

ORIGINAL ARTICLE

Change in Overweight from Childhood to Early Adulthood and Risk of Type 2 Diabetes

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ABSTRACT

BACKGROUND

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N Engl J Med 2018;378:1302-12.
DOI: 10.1056/NEJMoa1713231
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Childhood overweight is associated with an increased risk of type 2 diabetes in adulthood. We investigated whether remission of overweight before early adulthood reduces this risk.

METHODS

We conducted a study involving 62,565 Danish men whose weights and heights had been measured at 7 and 13 years of age and in early adulthood (17 to 26 years of age). Overweight was defined in accordance with Centers for Disease Control and Prevention criteria. Data on type 2 diabetes status (at age ≥ 30 years, 6710 persons) were obtained from a national health registry.

RESULTS

Overweight at 7 years of age (3373 of 62,565 men; 5.4%), 13 years of age (3418 of 62,565; 5.5%), or early adulthood (5108 of 62,565; 8.2%) was positively associated with the risk of type 2 diabetes; associations were stronger at older ages at overweight and at younger ages at diagnosis of type 2 diabetes. Men who had had remission of overweight before the age of 13 years had a risk of having type 2 diabetes diagnosed at 30 to 60 years of age that was similar to that among men who had never been overweight (hazard ratio, 0.96; 95% confidence interval [CI], 0.75 to 1.21). As compared with men who had never been overweight, men who had been overweight at 7 and 13 years of age but not during early adulthood had a higher risk of type 2 diabetes (hazard ratio, 1.47; 95% CI, 1.10 to 1.98), but their risk was lower than that among men with persistent overweight (hazard ratio [persistently overweight vs. never overweight], 4.14; 95% CI, 3.57 to 4.79). An increase in body-mass index between 7 years of age and early adulthood was associated with an increased risk of type 2 diabetes, even among men whose weight had been normal at 7 years of age.

K/K
28.0

CONCLUSIONS

Childhood overweight at 7 years of age was associated with increased risks of adult type 2 diabetes only if it continued until puberty or later ages. (Funded by the European Union.)