

Heart failure and the obesity paradox

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While obesity significantly increases your chances of developing heart failure, for those with established heart failure it may confer a survival benefit compared with normal weight or underweight individuals, a new paper by researchers from the University of Adelaide reports.

Importantly, using data from 375,056 patients from nine studies, researchers found that the lowest mortality risk for those with established [heart](#) failure (HF) was in overweight individuals rather than severely obese.

There is limited information on the impact of [weight](#) loss on [obese patients](#) with HF. However, the study confirmed that intentional weight loss in non-HF patients with [obesity](#) was associated with improved heart health.

Lead author Dr. Michael Stokes, a heart failure physician at the Royal Adelaide Hospital and Ph.D. candidate at the University of Adelaide, said the protective benefit of obesity in established HF was an example of the "obesity paradox."

"The obesity paradox is the observation, generally from large clinical registries or trials, that the presence of obesity confers a survival benefit over normal or underweight individuals," he said.

"There are a number of possible explanations for obesity paradox in HF including whether obese patients are diagnosed earlier in their disease course due to greater functional impairment, and also whether obese patients tolerate disease-modifying and prognostic medications compared with non-obese patients.

"In this meta-analysis, the data found a 'U-shaped' survival curve with the lowest mortality in overweight patients and a reduced mortality in the obese when compared with normal or underweight HF patients.

"HF burden is significantly increasing in Australia—there are about 14 new admissions in South Australia every day—and internationally and is associated with huge healthcare costs, significant hospital stays and significant functional impairment for patients. The readmission rates for

HF patients are commonly 25-30% at one month following hospital admission; additionally, the survival for HF is worse than many common cancers.

"Obesity is a significant contributor to the HF burden and nearly 30% of Australians are obese and it is estimated that by 2031-2032, 41% of the Australian population will be obese. Our study supports previous work which has demonstrated that obesity significantly increases the risk of HF development.

"This meta-analysis adds to the body of evidence supporting the clear link between obesity and HF, the effect of weight on prognosis of HF and the impact of weight loss on cardiac remodeling. We are now conducting a randomized controlled study assessing the impact of intentional weight loss (achieved through dietary intervention and prescribed exercise), in a HF population of obese patients. This will hopefully address the important clinical question of whether intentional weight loss is beneficial in this growing group of patients."

"Complex interaction of obesity, intentional weight loss and [heart failure](#) : a [systematic review](#) and meta-analysis" is published in *Heart*.

More information: Rajiv Mahajan et al. Complex interaction of obesity, intentional weight loss and heart failure: a systematic review and meta-analysis, *Heart* (2019). [DOI: 10.1136/heartjnl-2019-314770](https://doi.org/10.1136/heartjnl-2019-314770)

Provided by University of Adelaide

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