

TOOLBOX

Short screening tool flags children with autism

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3 OCTOBER 2012

Twenty questions: Combining diagnostic questionnaires based on both parent and teacher reports is more accurate than using either form alone.

A subset of questions on two behavioral screens can distinguish children with autism from those with other developmental disorders, according to a study published 23 August in *Autism*¹.

Because behavioral therapy is believed to be the **best known treatment** for autism, researchers are aiming to develop tests that can diagnose autism as quickly and early in life as possible.

The new checklist can be used to identify children who need further evaluation, the researchers say, and can be incorporated into early-childhood health programs.

The study takes advantage of the Netherlands' Preventative Child Health Care program, which screens about 95 percent of the general population for behavioral and health problems. The screen includes the Child Behavior Checklist (CBC), which is a caregiver questionnaire, and the Teacher's Report Form (TRF), a version adapted for teachers.

The researchers looked at 458 children with autism, 561 children with externalizing disorders such as attention deficit hyperactivity disorder, 427 children with internalizing disorders such as anxiety or depression, 121 children referred for follow-up who do not have an official diagnosis, and 999 children in the general population.

Assessing half of these individuals, the researchers identified ten items each from the CBC and the TRF that are more likely to flag children in the autism group than those with the other disorders.

Children can score from zero to two on each item — such as “acts too young for his or her age,” and “strange behavior” — with higher scores indicating a higher likelihood of having autism.

The researchers then used the 20 items to predict autism in the other half of the sample. Using both the CBC and the TRF is more accurate than using either form alone, the study found.

The researchers first examined whether the questionnaire distinguishes children with autism from those in the general population. A score of 8 out of 40 on the combined measure accurately identifies 91 percent of the children with autism and wrongly flags 16 percent of the general population. Raising this threshold lowers the number of false positives, but misses some children with autism.

When comparing with children who have other behavioral problems, the threshold needs to be higher, the researchers found.

An optimal score of 12 identifies 75 percent of children with autism and misdiagnoses 35 percent of children with other disorders as having autism. These false positives might be acceptable for a screening tool, as children in the other group would also benefit from clinical follow-up, the researchers say.

References

1: So P. et al. *Autism* Epub ahead of print (2012) [PubMed](#)