

Study finds differences in obesity rates between children/teens with and without autism

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Children and teens with autism spectrum disorder (ASD) may be more likely to be obese and stay obese during adolescence than their peers without ASD, according to a new epidemiological study led by researchers from Tufts University School of Medicine and published online in *Childhood Obesity* in advance of print.

Previous studies have found that children with [developmental disabilities](#), including ASD, have a higher risk of [obesity](#) than children without ASD. Using data from the 2011-2012 National Survey of Children's Health, the team of researchers found that, among children ages 10 to 17, the rate of obesity remained fairly steady in children with ASD whereas the rate of obesity decreased in children without ASD.

"We expected to see an increased prevalence of obesity with age in children with ASD compared to those without ASD, which would increase the obesity disparity. What we found was that the disparity did increase with age over adolescence, but the underlying patterns were not as expected. The prevalence of obesity in the ASD group was high and remained so, while the prevalence in children without ASD declined over adolescence," said lead and corresponding study author Aviva Must, Ph.D., Morton A. Madoff Professor and chair of public health and community medicine at Tufts University School of Medicine in Boston.

Using the nationally representative 2011-2012 National Survey of

Children's Health, the team of researchers in the Healthy Weight Research Network (HWRN) analyzed data from a total of 43,777 children ages 10 to 17 with available information on weight, height, gender and ASD status. BMI-for-age was calculated using parent-reported height, weight and age. Race and socioeconomic status were also collected from the data set. Must is also co-director of the HWRN.

As earlier research had indicated they would, the researchers found a higher prevalence of obesity in children ages 10 to 17 with ASD than in children without ASD (23.1 percent versus 14.1 percent). However, the prevalence of obesity was consistent between ages 10 to 17 among children with ASD while it decreased with age among non-ASD children. Between ages 10 and 17, there was no significant increase in [obesity prevalence](#) among children with ASD (from 20.0 percent to 22.1 percent); among non-ASD children, however, obesity prevalence was cut in half (from 19.1 percent to 8.3 percent).

In exploratory work, the researchers observed obesity disparities by gender and by race. Obesity prevalence for youth with ASD increased in boys and decreased in girls over the teen years. With respect to race and ethnicity, obesity prevalence increased for white, non-Hispanic youth with ASD and decreased in non-white, non-Hispanic youth with ASD over the same age range. These preliminary findings need confirmation in larger samples and studies that follow children over time.

Obesity in childhood could have long-term health effects for people with ASD. The researchers believe many mechanisms should be explored for their potential role in the maintenance of [obesity rates](#) they observed in children with ASD.

"Factors to consider with obesity in children with ASD are sensory sensitivity, the need for routine or sameness, behavioral rigidity, use of food as a reward, mealtime stress and parental stress; any or all of these

could contribute to obesity," said last author Linda Bandini, Ph.D., associate professor at UMass Medical School Shriver Center and department of health sciences, Boston University and director of the HWRN. "When it comes to energy expenditure, exercise for many teens comes in the form of competitive sports, in which children with developmental disabilities are less likely to take part. And another reward and calming technique parents of children with ASD have reported using is television, which may contribute to higher levels of sedentary behavior," she continued.

The researchers expect that further research and qualitative approaches, such as interviews with adolescents and caregivers, could be used to better understand the influence of behavioral and sociodemographic factors on the prevalence of obesity among children with ASD. This information will help facilitate [obesity prevention](#) and interventions for adolescents with ASD and their caregivers.

"Children with developmental disabilities face unique challenges and are not always served by health interventions aimed at those without disorders such as ASD. The complexity of their medical needs is both why particular attention should be paid to their circumstances and why it is difficult to do so. Identifying the factors that support healthy weight in children without ASD, as well as any factors children with ASD are more or uniquely vulnerable to, could inform approaches for parents, teachers and others who work with youth with ASD," said Must.

The researchers also note that their findings should be considered in the context of some limitations, including the parent-reported nature of the data and insufficient detailed information to explore the role of medication use, which is relatively common in [children](#) with developmental disabilities and can contribute to weight gain.

More information: Aviva Must et al, The Effect of Age on the

Prevalence of Obesity among US Youth with Autism Spectrum Disorder, *Childhood Obesity* (2016). [DOI: 10.1089/chi.2016.0079](https://doi.org/10.1089/chi.2016.0079)

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