



Towards Evidence-Based Assessments:

Clinical utility of rating scales and cognitive test methods in diagnostic assessment and treatment evaluations in children and adolescents with Attention-Deficit/ Hyperactivity Disorder.

Conclusion

The SNAP-IV and Conners' CPT II contributed to the diagnostic assessment of ADHD.

QbTest was found to be useful in evaluating central stimulant treatment when parent ratings were inconclusive. To combine rating scales and performance-based assessment methods seems useful.



Objective

The aim of this study was to examine if clinical utility in diagnostic assessments and treatment evaluations could improve by combining different methods.

Methods

Two populations from two different child and adolescent psychiatry clinics in Sweden were studied. Retrospective data from clinical records.

Concerning diagnostic utility we compared children with (n=78) and without (n=40) ADHD. Sensitivity, specificity, and the area under the receiver operator characteristic (ROC) curve were calculated to

evaluate classification accuracy of parent and teacher version of the Swanson, Nolan and Pelham – IV questionnaire (SNAP-IV) and the Conners' continuous performance test (CCPT II), table 1.

For treatment evaluation we compared the results from parent ratings of SNAP-IV and QbTest before and after initiation of medical treatment and in the follow-up one year later in a group with ADHD (n=43). Dose titrations were evaluated with the QbTest (n=56). The Mann-Whitney U-test was used for group comparisons and sensitivity, specificity, positive predictive values and negative predicted values were calculated for the SNAP-IV parameters, the different QbTest scores and their combinations, table 2.

Table 1. Parameters used to describe the accuracy and classification utility of the measures.

Dichotomized variables	True positives	True negatives	False positives	False negatives	Sensitivity	Specificity	AUC (95% CI); p-value
SNAP IV (parent and teacher)	27	27	7	30	0.47	0.79	0.63 (0.52–0.75); p=0.033
Parent SNAP IV	43	10	24	14	0.75	0.29	0.52 (0.40–0.65); p=0.70
Teacher SNAP IV	30	24	10	27	0.53	0.29	0.62 (0.50–0.74); p=0.065
CCPT II	29	24	7	28	0.51	0.79	0.65 (0.54–0.77); p=0.016
SNAP IV (parent and teacher) and CCPT II	15	33	1	42	0.26	0.97	0.62 (0.50–0.73); p=0.063
SNAP IV (parent and teacher)or CCPT II	41	21	13	16	0.72	0.62	0.67 (0.55–0.79); p=0.007

Table 2. Titration of optimal dose.

	Sensitivity	Specificity	PPV	NPV
SNAP Inattention parents	0.56	0.75	0.93	0.22
Qb Inattention	0.82	0.60	0.91	0.40
Qb Activity	0.76	0.40	0.86	0.25
SNAP Inattention parents + Qb Inattention	0.94	0.62	0.94	0.62
SNAP Inattention Parents + Qb Inattention +Qb Activity	0.98	0.25	0.89	0.67

Results

The Conners' CPT II (CCPT) and the SNAP-IV showed statistically significant diagnostic classification accuracy. A combination of SNAP-IV and Conners' CPT II variables yielded better classification accuracy compared with either method alone, table 1. Concerning treatment evaluations, using the QbTest when ratings were inconclusive led to a good sensitivity predicting outcome one year later, table 2.

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