

Study finds lifelong doubling in death risk for men who are obese at age 20 years

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Stockholm, Sweden: Men who enter adult life obese face a life-long doubling of the risk of dying prematurely, new research has found.

In a study presented today at the International Congress on Obesity in Stockholm, researchers tracked more than 5,000 military conscripts starting at the age of 20 until up to the age of 80. They found that at any given age, an obese man was twice as likely to die as a man who was not obese and that obesity at age 20 years had a constant effect on death up to 60 years later. They also found that the chance of dying early increased by 10% for each BMI point above the threshold for a healthy weight and that this persisted throughout life, with the obese dying about eight years earlier than the non-obese.

"As the [obesity epidemic](#) is still progressing rapidly, especially among children and [adolescents](#), it is important to find out if obesity in early adulthood has lifelong [mortality](#) effects," said the study's leader, Esther Zimmermann, a researcher at the Institute of Preventive Medicine, Copenhagen University Hospital and the Institute of Biomedical Sciences at University of Copenhagen in Denmark. "Previous studies have investigated obesity and mortality in middle-aged populations, which only tells us about the detrimental effects of obesity in middle age. Our study sheds light on how obesity at age 20 years affects obesity throughout adult life. It is the first study with such a long follow-up time and thus the first study to investigate the lifelong effect."

In the study, the researchers compared mortality in a sample of 1,930

obese male military conscripts with that in a random sample of 3,601 non-obese male conscripts. [Body mass index](#) (BMI) was measured at the average ages of 20, 35 and 46 years, and the researchers investigated that in relation to death in the next follow-up period. A total of 1,191 men had died during the follow-up period of up to 60 years. The results were adjusted to eliminate any influence on the findings from year of birth, education and smoking.

"At age 70 years, 70% of the men in the comparison group and 50% of those in the obese group were still alive and we estimated that from middle age, the obese were likely to die eight years earlier than those in the comparison group," Zimmermann said. The researchers also investigated the effect of the broad BMI range on mortality from the age of 20 and found the lowest death risk in the men who had a BMI of 25. Underweight men had a slightly elevated risk, and the risk of early death crept up steadily by 10% for each BMI unit above 25 for those men who were overweight or obese.

Zimmermann said it is unclear whether it is being obese at age 20 that conferred the men's increased death risk or whether the lifelong effect is due to obesity often being a lifelong condition for them. She said more research is warranted to find the answer to that question.

"More than 70% of the obese young men were still obese at the follow-up examinations, whereas only 4% of the men in comparison group developed obesity during follow-up. Obesity seems to be a persistent condition and it appears that if it has not occurred in men by the age of 20, the chance of it developing later are quite low. The persistence of obesity may partly explain why obesity at 20 years of age has lifelong mortality effects, but it needs to be proven whether that is the full explanation or whether, by itself, being obese at an early age increases the risk of early death," she said.

Zimmermann said her group plans to study the patterns of ill health that caused the early death in the obese group, in order to determine whether the same diseases are causing death at different ages. Such information may shed some light on the mechanisms through which obesity works at different ages, she said.

Provided by International Association for the Study of Obesity

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