The predictive value of AQ and SRS-A in adults with suspected ASD

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Introduction

Background

The Autism Spectrum Quotient (AQ; Baron-Cohen et al., 2001, via open source) and the Social Responsiveness Scale for Adults (SRS-A; Constantino & Todd, 2005, via paid source) measure the degree to which adults with a normal intelligence exhibit autistic traits. In the Netherlands, both questionnaires are often used as screeners in the assessment of adults with suspected ASD. Their diagnostic value depends on their capability to properly assess the likelihood that the disorder is present (sensitivity: true positives) or not (specificity: true negatives).

In former research, we have proven the AQ to be moderately valuable for ASD case identification in a general mental health care population (Bezemer & Blijd-Hoogewys, 2016). Comparing the predictive value of AQ and SRS-A, in the same ASD assessment procedure, has not been done yet.

Objectives

The aim was to compare the predictive value of the AQ and the SRS-A for ASD diagnostic classification in a general mental health care population with suspected ASD.

Methods

At INTER-PSY, a general mental health care facility in Groningen, adult patients, who were referred for ASD assessment, filled in both an AQ and a SRS-A self-report at the beginning of the diagnostic process.

An independent researcher scored the questionnaires. The results remained unknown to the clinician and the patient until after the ASD diagnosis was officially confirmed or rejected, resulting in an ASD-group and a non-ASD group. In doing so, the results of the questionnaires could not play any role in the diagnostic conclusion (blind).

ASD diagnostic was based on an extensive psychiatric examination, a standardized ASD interview, and a developmental interview with (one of) the parents, in the presence of the patient.

In total, there were 92 participants (M = 33.51 years, SD = 12.33), of which 68% received an ASD diagnosis (n = 63). The ASD and non-ASD group did not differ considerably on important characteristics, such as age (M = 33.68 vs. M = 33.14) and gender ratio (1:2.1 vs. 1:1.41).

For analyses, AQ raw scores and SRS-A T-scores were used. Descriptive statistics, correlations, T-tests and ROC-analyses were performed.

Results

The ASD group had significant higher scores than the non-ASD group on both the AQ (M = 29.17, SD = 7.76; M = 20.97, SD = 8.13 respectively; t = 4.05, df = 90, p < .001, Cohen’s d = 1.03) and SRS-A (M = 70.87, SD = 10.76; M = 63.59, SD = 12.56 respectively; t = 2.86, df = 90, p < .01, Cohen’s d = 0.62) (see Table 2).

The ROC-analysis for the AQ yielded an AUC of .78 (p < .001) for ASD vs. non-ASD. A cut-off total score of 70 was recommended for screening use by Woodbury-Smith and colleagues (2005). This cut-off was also determined by the best Youden’s Index in our research. In that case, the AQ had a sensitivity of .76 and a specificity of .72 for ASD (see Figure 1).

The ROC analysis for the SRS-A yielded an AUC of .69 (p < .01) for ASD vs. non-ASD. A cut-off T-score of 70 (determined by the best Youden’s Index) had a sensitivity of .63 and a specificity of .72 for ASD (see Figure 2).

Discussion

Both questionnaires could differentiate between the ASD and the non-ASD group. However, the AQ had an higher effect size than the SRS-A (large vs. medium), a better predictive reliability (moderate vs. poor) and a higher sensitivity.

Based on the current results, the AQ seems to be superior as a screening tool for general mental health care patients with suspected ASD. Replication studies are needed before advising which one to use for clinical practice. Also, note that a questionnaire is not intended to be diagnostic in itself. If there are clinically significant levels of autistic traits, a comprehensive diagnostic evaluation is warranted.


