

# Being underweight increases death risk of CAD women by two-fold

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Being underweight increases the death risk of women with coronary artery disease (CAD) by 2-fold, according to research presented at the ESC Congress today by Dr Aziza Azimi from Denmark. The study suggests that underweight women with CAD should gain weight to reduce their risk of death.

Dr Azimi said: "The increasing prevalence of obesity is concerning because it is a major risk factor for cardiovascular disease, early death and other diseases like [diabetes mellitus type 2](#), high blood pressure, and high cholesterol. To our knowledge until now the impact of weight change on risk of death in women with CAD has not been studied."

The aim of the current study was to examine the effect of weight change over time on survival in women with CAD and different body weight classes. The study included 1,685 women (average age 64 years) diagnosed with CAD based on [coronary angiography](#) during 2005-2011. Body weight was obtained from anaesthesiology and coronary angiography records. Patients were followed for 6 years.

Weight change was stratified into 3 groups: no change (gain or loss of 2 kg/year) and weight gain (gain of >2 kg/year). The women were also divided into four weight classes by [body mass index](#) (BMI, kg/m<sup>2</sup>): underweight (BMI<18.5 kg/m<sup>2</sup>).

Hazard ratios (HRs) for risk of death were calculated using the normal weight group as reference. The researchers adjusted for age, smoking,

diabetes, previous heart surgery, previous [percutaneous coronary intervention](#), use of statins and [antihypertensive drugs](#), and degree of CAD.

The researchers found that maintaining weight lowered the risk of death in obese women with CAD (HR=0.36,  $p=0.06$ ). Weight gain and weight loss did not appear to affect their risk of CAD death compared to the normal weight group.

Dr Azimi said: "Weight maintenance decreased the risk of death in obese women with CAD. Obese women are more likely to be treated early with statins, antihypertensive or [diabetes drugs](#), and this may reduce their risk. Weight management should be individual due to their medical condition."

In contrast, underweight women who maintained their weight significantly increased their risk of death by 2-fold (HR=2.15,  $p=0.03$ ). In this group, losing weight appeared to further increase their risk by 2-fold (although the findings were not significant).

Dr Azimi said: "Weight maintenance or weight loss seems to increase the risk of death in underweight women with CAD. Our findings suggest that these women should gain weight in order to reduce their risk of death."

She concluded: "These data appear to be against the common sense that obesity is a risk factor for cardiovascular mortality as underweight has been even more strongly related to worse clinical outcome than overweight. Future investigations will be necessary to prove this new concept."

Provided by European Society of Cardiology

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