

Future health risks for obese children may be greater than previously thought

September 25 2012

Being obese as a child or adolescent may have a larger effect on future health than previously thought, suggests a study published in the *British Medical Journal* today.

It comes as New York City passes a ban on large-size [sugary drinks](#) to help tackle obesity and related health problems in the US. MPs are now calling on the government to introduce similar legislation in the UK.

Researchers at the University of Oxford show that obese children and adolescents have several [risk factors for heart disease](#) including raised blood pressure, cholesterol and [blood sugar levels](#), and a thickening of the heart muscle, compared with normal weight children.

They warn that, if these risk factors are allowed to progress into adulthood, obese children could already be at a 30-40% higher risk of future stroke and heart disease than their normal weight counterparts.

Being overweight in adulthood is well known to increase the risk of cardiovascular disease. The effect of obesity on children is less well understood, but a growing body of evidence suggests a similar association.

So a team of researchers based at the University of Oxford set out to examine the scale of the association between weight and risk factors for heart disease in children.

They analysed the results of 63 studies involving 49,220 healthy children aged between five and 15 years old. Only studies conducted after 1990 in highly developed countries and published between 2000 and 2011 were included.

The studies measured weight and one or more known [cardiovascular disease risk](#) factors, such as high blood pressure, high cholesterol and [blood glucose levels](#).

Overweight was defined as a [body mass index](#) (BMI) of 25 to 30 and obesity was defined as BMI of 30 or more. Differences in study quality were taken into account to identify and minimise bias.

Compared with normal weight children, obese children had significantly higher blood pressure and [cholesterol levels](#). Overweight children also had raised blood pressure, but to a lesser degree than obese children.

Fasting insulin levels and insulin resistance (known markers for diabetes) were significantly higher in obese children, but not in [overweight children](#).

Obese children also had a significant increase in left ventricular mass (a thickening of the heart muscle and often a marker for heart disease) compared with normal weight children, even after adjusting for height. The authors say that the exact ages at which changes in a child's risk factors begin need to be established to help build a more accurate picture of the cardiovascular risk these young people are likely to face as adults.

"Weight, and especially obesity, has a significant effect on the risk parameters for cardiovascular disease that are present in children from age five years," they conclude. "This effect could give them a head start on their normal and even overweight classmates for future cardiovascular disease, diabetes and stroke."

In an accompanying editorial, Lee Hudson and Russell Viner at the UCL Institute of Child Health in London, say this review "provides a stark illustration of the probable threat that childhood obesity poses to disease burden in the population."

They say further work is needed to guide assessment and treatment decisions, and to tease out the effects of age and pubertal status on cardiovascular risk. In the meantime, the findings "challenge us to rethink our approaches to identifying cardiometabolic abnormalities in obese children."

More information: Cardiovascular disease risk in healthy children and its association with body mass index: systematic review and meta-analysis, *British Medical Journal*, 2012.

Editorial: Obesity in children and adolescents, *British Medical Journal*, 2012.

Provided by British Medical Journal

Citation: Future health risks for obese children may be greater than previously thought (2012, September 25) retrieved 7 May 2023 from <https://medicalxpress.com/news/2012-09-future-health-obese-children-greater.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.