

A review of low sodium diet in heart failure and its effects on cardiovascular events

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Background: Heart failure's (HF) global prevalence is 64 million people around the world. HF's pathophysiology can result in fluid overload, since cardiac output is reduced, and renal perfusion decreases. Which can further worsen disease progression. Thus, to prevent the worsening of congestion, current guidelines recommend no more than two grams of sodium per day. However, a prior review, concluded more evidence was required, to form a conclusion on the effectiveness of low sodium diets on cardiac outcomes. The aim of this review is to explore the evidence since 2016, to see if current data can help to update guidelines of current practice.

Methods: The following databases were systematically screened; MEDLINE, EMBASE, Cochrane, CINAHL and ClinicalTrials.gov and screened in two phases using eligibility criteria. Included studies were critically appraised, and data extracted based on primary outcomes, cardiovascular related hospitalisations and secondary outcomes, namely cardiac death and all-cause mortality.

Results: Following our search, 2811 articles were identified, after full-text screening, seven trials were included. Moderate amount of bias was identified mainly in blinding and value of results domains. Only one study showed lower rate of hospitalisations in the low sodium group compared to control, compared to two studies preferring the control group. Cardiac death data was limited, instead data on rates of all-causes mortality between the two groups were similar for all studies.

Conclusion: This review shows low sodium diets do not improve cardiac outcomes in heart failure. A Dietary Approaches to Stop Hypertension (DASH) diet with sodium restriction, adhered well for longer periods did reduce hospitalisations. This review does not provide evidence for sodium restriction guidelines and heart failure patients need to be individually assessed if sodium restriction is suitable.

