial skills, language, attention, memory delayed and can be study successfully as tool of screening in the schizophrenia (Gold et al., 1999). The principal disadvantage in the schizophrenic patients is that it was designed to identify cognitive deficit in dementia and does not provide any specific measure of executive function. The Woodcock-Johnson III Test of Cognitive Abilities (WJ III COG, Woodcock et al., 2001) is based on Cattell-Horn-Carroll's theory about cognitive skills. The use of either the standard alone battery (35–45 min) or the extended version of that (90–120 min) is done depending on the evaluation purpose. Its principal limitation is primary the need of additional extensive material because some subtests are computerized and the auditory subtest needs a tape. Additionally,