

Your BMI as a teen could affect your health into adulthood

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A high body mass index (BMI) during adolescence is a significant risk factor for Type 2 diabetes, early heart attack and overall poorer health for young adults, regardless of BMI in adulthood, according to a research

letter published today in the *Journal of the American College of Cardiology*.

BMI is calculated based on weight and height. According to the National Heart, Lung, and Blood Institute, BMI categories are defined as: less than 18.5 kg/m^2 is underweight; 18.5 to 24.9 is normal weight; 25 to 29.9 is overweight; and 30 or greater is obese.

Researchers analyzed the BMI z-scores, which is relative weight adjusted for a child's age and sex, of 12,300 adolescents with 24 years of follow-up data through the National Longitudinal Study of Adolescent to Adult Health. Patients in the study were between 11 to 18 years of age and 51.4% were female. The researchers adjusted analyses to control for race/ethnicity, sex, age, education, household income, and tobacco and alcohol use. All results were self-reported. The average baseline BMI in this study was 22.4 kg/m^2 . Each one-unit higher BMI z-score in adolescence was associated with a 4.17 kg/m^2 higher BMI in adulthood at the 24-year follow-up.

A higher BMI in adolescence was associated with a 2.6% increase in overall poor health, as well as an 8.8% increased risk for Type 2 diabetes and 0.8% increased risk for early heart attack in adults in their 30s and 40s, independent of what their adult BMI was. This study is the first of its kind to demonstrate the adverse relationship in younger adults.

"The finding that adolescent BMI is a risk factor for poor health outcomes in adulthood, regardless of adult BMI, has significant implications for our understanding of cardiovascular disease onset," said Jason M. Nagata, MD, MSc, assistant professor of pediatrics in the Division of Adolescent and Young Adult Medicine at the University of California, San Francisco, and lead author of the study. "Considering these findings, [health care providers](#) should consider BMI history when assessing for cardiovascular and chronic disease risk."

The researchers said the findings support the hypothesis that both age of obesity onset and cumulative obesity exposure contribute to insulin resistance and atherosclerosis. To combat poor health outcomes, the researchers recommend more guidance and support from pediatricians to patients. "Our study suggests that adolescence is an important time period to optimize [health](#) and prevent early heart attacks. Pediatricians should encourage teens to develop healthy behaviors including physical activity and balanced meals," Nagata said.

More information: Nasia A. Sheikh et al, Exploring the Refractory Period of an Active Stand in Females With Initial Orthostatic Hypotension, *Journal of the American College of Cardiology* (2021). DOI: [10.1016/j.jacc.2021.04.068](https://doi.org/10.1016/j.jacc.2021.04.068)

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