Title: Screening for Hypertension in Children With and Without Autism Spectrum Disorder
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Background: Adults with autism are at increased risk for hypertension and cardiovascular disease compared with the general population. Although blood pressure (BP) screening is recommended in childhood to prevent the long-term adverse effects of hypertension, there are barriers to BP measurement in children with autism that may limit screening in this vulnerable population.

Methods: Data for this cross-sectional study were obtained from the National Ambulatory Medical Care Survey and National Hospital Ambulatory Medical Care Survey, annual surveys of ambulatory providers using multistage sampling to produce nationally representative estimates. We included visits to office-based practices and hospital outpatient departments for patients aged 3 to 21 years from 2002 to 2018 in which providers identified the major reason for visit as preventive care. Autism was defined using International Classification of Diseases codes or a positive response to the question, “Does patient now have autism?” The primary outcome was whether BP was measured during the visit. We used multivariable logistic regression to evaluate the association between autism and hypertension screening after adjusting for age, sex, race, year, provider specialty, insurance, number of chronic conditions, diabetes, and obesity. We also assessed the association between autism and other preventive services.

Results: Of 44,501 visits, 0.5% (95% CI: 0.4%-0.7%) involved children with autism. Age, previous visits in the past year, and visits with an obesity diagnosis were similar for visits with and without an autism diagnosis. Hypertension screening occurred in 55.8% (95% CI: 37.3%-72.8%) of visits with autism vs 75.7% (95% CI: 74.1%-77.2%) without autism (P=0.02). Hypertension screening for children with other chronic conditions occurred at least as often as for children without that condition (Figure 1). In the multivariable model, autism remained significantly associated with decreased odds of hypertension screening (OR: 0.39 [95% CI: 0.17-0.89]) and was associated with decreased odds of height measurement, nutrition counseling, and exercise counseling.

Conclusion: Hypertension screening was less likely to occur during preventive visits for children with autism vs preventive visits for children without autism. Further research is needed to identify barriers and test interventions to improve hypertension screening and cardiovascular disease prevention in children with autism.
Figure 1. Hypertension Screening During Pediatric Preventive Visits From 2002 to 2018

(A) Blood Pressure Screening at Preventive Visits by Diagnosis

(B) Blood Pressure Screening for Children With and Without Autism

[Graph showing blood pressure screening data over time and by condition]