# Can you be obese but still healthy? Apparently so - if you don't have other bad habits

* **More than half of obese workers were found to be 'metabolically healthy'**
* **This means they showed no changes to their metabolism linked indicating a raised risk of diseases such as type 2 diabetes, heart disease or stroke**
* **Fat but healthy people tended to be female and young, study found**
* **Unhealthy people tended to smoke, drink heavily and do no exercise**

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We're constantly warned that being obese is a path to an early grave.

Big bellies, wobbling thighs and bingo wings lead to years of suffering chronic disease and social stigma, we're told.

But a new study has found it is possible to be fat but 'metabolically healthy'.

This is where a person is overweight but shows no worrying changes in metabolism that might predict future diseases, such as type 2 diabetes, heart problems and stroke.

'Fat but healthy' people - who tend to be female and young - are less likely to suffer disease than those who are not obese but are considered metabolically unhealthy, researchers said.

Unsurprisingly, unhealthy people are more likely to smoke, drink heavily and do no exercise, they found.

Researchers looking at a group of workers found more than half of those who are obese had no alarming changes to their metabolism, and so can be considered healthy.

When tested, they did not have higher inflammation in their bodies, which can lead to heart attacks and stroke.

They also did not show changes in their insulin signalling - the normal process by which this hormone allows sugar in the blood to be taken into cells to be used as energy.

Disturbed insulin signalling can lead to sensitivity to the hormone, meaning it cannot carry out its function of taking sugar out of the blood, leading to high blood sugar levels.

Insulin sensitivity is known to be a precursor to type 2 diabetes.

The researchers, from Hospital del Mar, Cualtis and Eli Lilly, Spain, gathered data on 451,432 Spanish workers.

They wanted to find out how common it is to be 'fat and healthy' - and shed light on the differences between people in this group and those who are 'fat and unhealthy' and those that are not obese.

They found  people who are 'fat but healthy' are more likely to be women and tend to be younger.

They were more likely to exercise than their unhealthy peers, and were less likely to smoke or to be heavy drinkers.

Unsurprisingly, having a high BMI, being older, having high cholesterol, smoking, heavy drinking and failing to exercise were the factors most strongly linked with being unhealthy.

Men were also more likely to show signs of future disease than women.

People that are normal or underweight but unhealthy are more likely to lead sedentary lifestyles than those who are healthy.

They are also more likely to be older, male, blue collar workers, smokers and heavy drinkers.

The Ibermutuamur CArdisvascular RIsk Assessment (ICARIA) study included people enrolled in a health insurance scheme that covers eight per cent of the Spanish working population.

It includes workers from across all sectors and areas of Spain.

As part of the ICARIA study, the researchers gathered information on age, sex, occupation, tobacco and alcohol consumption, physical exercise and medical history.

They found 15.5 per cent of those in the study were obese.

The workers also underwent a physical examination that included weight, height, waist circumference and blood pressure recordings.

The researchers categorised them by their BMI - separating them into groups classified as underweight, normal weight, overweight or obese.

Then, they were labelled as being either manual (blue collar) or non-manual (white collar) workers.

They were also grouped by whether they currently smoke, or used to; their alcohol consumption; and how much exercise they do.

From this information, researchers calculated whether they were healthy using five criteria for metabolic syndrome -

These criteria were waist circumference, levels of fats known as triglyceride and cholesterol found in their blood, and their blood sugar level when they were fasting.

The workers were considered 'metabolically healthy' if they met two or less of the five criteria.

Of those that were overweight 87.1 per cent were found to be healthy.

Surprisingly, 55.1 per cent of those considered obese were also found to be healthy on this measure.

Out of underweight individuals, 99.5 per cent were healthy, while 97.8 per cent of normal weight individuals were also healthy.

The authors noted that results are influenced by which definition of metabolic health is used - and that more stringent tests led to obese people being considered unhealthy.

Fat but healthy people could be at a lower risk of developing type 2 diabetes, high blood pressure and heart disease than people of any weight considered unhealthy, they said.

However, they cautioned previous studies have found 'fat and healthy' people may still be at an increased risk of these conditions as they are simply not yet showing symptoms.

Targeting this group could stop healthy obese and overweight people from becoming unhealthy, the researchers said.

This might be particularly effective people who work, as opposed to the unemployed, as there tend to be more working people who are 'fat but healthy'.

Albert Goday, lead author of the study, said: 'Implementing health promotion programs in working people could stop them transitioning to metabolically unhealthy, risking high blood pressure, diabetes and cardiovascular disease.'

The study was published in the journal BMC Public Health.

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