

Autism risk in younger children increases if they have older sibling with disorder

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A new Kaiser Permanente study found that the risk of younger siblings developing an autism spectrum disorder is 14 times higher if an older sibling has ASD. The study, which was published today in *Journal of Developmental & Behavioral Pediatrics*, also found the risk level was consistent across gestational age at birth.

Autism is a neurodevelopmental disorder defined by impairments in social interaction and communication, as well as restricted and repetitive patterns of behavior. It occurs in 1 in 68 children, according to the most recent data from the Centers for Disease Control and Prevention.

The cause of autism is unknown, but research has identified a number of different genetic and environmental factors that may play a role in its development. Previous research from Kaiser Permanente has found that second-born children who are conceived sooner than two years or later than six years after the arrival of their older sibling have a significantly increased risk of ASD.

"Our study provides additional insights into how autism affects siblings," explained Darios Getahun, MD, PhD, study senior author, Kaiser Permanente Southern California, Department of Research & Evaluation. "These findings also contribute to a better understanding of the influence of factors such as gender on autism risk."

The study included Kaiser Permanente members in Southern California and focused on at least two siblings born to the same mother between 28

and 42 weeks of gestation from 2001 through 2010. Researchers examined the medical records of the 53,336 children born during this time, of which 592 were diagnosed with ASD, and found:

- Children with older siblings who had ASD had an ASD rate of 11.3 percent compared to 0.92 percent for those with unaffected older siblings.
- Compared with gestational age-matched younger siblings without ASD diagnosis, those born at term (37-42 gestational weeks) who had an older sibling diagnosed with ASD had more than 15 times the increased risk for ASD diagnosis. Younger siblings who were born at preterm (28-36 gestational weeks) and had an older sibling diagnosed with ASD had an almost 10 times [increased risk](#) for ASD.
- Younger boys with ASD who had older brothers were much more likely to be affected by the disorder than younger girls with older sisters (15 percent vs. 7 percent, respectively.)

"It's possible that parents who have an older child with an [autism](#) diagnosis are more likely to have their younger siblings tested, too, resulting in a higher rate of diagnoses among [younger siblings](#), compared with parents who do not have children diagnosed with an [autism spectrum disorder](#)," noted Dr. Getahun.

The researchers also noted that the gender difference observed in this study could be due to biases in diagnosis and reporting. "Previous research has indicated that girls may be less likely to be referred for a diagnostic assessment or, if referred, they may be more likely to be misdiagnosed than boys," added Dr. Getahun.

Provided by Kaiser Permanente

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