

NEWS

Infant seizures, maternal meds top list of risk factors for autism

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2 MAY 2018

Epilepsy in infancy and the use of prescription medications during pregnancy are the strongest of 29 known risk factors for autism in a child, according to a large analysis of medical records¹.

Studies have identified a vast number of risk factors for autism. These include **maternal obesity**, **parental age** and **use of medications** such as **antidepressants** or pain relievers.

“There have been so many things that have been linked to autism that it’s virtually impossible for anybody to do anything to avoid them,” says study investigator **Elizabeth Hisle-Gorman**, assistant professor of pediatrics at the Uniformed Services University of Health Sciences in Bethesda, Maryland.

Hisle-Gorman and her colleagues examined a large number of risk factors simultaneously instead of just one or a few at a time, so they could see how those factors interact. This approach knocked some previous risk factors, such as maternal substance misuse and preterm birth, off the list.

“Some of the inconsistency in results that we’ve seen is because people weren’t really looking at the whole picture,” says **Katherine Bowers**, assistant professor of pediatrics at Cincinnati Children’s Hospital Medical Center in Ohio, who was not involved in the work. “That was one advantage [of this study].”

Risk roundup:

Hisle-Gorman’s team analyzed the medical records of 8,760 children with autism and their mothers in the **Military Health System Data Repository**. They matched the records of these children, aged 2 to 18 years, with those from 26,280 controls.

The researchers tracked 29 risk factors present before and during the mother's pregnancy, during labor and shortly after the child's birth; they found that 19 are significant.

Of those, infantile epilepsy has by far the biggest effect: Infants who have seizures are nearly eight times as likely to have autism as controls.

Women taking medication for **epilepsy** or for mental health conditions, including depression, are almost twice as likely to have a child with autism as controls. In the absence of the meds, however, a diagnosis of these conditions in a woman is only weakly associated with autism in her child, if at all. The same pattern holds for other health conditions, such as high blood pressure and diabetes.

The risk of autism in a child is elevated for mothers under 25 and diminished in mothers over 35. The latter finding contradicts many previous studies that reported that the risk of having a child with autism **increases with the mother's age**. The findings appeared 14 March in *Pediatric Research*.

It is not clear why a pregnant woman's use of medication is associated with autism in her child. Women taking medication may be those **most severely affected** by a condition, or the association might stem from the treatment itself.

"Is there something that would be related to the actual medication use that would impact the child's brain development?" says Hisle-Gorman. "With the way that we designed our study, we can't really flesh that out."

For now, it's premature for clinicians to recommend that expectant mothers change their treatment regimens, says **Kristen Lyall**, assistant professor of epidemiology at Drexel University in Philadelphia, who was not involved in the research.

The next steps, Lyall says, are to determine the mechanisms for these associations and find a way to tease out overall risk for individuals.

REFERENCES:

1. Hisle-Gorman E. *et al. Pediatr. Res.* Epub ahead of print (2018) **PubMed**