

Obesity in adolescence significantly associated with increased risk of severe obesity in adulthood

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An analysis of nationally representative data suggests that being obese in adolescence increases the risk of being severely obese in adulthood, with the risk higher in women, and highest for black women, according to a study in the November 10 issue of *JAMA*.

Individuals with severe obesity ([body mass index](#) [BMI] 40 or greater) encounter serious and potentially life-threatening health complications. "In 2000, an estimated 2.2 percent of adults, or 4.8 million individuals, were severely obese, with a disproportionately higher prevalence in women and racial/ethnic minorities. Yet, few national studies track individuals overtime to understand the progression of obesity to severe obesity," the authors write. "Understanding which individuals are at risk of severe obesity is essential for determining when interventions would need to be implemented to prevent [obese individuals](#) from progressing to severe obesity. Although observational studies have reported that the prevalences of overweight, obesity, and severe obesity have increased in recent years, individuals who are obese early in life have not been studied longitudinally to determine their risk of developing severe obesity in [adulthood](#)."

Natalie S. The, Ph.D., of the University of North Carolina at Chapel Hill, and colleagues conducted a study to determine the incidence and risk of severe obesity in adulthood among individuals who were obese during adolescence. The study group included 8,834 individuals, ages 12

to 21 years, who were enrolled in 1996 in wave II of the U.S. National Longitudinal Study of Adolescent Health, followed up into adulthood (ages 18-27 years during wave III [2001-2002] and ages 24-33 years during wave IV [2007-2009]). Height and weight measures of the participants were obtained and surveys administered in study participants' homes using standardized procedures. New cases of adult-onset severe obesity were calculated by sex, race/ethnicity, and adolescent weight status, and results were weighted for national representation.

In 1996, 79 (1.0 percent) adolescents were severely obese; 60 (70.5 percent) remained severely obese in adulthood. Over the 13-year period between adolescence (1996) and adulthood (2007-2009), a total of 703 new cases of severe obesity in adulthood were observed, indicating a total incidence rate of 7.9 percent. The researchers found that individuals with incident severe obesity in adulthood had a higher adolescent BMI and were more likely to be racial/ethnic minorities compared with individuals without severe obesity.

"A substantial proportion of obese adolescents became severely obese by their early 30s, with significant variation by sex. Among individuals who were obese as adolescents, incident severe obesity was 37.1 percent in men and 51.3 percent in women. Incident severe obesity was highest among black women at 52.4 percent. Across all sex and racial/ethnic groups, less than 5 percent of individuals who were at a normal weight in adolescence became severely obese in adulthood," the authors write.

Analysis indicated that obese adolescents were significantly more likely to develop severe obesity than normal-weight or overweight adolescents, with variation across race/ethnicity and sex.

"The clinical implications of these observed trends are concerning given the comorbidities and chronic disease associated with severe obesity.

Findings highlight the need for interventions prior to adulthood to prevent the progression of obesity to severe obesity, which may reduce severe obesity incidence and its potentially life-threatening consequences."

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