Medical Xpress

Metabolically healthy obesity: Fact or fiction?

October 3 2023

Credit: Unsplash/CC0 Public Domain

A session at this year's Annual Meeting of the European Association for the Study of Diabetes will explore the latest data on the concept of metabolically healthy obesity (MHO)—more commonly known by the

public as "fat but fit." Professor Matthias Blüher, University of Leipzig, Leipzig and Helmholtz Center Munich, Germany will explain how we define MHO and ask if it can really be described as healthy.

"Some 15–20% of people living with obesity have none of the metabolic complications we associate with the condition, namely abnormal blood sugar control and blood fats, high blood pressure, type 2 diabetes and other signs of cardiovascular disease," explains Prof. Blüher.

Estimates suggest a different prevalence of MHO in men and women, with women living with obesity more likely to have MHO (7-28%) than men (2-19%). At the other end of the spectrum, around half of people living with obesity have at least two complications. For a given total body fat mass, people with MHO have lower liver fat mass (thann expected for the BMI and total fat mass).

Prof. Blüher will discuss that is how the adipose tissue behaves in people with obesity, rather than their body-mass index, that will determine whether or not their obesity is MHO. In people with adipocytes (fat-storing cells) that are of a normal size, those people are less likely to display the complications of obesity—whereas in people with enlarged adipocytes and inflamed adipose tissue, these cells are more likely to exhibit traits such as insulin resistance that lead to metabolic complications.

The way that we store fat is likely key in whether or not obesity can be described as MHO. "When people with obesity have fat stored viscerally, or internally around their organs (such as in the liver), the data show that these people are much more likely to develop type 2 diabetes than those who store fat more evenly around their body," says Prof. Blüher.

He goes on to explain that in people with adipose tissue dysfunction, this

can lead to damaged tissue, fibrosis, secretion of proinflammatory and adipogenic molecules that subsequently contribute to end-organ damage. As an example, adipokines (fat released hormones) may act directly on cells of the vascular system and lead to atherosclerosis. In addition, metabolites such as fatty acids may impair the function of liver or insulin-producing cells in the pancreas.

Finally, on the key question of whether or not MHO can genuinely be described as healthy, Prof. Blüher will explain that several studies show that compared with people of normal weight with no metabolic comorbidities, people living with obesity with no metabolic comorbidities have a 50% increased risk of coronary heart disease. "So there is still a residual increased risk for those people living with obesity, even with what we would call metabolically healthy obesity," he says.

In conclusion, there are people with obesity that do not exhibit cardio-metabolic complications at a certain point in time. In the past, the diagnosis of MHO frequently led to a low priority for obesity treatment. This concept has been challenged, because recent data suggest that the term metabolically healthy obesity is misleading.

Prof. Blüher concludes, "Even in the absence of other cardiometabolic risk factors, increased fat mass and adipose tissue dysfunction contribute to a higher risk of type 2 diabetes and cardiovascular diseases. Therefore, weight management and recommendations for weight loss are still important for people living with metabolically healthy obesity."

Provided by Diabetologia