

# Heavy new arguments weigh in on the danger of obesity

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A true obesity epidemic is gradually advancing throughout the developed world. A large new Danish-British study from the University of Copenhagen and University of Bristol documents for the first time a definite correlation between a high BMI and the risk of developing life-threatening cardiac disease.

Heart attack, [atherosclerosis](#) of the coronary arteries and [angina](#) – also called ischemic [heart disease](#) – are the most common causes of death in adults worldwide. In the US alone, 500,000 people die each year from heart disease. Now for the first time, researchers can show that there is a direct correlation between a high Body Mass Index (BMI) and the risk of developing heart disease.

The new study is published in the esteemed journal *PLoS Medicine* on May 1. Here scientists from the University of Copenhagen and their colleagues at the University of Bristol show that [obesity](#) in itself is damaging to heart health. The results are based on a study of 75,627 individuals.

"Our study supports existing observational studies, but weighs much heavier as a scientific argument. A BMI increase of 4 kg/m<sup>2</sup> increases the risk of heart disease by no less than 52 per cent," says Professor Børge Nordestgaard, chief physician at Copenhagen University Hospital and clinical professor at The Faculty of Health and Medical Sciences, University of Copenhagen.

## Obesity a problem in itself

"By doing epidemiological studies combined with genetic analysis, we have been able to show in a group of nearly 76,000 persons that a high BMI is enough in itself to damage the heart. Observational studies have also suggested a relationship between heart disease and obesity, but that is not enough to prove a direct correlation. Obese people can share characteristics or lifestyle traits that have an influence on both the heart and weight. Or there can be a reverse causality – that is, it is the diseased heart that causes obesity and not the other way round," explains Professor Børge Nordestgaard.

## No shortcuts in sight

Scientists analysed data from two large population studies – the Copenhagen General Population Study and the Copenhagen City Heart Study – involving about 76,000 adult individuals who were given a physical examination and were asked questions about their lifestyle. The researchers found that individuals with a high BMI had a 26 per cent greater risk of contracting heart disease. By combining data with analyses of the patients' genotypes, researchers saw an increased risk of up to 52 per cent.

Three ordinary genetic variations were used in the study – all associated with a high BMI. Because genes are inherited at random and are free from reverse causality, the analysis allowed researchers to demonstrate a convincing causal correlation between high BMI and heart disease.

According to professor Børge Nordestgaard, there are only two ways out of the [obesity epidemic](#), which he considers to be a major problem for Western civilization. Although fewer people smoke and more eat a healthy diet – far too many people eat too much:

"It is really very simple. If you want to lose weight, you have two options. You can exercise or you can eat less. There are no shortcuts, it is either or – and preferably both," says Nordestgaard.

Dr Nicholas Timpson, Lecturer in Genetic Epidemiology from University of Bristol's School of Social and Community Medicine, adds: "In light of rising obesity levels, these findings are fundamental to improving public health. Our research shows that shifting to a lifestyle that promotes a lower BMI (even if it does nothing else) will reduce the odds of developing the disease." Dr. Timpson is the lead author from the Bristol team.

Provided by University of Copenhagen

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