

New study examines link between pregnancy weight gain, autism spectrum disorders

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Can gaining weight during pregnancy provide clues into the cause of autism spectrum disorders?

New research from the University of Utah shows the answer to that question may be yes in some situations. Researchers have uncovered an association between autism spectrum disorders and a small increase in the amount of weight a mother gains during pregnancy. The results of the new study, "Maternal Prenatal Weight Gain and Autism Spectrum Disorders," are published in November edition of the journal *Pediatrics*.

Previous studies have identified links between women's prepregnancy body mass index (BMI) and pregnancy weight gain to an increased risk for the development of autism spectrum disorders (ASD) in [children](#). But in the new study from University of Utah, [researchers](#) build on prior research by identifying an association between autism spectrum disorder risk and prenatal weight gain, after accounting for important related factors such as a woman's prepregnancy BMI.

"The risk of autism spectrum disorder associated with a modest yet consistent increase in pregnancy weight gain suggests that pregnancy weight gain may serve as an important marker for autism's underlying gestational etiology," said Deborah A. Bilder, M.D., lead author of the study and an assistant professor of psychiatry at the University of Utah. "These findings suggest that weight gain during pregnancy is not the cause of ASD but rather may reflect an underlying process that it shares with autism spectrum disorders, such as abnormal hormone levels or

inflammation."

This small difference in pregnancy weight gain and the association with ASD was found in two separate study groups. Researchers carried out the study by comparing the cases of 8-year-olds living in Salt Lake, Davis and Utah counties. A group of 128 children diagnosed with autism spectrum disorders were compared to a control group of 10,920 children of the same age and gender. Researchers also examined a second sample group of 288 Utah children diagnosed with autism spectrum disorders and compared their data with that of unaffected siblings. In both scenarios, [pregnancy weight](#) gain patterns obtained from birth certificate records were identified as common factors in mothers who gave birth to children born with autism spectrum disorders. Such a small, but consistent finding suggests that these small changes in pregnancy [weight gain](#) and ASD may share the same underlying cause. The mother's BMI at the onset of pregnancy was not linked to ASD in either study group.

ASD data utilized for this study were taken from the Utah Registry of Autism and Developmental Disabilities, a Utah Department of Health (UDOH) registry. "Utilizing this database to study possible associations that may shed light on the causes of Autism Spectrum Disorder is essential," said Harper Randall, M.D., medical director at the Division of Family Health and Preparedness at UDOH. "

"The findings in this study are important because they provide clues to what may increase the risk of having an autism spectrum disorder and provide a specific direction for researchers to pursue as they search for the causes for autism spectrum disorders," said Bilder. "Doctors have known for a long time that proper nutrition is essential to a healthy pregnancy. Pregnant women should not change their diet based on these results. Rather, this study provides one more piece for the autism puzzle that researchers are exploring."

Autism spectrum disorders are neurobehavioral disorders manifested by a range of impaired social interactions, abnormal language development, and stereotypic behavior and interests. According to the most recent statistics from the Utah Department of Health, estimates show that 1 in 63 Utah children have an [autism spectrum disorder](#). Another study by the CDC released in 2012 suggests the risk may be even higher, estimating Utah's rate at one in 47. Autism spectrum disorder is no longer considered a rare disorder. It is now recognized in 1 to 2 percent of our population. "This calls for further investigation of its underlying etiology as a public health concern," said Bilder.

Provided by University of Utah Health Sciences

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