

Study finds hospital-diagnosed overweight or obesity linked with markedly higher risk of death over 40 years

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Individuals whose overweight or obesity is diagnosed in hospital are 60% more likely to die compared to the general population, according to a nationwide Danish study that followed over 1.9 million people for up to 40 years, being presented at The European and International Congress on Obesity (ECOICO), held online this year from 1-4 September.

The risk of dying was highest within the first year of diagnosis, but remained markedly higher for individuals with hospital-diagnosed overweight or [obesity](#) over the whole study period.

Obesity is already known to be a strong risk factor for several [chronic diseases](#) such as type 2 diabetes, [high blood pressure](#), and [cardiovascular disease](#), that are linked to an increased [death](#) risk. However, [long-term studies](#) on mortality among people with hospital-diagnosed overweight and obesity are lacking.

In this study, researchers used [population](#)-based medical registries covering all Danish hospitals to identify all patients with a first hospital-based overweight or obesity diagnosis between 1979 and 2018. Each patient was matched with five individuals from the [general population](#) of the same age and sex to compare risk of death and [mortality rates](#).

Over the 40-year period, there were 68,506 deaths among 322,130 individuals diagnosed with overweight or obesity, and 253,897 deaths among 1.6 million people in the matched Danish population. After adjusting for known [risk factors](#) including sex, age, income, education, and common comorbidities such as diabetes, cancer, and stroke, overall patients with overweight or obesity had a 60% higher risk of dying from any cause than their counterparts in the general population.

In the first year after diagnosis with overweight or obesity, the death rate was six times higher than the general population (2.5% vs 0.4%). Specifically, people with overweight or obesity were more than twice as likely to die from endocrine diseases, and had nearly double the risk of dying from cardiovascular diseases and gastrointestinal diseases.

However, the overall risk of death decreased over time—falling from a 55% higher risk of death in 1977-1989 to a 27% greater risk in 2010-2018. Even so, people with overweight or obesity were still 31% more likely to die from cancer than the general population over the whole study period, and almost twice as likely to die from respiratory diseases.

"While our large cohort study suggests survival has improved in patients with overweight and obesity

over the last decade, they still face a considerably higher risk death than the general population, and much more needs to be done to prevent overweight and obesity", says Dr. Sigrid Gribsholt from Aarhus University Hospital, Denmark, who led the research.

She continues, "Cardiovascular diseases and infections are some of the major causes of mortality in our study, and the decrease in overweight- and obesity-associated mortality may be due to better prevention and treatment of these diseases. It's also possible that more awareness of overweight and obesity, and greater use of overweight and obesity diagnosis codes, in recent years may partially explain why mortality fell over time."

The authors acknowledge that the findings show observational associations, so no conclusions can be drawn about cause and effect. They point to several limitations, including that their mortality risk among patients with overweight may be less pronounced than in those with obesity. They also note that because the prevalence of obesity has increased in the general population over the study period, the estimates may be more conservative than might have been seen in a normal-weight population.

Provided by European Association for the Study of Obesity

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