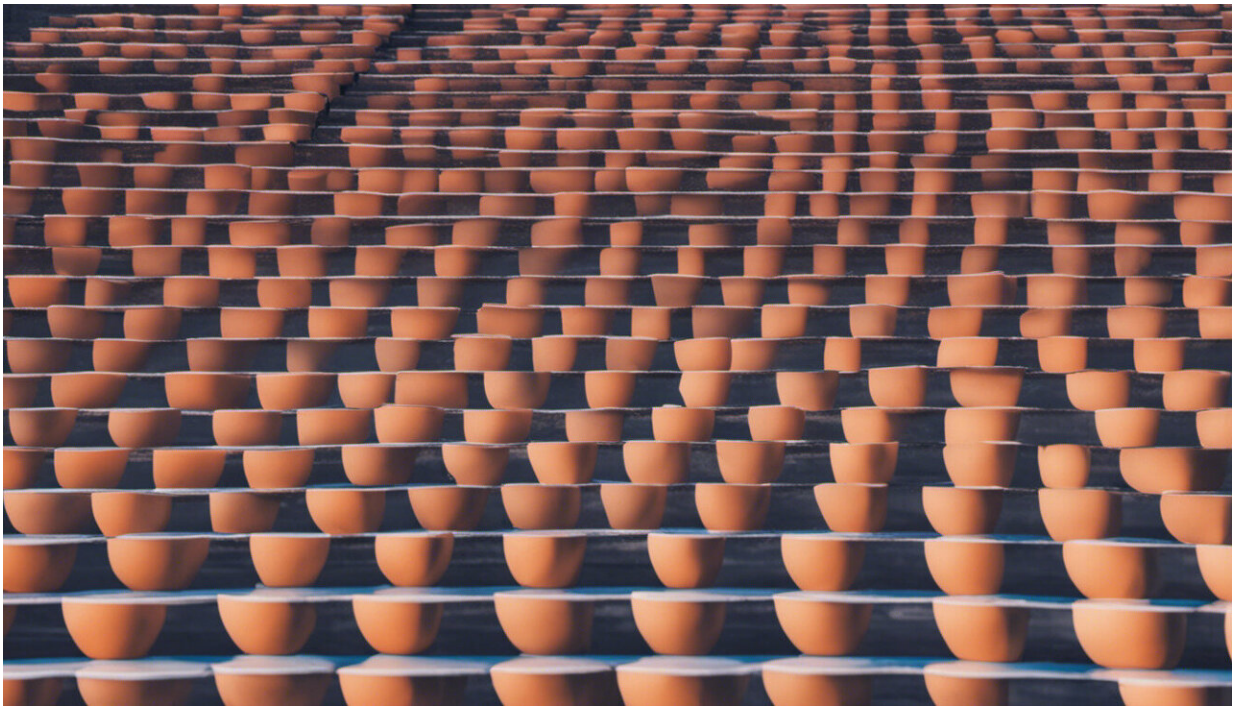
Early autism screening has limited effect

June 13 2019



Credit: AI-generated image

Screening for autism at three years of age only identifies those with significant developmental delay, and not those with less severe autism. Early screening may therefore not be as beneficial as previously thought, according to data from the Norwegian Mother, Father and Child Cohort Study.

This study measured the extent with which a commonly used screening

tool could identify children with autism at 36 months. It found that the tool identified only one in five children who had autism.

The screening identified individuals with autism spectrum disorders with significant development delay well but captured very few children with autism who have cognitive skills in the normal range.

The authors of this study therefore question whether the benefits of nationwide screening outweigh the costs. "Current available evidence does not support universal early screening for autism," says Dr. Pål Surén, lead author of the study.

This study investigated the "sensitivity" and "specificity" of population-based autism screening at three years of age (see background). A total of 58 520 mothers from the Norwegian Mother, Father and Child Cohort Study participated. They answered the Social Communication Questionnaire (SCQ), a 40-item screening instrument for autism spectrum disorders. The children were followed up until the end of 2015, when they were aged from six to 14-years-old. By the end of the follow-up, 385 children (0.7 percent) were identified as autistic.

Findings

- Of the 385 children with autism, only one out of five children with autism tested positive at age three. In other words, screening sensitivity was 20%.
- Screening captured only a minority of the children with autism and mainly those with significant developmental delay.
- Overall, screening specificity was 99 percent. This means that the instrument has high precision because there were relatively few "false positives" (only 1 % children without autism tested positive).
- By lowering the cut-off score in the screening tool, sensitivity

improved but led to a considerable increase in the number of false positives.

Pål Suren explains: "We generally want both sensitivity and specificity to be as high as possible. There is generally a trade-off between the two. If the threshold for testing positive is lowered, sensitivity increases but usually at the price of decreasing specificity—and vice versa."

Language delay is a common symptom of autism. However, most of the children (76 percent) with autism had developed phrase speech at 36 months and did not have significant cognitive delays. For these children, screening scores largely overlap scores in those without autism, meaning it is hard to distinguish these children from children with normal development.

The results and methods are presented in more detail in the published article in the open access journal *BJPsych Open*.

Background

Autism spectrum disorders (ASD) are neurodevelopmental disorders characterized by persistent impairment in reciprocal social communication and interaction, and restricted, repetitive behavioural patterns. Symptoms usually appear by the second year of life. ASD is often referred to as just "autism."

Current guidelines from the American Academy of Pediatrics state that ASD screening should be included in general developmental check-ups at ages 18 and 24 months. British guidelines, however, do not recommend universal autism screening. The benefits and disadvantages of such screening have never been assessed in population-based studies.

More information: Pål Surén et al. Sensitivity and specificity of early

screening for autism, *BJPsych Open* (2019). DOI: 10.1192/bjo.2019.34