

Patients with type-2 diabetes who are overweight but not obese outlive diabetics of normal weight, scientists reported on Monday, in another example of the "obesity paradox."

Although public health officials issue dire warnings about the consequences of overweight, and employers are pressuring workers to slim down via "wellness programs," the relationship between weight and longevity is paradoxical: Studies show that although obesity increases the risk of developing cardiovascular disease (CVD), overweight patients with CVD live longer than patients of normal weight.

Similarly, obesity increases the chances of developing type-2 diabetes. But it wasn't clear if overweight confers a survival advantage in diabetics.

Sixteen previous studies got conflicting answers: Some found overweight diabetics had lower mortality; others didn't. But many were hobbled by methodological problems including few patients, short follow-up, or using questionnaires rather than clinic records.

The new study tried to do better. Researchers led by Drs. Stephen Atkin and Pierluigi Costanzo of Britain's University of Hull followed 10,568 patients with type-2 diabetes for an average of nearly 11 years.

Although overweight and obese patients had an increased risk of heart attacks and strokes, they were more likely to stay alive than normal-weight diabetics, the researchers reported in *Annals of Internal Medicine*.

(Overweight is defined as a body mass index of 25 to 29.9, which would be 146 to 174 pounds for someone 5 feet 4 inches. Normal weight means a BMI of 18.5 to 24.9, or 108 to 145 pounds at that height.)

Underweight diabetics had the highest risk of dying during the study, with nearly three times the mortality of normal-weight patients. Overweight patients had the best survival, being 13 percent

less likely to die than normal-weight or obese diabetics.

That result was at odds with a 2014 study in the New England Journal of Medicine that found no survival advantage with extra pounds. That study, however, used the upper end of normal weight as the comparison. If it had used the full range of 18.5 to 24.9, Costanzo said, "it's likely" the results "would have been similar to ours."

One way extra pounds might keep diabetics alive longer is if overweight protects against frailty and osteoporosis, which can kill. Alternatively, diabetes in lean people might take an especially lethal form.

"It's likely those diabetic patients with normal weight have a more aggressive form of type-2 diabetes compared to those who are overweight and obese," Costanzo said.

(Reporting by Sharon Begley; Editing by Ted Botha)

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