Mental health

How should we detect autism in adults?

The Autism-Spectrum Quotient (AQ) questionnaire has low specificity and should not be used as a rule-out test for autism spectrum disorder (ASD), the findings of a UK study suggest. AQ10 scores failed to predict ASD better than chance.

The study population comprised 476 adults, 355 men, who had been seen consecutively at a national referral service for patients with suspected ASD. The age range was 18-70, median 29 years.

Prior to their appointment, patients were asked to complete the 50-item AQ questionnaire. Their AQ10 scores were obtained by summing the ten AQ50 items which form the AQ10.

ICD-10 diagnoses were made by structured diagnostic interviews followed by multidisciplinary team meetings. A diagnosis of ASD was made in 73% of cases.

The sensitivity of the AQ10 was 0.77 (95% CI: 0.72-0.82) but the specificity was only 0.29 (95% CI: 0.20-0.38).

The positive predictive value was 0.76, demonstrating that just over three-quarters of those scoring ≥ 6 on the AQ10 were diagnosed with ASD. However, the negative predictive value was only 0.36 hence almost two-thirds (64%) of those with a score below the AQ10 cut-off (≥ 6) did in fact have a diagnosis of ASD.

ASD is thought to affect 1% of adults in England: 1.8% of men and 0.2% of women.[1] Approximately 40% of those affected have not been given a diagnosis[2] and the problem of underdiagnosis has been attributed to lack of GP training, inadequate provision of specialised diagnostic services and masking of autism by comorbid conditions.[3]

It has been suggested that case identification instruments may facilitate diagnosis by enabling GPs to identify key symptoms in a time-efficient manner.[4] They may also help to prevent over-referral to limited services by ruling out ASD in those who do not achieve the cut-off score.

NICE recommends that we should consider using the AQ10 for adults with possible autism who do not have moderate to severe learning disability. It recommends referral if the AQ10 score is ≥ 6, or if autism is suspected based on clinical judgement.[3]

It is not clear whether the poor performance of the AQ10 in this tertiary care study can be extrapolated to primary care. Nevertheless, I think it is reasonable to conclude that it should not be used as a rule-out test and NICE guidance does allow us to over-ride a negative result on the basis of our clinical judgement.

In my experience, a positive AQ10 score can help to validate a patient's concerns regarding ASD and justify a referral. The study authors suggest that false-negative scores may be partly due to a lack of patient insight and it could be argued that this is less likely to be a problem where patients suspect that they may have the condition. However, a positive score did not increase the likelihood of ASD and high scores may be due to generalised anxiety disorder.

We should not use the AQ10 either as a screening test or as a rule-out test for ASD. It may provide a useful framework for asking some appropriate questions but it is essential to be aware of its limitations.

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