

Metabolically healthy women have same CVD risk regardless of BMI

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Metabolically healthy women have the same cardiovascular disease risk regardless of their BMI, according to research presented at the ESC Congress today by Dr Søren Skøtt Andersen and Dr Michelle Schmiegelow from Denmark. The findings in more than 260,000 subjects suggest that obese women have a window of opportunity to lose weight and avoid developing a metabolic disorder, which would increase their CVD risk.

Dr Schmiegelow said: "Obesity and/or [metabolic disorders](#) (hypertensive disorders [hypertension, gestational hypertension or pre-eclampsia], disorders in glucose-metabolism [diabetes, [gestational diabetes](#)] and elevated [cholesterol levels](#) [dyslipidemia]) are well known [cardiovascular risk factors](#). Studies in middle aged men have found that obese and normal weight men have the same cardiovascular risk if they are metabolically healthy. Our study aimed to find out if the same was true for young [fertile women](#)."

The study used Danish national health databases and followed 261,489 women who had given birth during 2004-2009 with no prior history of cardiovascular disease. The women were divided into four categories according to their pre-pregnancy [body mass index](#) (BMI, kg/m²) and presence of metabolic disorders (present/not present) (see figure). The women's mean age was 31 years.

The women were followed for an average of 5 years following childbirth. Discharge diagnoses and data on cause of death were used to determine if the women had a heart attack, a stroke, or died. Metabolic disorders were defined using claimed [prescription data](#) related to hypertension, diabetes and dyslipidemia; thus, only disorders being treated were taken into account. The pregnancy-associated metabolic disorders were defined using diagnosis codes.

The researchers found that being overweight

(BMI \geq 25 kg/m²) but metabolically healthy was not associated with an increased risk of a heart attack, stroke or a combination of heart attack/stroke/death in comparison with normal weight, metabolically healthy women. Dr Schmiegelow said: "Being overweight but free of metabolic disorders does not seem to be associated with an increased risk in young women in the short term. However, development of metabolic disorders, for which obesity is a major determinant, is associated with a marked increase in cardiovascular risk, especially in overweight women even in the short term."

The investigators found that the metabolically unhealthy, overweight women had an almost 7-fold increased risk of heart attack and a 4-fold increased risk of stroke. Dr Schmiegelow said: "It is important to note that the absolute risks were still low in this young population, but the key message from this study is that the consequences of obesity become apparent even in a young, low-risk population within a relatively short period of follow-up."

She added: "Our results clearly show that being overweight but metabolically healthy is not associated with an excess cardiovascular risk in comparison with normal weight healthy women. However being normal weight or overweight with metabolic disorders is associated with a marked increase in risk that is present in a young female population with a mean age of only 31 years and within a short span of follow up."

Dr Schmiegelow concluded: "Our results indicate that obesity might not be all bad if the overweight woman has not developed any hypertensive disorders, disorders in glucose-metabolism or elevated cholesterol levels. But because obesity markedly increases the risk of developing these metabolic disorders, these [women](#) most likely have a window of opportunity to lose weight and change their prognosis."

Provided by European Society of Cardiology

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