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Autistic children more likely to have GI issues in early life

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Scientists at Columbia University's Mailman School of Public Health report that children with autism spectrum disorder (ASD) were two-and-a-half times more likely to have persistent gastrointestinal (GI) symptoms as infants and toddlers than children with typical development. Results are published in *JAMA Psychiatry*.

The study is based on a large longitudinal survey of Norwegian mothers who were asked about their child's GI disturbances during the first three years of life. Questionnaires were completed when the children were 18 and 36 months of age.

The authors found that children with ASD had higher odds of their mothers reporting constipation and food allergy/intolerance in the 6- to 18-month-old age range, and higher odds of diarrhea, constipation, and food allergy/intolerance in the 18- to 36-month-old age range compared with children with typical development.

Mothers of children with ASD were also more likely to report one or more GI symptoms in their children in either or both age ranges compared with mothers of children with typical development. And children with ASD were more likely to have GI symptoms than children with developmental delay, suggesting that the disturbances were not simply secondary to developmental delay associated with autism.

"We not only learned that these symptoms appeared early in infancy; we also found that children with ASD were at significantly increased risk

for these symptoms to persist compared with typically developing children," says Michaeline Bresnahan, PhD, first author and assistant professor of Epidemiology at the Mailman School.

"The longitudinal nature of the study allowed us to uncover the presence of GI complaints in early life—before mothers knew their child would be diagnosed with autism," says Ezra Susser, MD, DrPH, co-senior author and professor of both Psychiatry and Epidemiology at the Mailman School and Columbia University Medical Center. "This is yet another demonstration of how longitudinal cohort research can shed light on features of autism."

GI-Autism Relationship Remains Unclear

While higher levels of GI symptoms are associated with autism, Dr. Bresnahan cautions that "the vast majority of children with these symptoms won't go on to develop autism, nor do all people with autism have GI problems as children." Bresnahan adds, "GI symptoms alone need not be cause for alarm."

"Although the connection of GI disturbances to autism remains unclear, the presence of GI symptoms in early life may not only help to identify a subset of children with autism who require clinical input for their GI issues, it may also open new avenues for determining the underlying nature of the disorder in that subgroup," notes Mady Hornig, MD, co-first author of the study and associate professor of Epidemiology at the Mailman School.

"Delineating factors that disrupt signaling along the gut-brain axis while the brain is still under development may ultimately provide a key to understanding how the disorder occurs in the subset of children with autism and GI complaints," adds W. Ian Lipkin, MD, the study's senior author, and John Snow professor of Epidemiology and director of the

Center for Infection and Immunity at the Mailman School.

More information: *JAMA Psychiatry*. Published online March 25, 2015. DOI: 10.1001/jamapsychiatry.2014.3034