Exercise associated with longer life in patients with heart failure

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Exercise is associated with a longer life in patients with heart failure, according to research presented today in a late breaking trial session at Heart Failure 2016 and the 3rd World Congress on Acute Heart Failure. The analysis in more than 4000 patients showed a mortality benefit from exercise regardless of heart failure severity, age and gender.

"Patients with heart failure should not be scared of exercise damaging them or killing them," said principal investigator Professor Rod Taylor, chair of health services research and director of the Exeter Clinical Trials Unit at the University of Exeter Medical School in Exeter, UK. "The message for heart failure patients is clear. Exercise is good for you, it will make you feel better, and it could potentially make you live longer."

Professor Taylor and colleagues previously conducted a meta-analysis of randomised trials which showed that heart failure patients who exercised were admitted to hospital less often and had a better quality of life.2 The effects on all-cause mortality were unclear because of differences between trials in the length of follow up.

Exercise Training Meta-Analysis of Trials in Heart Failure (ExTraMATCH II) is an international collaboration of researchers that has performed an individual patient data meta-analysis of trials randomising heart failure patients to exercise or standard therapy. While a traditional meta-analysis pools trial level data to investigate a question, this method analyses the data at patient level and therefore has stronger

statistical power. It allowed the investigators to assess whether exercise had an impact on all-cause mortality and hospitalisations in heart failure patients, and see if the effect was different in particular subgroups.

To conduct the study, the investigators identified 23 randomised trials of exercise that included at least 50 heart failure patients who were followed up for six months or longer. After asking the authors of all 23 studies for individual patient data, they received the information from 20 trials.

The 20 trials included 4043 patients with heart failure. The investigators used the individual patient data to assess the impact of exercise on the time to all-cause mortality and first hospitalisation. They also examined the potential influence of patient characteristics including age, gender, heart failure severity (defined by New York Heart Association class), ischaemic aetiology, baseline left ventricular ejection fraction, and peak oxygen uptake.

The investigators found that exercise was associated with an 18% lower risk of all-cause mortality and an 11% reduced risk of hospitalisation compared with no exercise. Professor Taylor said: "This analysis did in fact show that there is a mortality benefit from doing exercise. In other words, patients who exercised had a lower risk of death than those who didn't."

The effect of exercise on mortality and hospitalisations did not differ according to any of the patient characteristics that were analysed. "There was no evidence that some heart failure patients gain more from exercise than others," said Professor Taylor. "The benefits of exercise are consistent regardless of the severity of heart failure, gender, age, and the other factors we looked at."

He added: "Personalising interventions and targeting resources is a hot

topic in healthcare. Our research shows that all patients with heart failure should be encouraged to exercise. Policymakers and clinicians should therefore not deny any heart failure patient the chance to participate in exercise rehabilitation on the basis that it will not work for them."

Exercise may benefit patients with heart disease, including heart failure, in a number of ways. It improves physical fitness, which is an even stronger predictor of survival than blood pressure or smoking. Exercise improves the oxygen supply to the heart and reduces the likelihood of the abnormal rhythms that can cause sudden death. Physical activity also improves circulation in the peripheral vasculature, such as in the leg muscles, which may reduce the workload of the heart and improve patients' ability to function.

Professor Taylor concluded: "If heart failure patients are active we can be pretty sure that they will live longer. The simple advice would not be to take up marathon running. This is about increasing one's routine physical activity - for example walking for 20 to 30 minutes three times at week at an intensity that makes you feel a little bit breathless but not necessarily symptomatic. Discuss it with your cardiologist or GP with the belief that it's going to benefit you."

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