The New York Assessment of Adverse Cognitive Effects of Neuropsychiatric Treatment (NY-AACENT): Initial Validation Findings

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METHODOLOGICAL QUESTION

Is the NY-AACENT a valid measure for the evaluation of cognitive side effects in adolescents with schizophrenia?

BACKGROUND

Adverse cognitive side effects of medications impact the functioning of patients with schizophrenia[1]. There is a lack of scales that focus on drug-induced effects on cognition, particularly in adolescents with schizophrenia. The *New York Assessment for Adverse Cognitive Effects of Neuropsychiatric Treatment* (NY-AACENT) was developed in response to concerns about potential drug-induced cognitive impairment in adolescents participating in psychiatric clinical trials.

METHODS

This study consisted of 146 randomized adolescent outpatients ages 13-17 years old, currently diagnosed with schizophrenia (Tx=98, Pl=48)[2]. The NY-AACENT consists of seven items, Working Memory, Attention/Vigilance, Verbal Learning/Memory, Visual Learning/Memory, Reasoning & Problem Solving, Speed of Processing, and Social Cognition, derived from domains identified by the Measurement and Treatment Research to Improve Cognition in Schizophrenia[3]. It has three components: Patient Form, Caregiver Form, and Clinician Form, and the severity scores from the Clinician Form were used in this analysis. A two-way ANCOVA was conducted to examine the effect of visit and treatment on severity scores when controlling for the scale items. Convergent validity was tested using Pearson's correlation coefficients (r) between selected NY-AACENT items and conceptually-related items of the UKU* side effect rating scale[4,5]. Discriminant validity was assessed using the PANSS[6]. Additionally, correlations between cognitive side effects and quality of life (QoL) were measured with the PQ-LES-Q[7].

RESULTS

The two-way ANCOVA indicates a significant main effect for treatment ($p < .001$) and interaction between treatment and visit ($p = 0.002$), and an insignificant main effect for visit ($p = 0.643$). The covariate (item) significantly influenced the severity scores ($p <.001$). These results indicate that

the placebo group had lower severity scores than the treatment group. Although the difference of the severity scores between the two groups fluctuate across visits, the NY-AACENT tracks valid cognitive side effects. Convergent and discriminant validity were assessed at baseline and the last visit of the double-blind maintenance phase. Fair to good convergent validity was demonstrated by significant correlations between the NY-AACENT and UKU cognition items at both the baseline and last visit, respectively: Working Memory (r =0.71; r =0.88), Verbal Memory (r = 0.73; r = 0.88), and Visual Memory (r = 0.64; r = 0.65) were correlated with Failing Memory (UKU 1.4). Attention (r = 0.70; r = 0.72) was correlated with Concentration Difficulties (UKU 1.1). Except for two NY-AACENT items (speed of processing and social cognition) the other correlation coefficients of the NY AACENT and PQ-LES-Q were low to moderate. Discriminant validity versus the PANSS showed moderate-low or no correlations, indicating that NY-AACENT items differentially characterize cognitive side effects, rather than other symptoms of schizophrenia.

DISCUSSION

The results suggest that the NY-AACENT is a valid instrument to assess cognitive side effects in adolescents under antipsychotic agents. It demonstrated strong correlations against a side effect scale and weak correlations with the disease severity scale, suggesting that the scale measures. Moreover, compared to QoL measures, some item correlations were negative with non-significant p-values, indicating side effects may not affect QoL in some domains.

References:

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