

Asking adults with obesity about their weight during childhood could help determine their mortality risk

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Being asked whether you considered yourself a normal weight, plumper or thinner as a child when attending a doctor's appointment as an adult might appear like a very strange question to ask, but new research presented at this year's [European Congress on Obesity](#) in Venice, Italy (12–15 May) suggests that such questions can help identify increased mortality risk in adults living with obesity. The study is by Dr. William Johnson, an epidemiology expert based at Loughborough University, UK, and colleagues.

Obesity in adulthood and childhood is a major public health concern. Risk stratification for related diseases might be possible by asking adults simple questions but evidence is lacking to support such a clinical recommendation because most studies do not explicitly test for effect modification of the association of adulthood [obesity](#) with outcomes by child weight status.

The aim of this study was to evaluate whether the associations of adulthood overweight and obesity with mortality and incident disease differ according to self-reported child body weight.

The sample comprised 191,181 men and 242,806 women aged 40–69 years at baseline in the UK Biobank [prospective cohort study](#) between 2006–10. The outcomes were all-cause mortality and incident cardiovascular disease (CVD), obesity-related cancer, and [breast cancer](#).

The authors measured BMI at baseline (categorized as normal weight, overweight, or living with obesity) and self-reported perceived body weight at age 10 years (about average, thinner, plumper). Computer models were developed, with adjustment for age, ethnicity, relative age voice break (males) or age at beginning periods (females), and comparative height at age 10 years.

The actual question asked to adults living with obesity was: "When you were 10 years old, compared to average, would you describe yourself as: thinner, about average, or plumper?" They were asked this as part of their recruitment into the UK Biobank project between 2006–10. Around half (51%) reported being normal weight, while a third (33%) reported being thinner, and one in six (16%) reported being plumper.

Participants were followed up until an event or: 19 December 2022 for all-cause mortality, 1 September 2023 for incident CVD, and 15 March 2022 for incident obesity-related cancer and breast cancer.

Across the recruited cohort during follow-up 8% died, 35% developed CVD, and 2% of the whole cohort (men and women) developed obesity related cancer—including cancers of the colon, uterus, esophagus, gallbladder, stomach, kidney, pancreas, rectum, thyroid, brain lining (meningioma) and also multiple myeloma. And 5% of women developed breast cancer.

In both sexes, living obesity in adulthood (versus normal weight) was associated with a 15% increased risk of all-cause mortality (death from any cause), whereas living with overweight (versus normal weight) showed no statistically significant relationship.(see link to tables)

For adult men who reported having a normal weight at 10 years old, living with obesity was associated with a 28% (1.28 times) increased risk of all-cause mortality compared to adult men with normal weight.

For men reporting being thinner at age 10, living with obesity as an adult was associated with a 63% (1.63 times) increased risk of all-cause mortality compared to men with normal weight. And for men reporting being 'plumper' at age 10, there was a 45% (1.45 times) increased risk of all-cause mortality for those living with obesity as adults compared to those living with normal weight.

Thus, comparing risk between groups, for adult men living with obesity, compared with those reporting normal weight as children, reporting being plumper at age 10 years was associated with a 13% increased risk of all-cause mortality (1.45 compared to 1.28) (borderline statistical significance), and reporting being thinner as a child was associated with a 28% increased risk of all-cause mortality. (1.63 compared to 1.28) (statistically significant).

For [adult women](#) who reported having a normal weight at 10 years old, living with obesity was associated with a 38% (1.38 times) increased risk of all-cause mortality compared to adult women living with normal weight.

For women reporting being thinner at age 10, living with obesity was associated with a 60% (1.6 times) increased risk of all-cause mortality compared with women of normal weight. And for women reporting being plumper at age 10, there was a 32% (1.32 times) increased risk of all-cause mortality for those living with obesity as adults compared to those living with normal weight.

And comparing risk between groups for adult women living with obesity, compared with those reporting normal weight as children, reporting being plumper at age 10 years was not associated with an increased risk of all-cause mortality (1.38 similar to 1.32), whereas reporting being thinner as a child was associated with a 16% increased risk of all-cause mortality (1.60 versus 1.38, statistically significant).

For [cardiovascular disease](#), increased risks were seen for adult men and women living with obesity compared with those living with [normal weight](#), whatever they reported as 10-year-old children, but differences between them were smaller or not statistically significant. For obesity-related cancers, associations were much weaker and mostly not statistically significant.

The authors conclude, "Adulthood overweight and obesity may confer greater risks for all-cause mortality and incident CVD among individuals who perceive themselves to have been a thinner or plumper than the average child. Asking adult patients whether they were about average, thinner, or plumper as a child may help with [risk stratification](#) for some, but not all, diseases."

"Of course, regardless of your perceived weight status as a child, it is no surprise that our data show living with obesity as an adult is associated with an increased risk of death and various diseases."

Provided by European Association for the Study of Obesity

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