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Longitudinal evaluation of gastrointestinal symptoms in children with autism

Abstract:

Background: 1 in 44 children in the US meet criteria for autism. Frequently, co-existing medical issues, such as gastrointestinal (GI) symptoms, can further affect their behavior, daily functioning, and wellbeing. Children with autism have been found to experience more GI symptoms compared to typically developing children. However, it is not well known how these symptoms persist over childhood.

Objective: To determine the frequency and persistence of GI symptoms across childhood in children with autism in a longitudinal sample.

Methods: 383 children with autism spectrum disorder (ASD) and 166 age-matched typically developing (TD) controls were enrolled at 2–3.5 years of age and assessed for GI symptoms at 3 time points: baseline, two years later (4–6 years), and during middle childhood (9–12 years). Diagnostic confirmation of ASD was conducted at each time point using the Autism Diagnostic Observation Scale administered by a licensed clinical psychologist. GI symptoms, including abdominal pain, bloating, constipation, diarrhea, and sensitivity to foods, were assessed using a parent-report obtained via interview by a physician. Frequency of symptoms was rated on a 5-point scale. Children with at least one symptom in the ‘frequently’ or ‘always’ range were categorized as having GI symptoms. The number of concurrent GI symptoms experienced was also assessed.

Results: GI symptoms were reported in 47% of children with ASD compared to 30% in the TD group at baseline (chi square $p < .001$). Across the three time points, 40% of children with ASD experienced GI symptoms at two time points compared to 15% of TD controls. Children with ASD continued to report more GI symptoms and they were more likely to experience several symptoms at each time point. Moreover, 30% of children with ASD experienced GI symptoms at all three time points, compared to 7% of the TD group. The relative risk (RR) of GI symptoms in ASD relative to TD children is 2.04 [1.62, 2.57] ($p < .001$), and on average, children with ASD reported 2.4 [1.9, 3.1] more GI symptoms than TD ($p < .001$). Across both groups, the estimated risk of GI symptoms trended towards higher in females than males (RR = 1.15 [0.98, 1.36]) ($p = .07$) and females averaged 1.4 [1.1, 1.7] more GI symptoms than boys ($p < .01$).

Conclusion: Children with autism presented with more frequent and more significant GI symptoms which tended to persist over time. The presence of multiple GI symptoms was found to be associated with diagnosis of ASD and female gender. Future analyses will assess the impact of GI symptoms on behavioral and mental health issues.

Biography

Bibiana Restrepo, a dedicated researcher at UC Davis MIND Institute in the USA, specializes in neurodevelopmental disorders. With a passion for understanding the intricacies of the human mind, her work aims to unravel the mysteries of cognitive development and contribute to improving the lives of individuals with such conditions.