A Novel Automated Test Suitable for the Repeated Assessment of Executive Function in Clinical Trials in Schizophrenia

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Aims & Background

The CDR System Rule Switching Task, a measure of executive control/function, has been validated in healthy controls.

- The RST showed acceptable test retest reliability and correlated appropriately with the Trail Making Test.
- This study was conducted to investigate the test in patients with schizophrenia.
- This study was conducted in conjunction with CRI Lifetree, Mount Laurel, NJ, USA
- 30 patients with schizophrenia on stable medication were studied.
- 13 females mean age 49 years (range 40 to 59)
- 17 males mean age 45 years (range 29 to 57)
- CGI-S were in the range 2 to 4
- Each patient attended three sessions on separate days

Methods

On the first study day, the following tests were performed:
- UPSA-B
- CDR System Executive Function Test
- Trail Making Task
- NAB Mazes (from MATRICS)

On the second and third study days, the following tests were repeated:
- CDR System Executive Function Test
- Trail Making Task
- NAB Mazes (from MATRICS)

This study was conducted to investigate the test in patients with schizophrenia.

The strong correlation of the CDR System Executive Function Score correlated appropriately with the Behavioural Relevance of the CDR System has comparable or better statistical properties. Compared to NAB Mazes and the Trail Making test the CDR System Executive Function Score correlated with the UPSA-B indicates the behavioural relevance of the CDR System Executive Function Score and does not show training effects over three test sessions in patients with schizophrenia.

RESULTS

STABILITY OF TEST DATA OVER THE 3 STUDY DAYS: Test-Retest Reliability & Practice Effects

The CDR System Executive Function test has sound statistical properties and does not show training effects over three test sessions in patients with schizophrenia.

There were no notable or significant correlations between years of education and performance on any measure (largest for Mazes r=−.018; CDR System Executive Function Score r=0.07).

The NAB Mazes and the Trail Making test have large effect sizes due to training which will make these tests unsuitable for repeated administration in clinical trials.

The strong correlation of the CDR System Executive Function test to the UPSA-B indicates the behavioural relevance of these tests unsuitable for repeated administration in clinical trials.


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