

Mothers of children with autism less likely to have taken iron supplements

22 September 2014

Mothers of children with autism are significantly less likely to report taking iron supplements before and during their pregnancies than the mothers of children who are developing normally, a study by researchers with the UC Davis MIND Institute has found.

Low [iron intake](#) was associated with a five-fold greater risk of autism in the child if the mother was 35 or older at the time of the child's birth or if she suffered from metabolic conditions such as obesity hypertension or diabetes.

The research is the first to examine the relationship between maternal iron intake and having a child with autism spectrum disorder, the authors said. The study, "Maternal intake of supplemental iron and risk for [autism spectrum disorders](#)," is published online today in the *American Journal of Epidemiology*.

"The association between lower maternal iron intake and increased ASD risk was strongest during breastfeeding, after adjustment for folic acid intake," said Rebecca J. Schmidt, assistant professor in the Department of Public Health Sciences and a researcher affiliated with the MIND Institute.

The authors of the current study in 2011 were the first to report associations between [supplemental folic acid](#) and reduced risk for autism spectrum disorder, a finding later replicated in larger scale investigations.

"Further, the risk associated with low maternal iron intake was much greater when the mother was also older and had metabolic conditions during her pregnancy."

The study was conducted in mother-child pairs enrolled in the Northern California-based Childhood Autism Risks from Genetics and the Environment (CHARGE) Study between 2002 and

2009. The participants included mothers of children with autism and 346 mothers of children with typical development.

The researchers examined maternal iron intake among the study's participants, including vitamins, other nutritional supplements, and breakfast cereals during the three months prior to through the end of the women's pregnancies and breastfeeding. The mothers' daily iron intake was examined, including the frequency, dosages and the brands of supplements that they consumed.

"Iron deficiency, and its resultant anemia, is the most common nutrient deficiency, especially during pregnancy, affecting 40 to 50 percent of women and their infants," Schmidt said. "Iron is crucial to early brain development, contributing to neurotransmitter production, myelination and immune function. All three of these pathways have been associated with autism."

"Iron deficiency is pretty common, and even more common among women with [metabolic conditions](#)," Schmidt said. "However we want to be cautious and wait until this study has been replicated."

"In the meantime the takeaway message for women is do what your doctor recommends. Take vitamins throughout pregnancy, and take the recommended daily dosage. If there are side effects, talk to your doctor about how to address them."

Provided by UC Davis

APA citation: Mothers of children with autism less likely to have taken iron supplements (2014, September 22) retrieved 30 April 2021 from <https://medicalxpress.com/news/2014-09-mothers-children-autism-iron-supplements.html>

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