

The impact of a computerised test of attention and activity (QbTest) on diagnostic decision-making in children and young people with suspected attention deficit hyperactivity disorder: single-blind randomised controlled trial.

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J Child Psychol Psychiatry. 2018 Apr 26.
doi: 10.1111/jcpp.12921.

Abstract

BACKGROUND:

Diagnosis of attention deficit hyperactivity disorder (ADHD) relies on subjective methods which can lead to diagnostic uncertainty and delay. This trial evaluated the impact of providing a computerised test of attention and activity (QbTest) report on the speed and accuracy of diagnostic decision-making in children with suspected ADHD.

METHODS:

Randomised, parallel, single-blind controlled trial in mental health and community paediatric clinics in England. Participants were 6-17 years-old and referred for ADHD diagnostic assessment; all underwent assessment-as-usual, plus QbTest. Participants and their clinician were randomised to either receive the QbTest report immediately (QbOpen group) or the report was withheld (QbBlind group). The primary outcome was number of consultations until a diagnostic decision confirming/excluding ADHD within 6-months from baseline. Health economic cost-effectiveness and cost utility analysis was conducted. Assessing QbTest Utility in ADHD: A Randomised Controlled Trial was registered at ClinicalTrials.gov (<https://clinicaltrials.gov/ct2/show/NCT02209116>).

RESULTS:

One hundred and thirty-two participants were randomised to QbOpen group (123 analysed) and 135 to QbBlind group (127 analysed). Clinicians with access to the QbTest report (QbOpen) were more likely to reach a diagnostic decision about ADHD (hazard ratio 1.44, 95% CI 1.04-2.01). At 6-months, 76% of those with a QbTest report had received a diagnostic decision, compared with 50% without. QbTest reduced appointment length by 15% (time ratio 0.85, 95% CI 0.77-0.93), increased clinicians' confidence in their diagnostic decisions (odds ratio 1.77, 95% CI 1.09-2.89) and doubled the likelihood of excluding ADHD. There was no difference in diagnostic accuracy. Health economic analysis showed a position of strict dominance; however, cost savings were small suggesting that the impact of providing the QbTest report within this trial can best be viewed as 'cost neutral'.

CONCLUSIONS:

QbTest may increase the efficiency of ADHD assessment pathway allowing greater patient throughput with clinicians reaching diagnostic decisions faster without compromising diagnostic accuracy.