

Overweight youths at greater risk for heart failure

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It comes down to starting healthy habits early. Fortunately, it's never too late to adopt a healthier lifestyle, and losing weight is great for reducing your risk of heart attack. But you can still be at a higher risk for other heart problems if you're late in changing your habits.

Excessive [weight](#) at a young age puts one at a far higher risk of heart failure as compared with maintaining a healthy weight throughout one's life. Even slight overweight increases risk by 45 per cent as compared with normal weight.

Researchers fear that the [obesity](#) epidemic will lead to more cases of heart failure even if younger people with obesity are able to adjust their weight later in life.

"If the current trend continues, 60 per cent of the world's population will have a BMI in the overweight or obese range by 2030," says Professor Imre Janszky of the Norwegian University of Science and Technology's (NTNU) Department of Public Health and General Practice.

Especially worrisome is the increasing incidence of obesity in children, he says.

"Since our study results suggest that obesity is a major risk factor for both heart attacks and heart failure, the obesity epidemic has considerable significance for the scope of these diseases," says Janszky.

Average BMI is most important

Between 1966 and 1969, residents in the county of Nord-Trøndelag, which is in mid-Norway, were weighed and measured in conjunction with a mass tuberculosis screening.

More than 26,000 of the same individuals also participated in both the second and third Nord-Trøndelag Health Studies (HUNT) in the mid-1980s and mid-1990s.

Whereas a person's most recently measured BMI value was the one most strongly associated with the risk of getting a [heart attack](#), the risk of heart failure, by contrast, corresponded more strongly with a person's average BMI over a period of 30 years.

The study, recently published in the *Journal of Internal Medicine*, revealed that a high BMI earlier in life increased the risk of heart failure even when researchers adjusted the analysis for the most recent BMI measurement.

"The findings indicate that persistent obesity affects the heart over time, and that BMI in early life is an important factor that can increase the risk of heart failure in middle age," says Janszky.

For heart attacks, however, the most recent BMI measurement was the most important factor, which may indicate that it is never too late to lose weight if you want to reduce your risk of acute myocardial infarction.

HUNT study statistics

By the end of 2008, 1851 of the 26,000 Norwegians in the HUNT Study had experienced a heart attack, and 946 had heart failure. Higher BMI was associated with an increased risk of both heart attack and heart

failure, and obesity was associated with a particularly high risk for heart failure.

The risk increased even after the researchers had adjusted the analyses for gender, age, smoking, alcohol consumption, education level, marital status and physical activity.

"When we then also adjusted for metabolic status, the relationship between BMI and heart attack was no longer significant, which indicates that the metabolic consequences of overweight and obesity appear to have the greatest impact for heart attacks," says Janszky.

In plain speak, this means that a high BMI is not the direct cause of a heart attack, but that overweight and obesity increase the risk of high blood pressure, high blood sugar and an unfavourable blood fat profile, which in turn increase the risk of heart attack.

These factors, however, could not explain the correlation between high BMI and heart failure, which may indicate that obesity itself weakens the heart.

Stable weight may be best

The researchers also examined how changes in body weight over time were associated with future [heart failure](#). Study results showed that weight loss and weight gain were both associated with increased risk.

Those who maintained a stable weight throughout all three measurement periods had a lower risk than those whose weight fluctuated.

"There was a particularly strong increase in risk for people whose mid-1980s BMI varied from their other two measurements. This may indicate that yo-yo dieting involves additional risks," says Janszky,

although he stresses that this interpretation is just based on a single BMI measurement between the first and last measurements.

More information: I. Janszky et al, Weight and weight change and risk of acute myocardial infarction and heart failure - the HUNT Study, *Journal of Internal Medicine* (2016). [DOI: 10.1111/joim.12494](https://doi.org/10.1111/joim.12494)

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