

Adverse consequences of obesity may be greater than previously thought

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The link between obesity and cardiovascular mortality may be substantially underestimated, while some of the adverse consequences of being underweight may be overstated, concludes a study published in the British Medical Journal today.

This means that the adverse influence of higher BMI and [obesity](#) in a population is of greater magnitude than previously thought, say the authors.

Numerous studies have already investigated the link between [body mass index](#) (BMI) and mortality. They show that high BMI is associated with higher rates of death from cardiovascular causes, diabetes, and some cancers, while low BMI is associated with increased mortality from other causes, such as respiratory disease and lung cancer.

But there are inconsistencies in the evidence that low body mass index actually increases the risk of causes of death such as respiratory disease and lung cancer.

Some researchers argue that this association may be biased by a process called reverse causality, where a severe illness, such as lung cancer, leads to both weight loss and higher mortality. Other factors such as smoking and poor socioeconomic circumstances may also lead to biasing estimates. This is known as confounding.

So a team from the University of Bristol and the Karolinska Institute in

Sweden set out to obtain a valid estimate of the association between body mass index (BMI) and mortality by comparing, for over one million Swedish parent-son pairs, the BMI of the sons as young adults with mortality among their parents.

Using [offspring](#) BMI as an indicator of parental BMI avoids problems of reverse causality and is less influenced by confounding, explain the authors.

Their analysis shows strong associations between high offspring BMI (used as a so-called instrumental variable) and parental mortality from [cardiovascular disease](#), diabetes, and some cancers, as reported in other studies of own BMI with mortality. However, unlike previous studies, there was no evidence of an association between low BMI and an increased risk of respiratory disease and lung cancer mortality.

These findings suggest that the apparent adverse consequences of low BMI on respiratory disease and [lung cancer](#) mortality may be overstated, whereas the adverse consequences of higher BMI on cardiovascular disease mortality may be substantially underestimated, say the authors.

These conclusions have important implications for public health practice because they suggest that reducing population levels of overweight and obesity (or preventing their rise) will have a considerable benefit to population health, they add. Suggestions to the contrary, which have received considerable media attention over recent years, are probably misguided.

Provided by British Medical Journal

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