

# The obesity paradox: People hospitalized for infections are twice as likely to survive if they are overweight or obese

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A study of more than 18,000 patients in Denmark, presented at this year's European Congress on Obesity in Vienna, Austria (23-26), shows that patients admitted to hospital for treatment for any infectious disease are around twice as likely to survive if they are overweight or obese. This research on the so called 'obesity paradox' is by Sigrid Gribsholt, Aarhus University Hospital Department of Clinical Epidemiology, Denmark, and colleagues.

The association between [body mass index](#) (BMI) and mortality remains controversial. From an evolutionary perspective, obesity and associated proinflammatory defences may protect against death from infections. In this new study, the authors examined the impact of body-mass index on outcome after any acute incident hospital admission for infection in a population based study.

The study team identified 35,406 persons with an incident acute medical or surgical inpatient admission for an infectious disease during 2011-2015 in the Central Denmark Region. They examined risk of death within 90 days after discharge date in association with underweight, overweight and obesity, versus [normal weight](#) as reference. They adjusted for potential confounding factors, and examined the influence of recent weight change, comorbidities, cancer, and tobacco smoking on the association between BMI and mortality.

Compared with [patients](#) of normal weight, the adjusted risk of death following infection was 2.2 times higher in patients with underweight. However, no mortality increase was observed among patients with stable underweight, i.e., no recent weight loss which could indicate other health problems. In contrast, patients with overweight were 40% less likely to die and those who were obese 50% less likely to die than those of normal weight.

Among patients with obesity, presence or absence of recent weight changes, comorbidities, cancer, or smoking had little effect on the association with decreased mortality.

The authors conclude: "Overweight and [obesity](#) were associated with substantially reduced 90 day mortality following incident hospital admission for infection. An association between underweight and increased mortality was confined to patients with recent weight loss, suggesting confounding by other hidden disease."

Provided by European Association for the Study of Obesity

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