



Moderate obesity takes years off life expectancy

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A new analysis of almost one million people from around the world has shown that obesity can trim years off life expectancy.

The Oxford University research found that moderate obesity, which is now common, reduces life expectancy by about 3 years, and that severe obesity, which is still uncommon, can shorten a person's life by 10 years. This 10 year loss is equal to the effects of lifelong smoking.

The analysis brought together data from 57 long-term research studies mostly based in Europe or North America. People were followed for an average of 10 to 15 years, during which 100,000 died, making it the largest ever investigation of how obesity affects mortality. It was coordinated by the Clinical Trial Service Unit (CTSU) in Oxford and the results are published online today (18 March) in The Lancet.

The studies used body mass index (BMI) to assess obesity. BMI is calculated by dividing a person's weight in kilograms (kg) by the square of their height in metres (m). If a person has a BMI of 30 to 35, then they are moderately obese; if they have a BMI of 40 to 50, they are severely obese. Though not perfect, BMI is useful for assessing the extent to which fatty tissue causes ill health.

Among the 900,000 men and women in the study, mortality was lowest in those who had a BMI of 23 to 24. This means that if a person were 1.70m (5 feet 7 inches) tall, for example, his or her optimum weight would be about 70kg (154 pounds or 11 stone).

Epidemiologist Dr Gary Whitlock of Oxford University, who led the analysis, said of the findings: "Excess weight shortens human lifespan. In countries like Britain and America, weighing a third more than the optimum shortens lifespan by about 3 years. For most people, a third more than the optimum means carrying 20 to 30 kilograms [50 to 60 pounds, or 4 stone] of excess weight. If you are becoming overweight or obese, avoiding further weight gain could well add years to your life."

Comparing the effects of obesity with those of smoking, the study's main statistician, Oxford University Professor Sir Richard Peto, said: "This study has shown that continuing to smoke is as dangerous as doubling your body weight, and three times as dangerous as moderate obesity. Changing your diet but keeping on smoking is not the way to increase lifespan. For smokers the key thing is that stopping smoking works."

In those who were moderately obese (BMI 30 to 35, which is now common), the lifespan was reduced by three years. Severe obesity (BMI 40 to 50, which is still uncommon) reduced life expectancy by about 10 years; this is similar to the effect of lifelong smoking. Although severe obesity is more common in North America than in Europe, in both places it is much less common than moderate obesity, which has only a third of the effect on lifespan that smoking does.

There was also a higher death rate among those who had a BMI well below 23 to 24. This hazard was much greater for smokers than for non-smokers. The exact reason for this remains unknown.

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Obesity increases death rates for some types of cancer, but the main way it kills is by increasing risk of heart disease and stroke. Amongst middle-aged people in the UK, as many as one in four deaths from heart attack or stroke and one in 16 cancer deaths are due to being overweight or obese. In the US, where middle-aged people are typically a few kilograms heavier, the figures are even higher: one in three heart attack or stroke deaths and one in 12 cancer deaths in the US are due to being overweight or obese.

Funding for the overall analysis was provided by the Medical Research Council, the British Heart Foundation and Cancer Research UK supporting the Clinical Trial Service Unit at the University of Oxford.