High-intensity exercise may restore heart function in people with type 2 diabetes

May 23 2019

Credit: CC0 Public Domain

University of Otago researchers have discovered that high-intensity exercise can reduce or reverse the loss in heart function caused by type 2 diabetes.

The study found that three months of high-intensity interval training (HIIT) improved heart function in adults with type 2 diabetes, without any change in medications or diet.

Former Ph.D. student Genevieve Wilson carried out the study under the supervision of senior research fellow at the Dunedin School of Medicine, Dr. Chris Baldi, with cardiologist and Department of Medicine Associate Professor Gerry Wilkins as her co-adviser. It has just been published in the American College of Sports Medicine's journal, *Medicine & Science in Sports & Exercise*.

Ms Wilson explains the study is significant because while research to date has shown that improved glycemic control and lifestyle changes can improve some outcomes for people with diabetes, reductions in cardiovascular disease have not been realized and cardiovascular disease remains the leading casue of death in these patients.

"Our research has found that exercise at sufficiently high intensity may provide an inexpensive, practical way to reverse, or reduce the loss in heart function caused by type 2 diabetes," Ms Wilson says.

High-intensity interval training involves short intervals of near maximal effort (>90 percent maximum) exercise like sprinting or stair climbing, separated by intervals of moderate intensity exercise, like jogging, or fast walking.

The goal was for people to spend 10 minutes doing very high intensity (vigorous) activity during a 25 minute exercise period.

Dr. Baldi says the incidence of type 2 diabetes continues to increase and the prolonged management of the disease is crippling healthcare systems worldwide. Increasing aerobic capacity through exercise is arguably the best prevention for heart disease and exercise is a cornerstone of diabetic

treatment. However, impaired function of the diabetic heart often makes it harder for people with diabetes to exercise effectively and it was not known whether they would train this hard.

But the study showed that the high-intensity exercise programme for middle-aged adults with type 2 diabetes was safe and acceptable and also well-attended, with a greater than 80 percent adherence rate over the three months.

"There are two important clinical implications of this work," Dr. Baldi explains. "The first, that adults with type 2 diabetes will adhere to high-intensity interval training and are capable of comparable increases in aerobic capacity and left ventricular exercise response as those reported in non-diabetic adults.

"Secondly, high intensity exercise is capable of reversing some of the changes in heart function that seem to precede diabetic heart disease."

Provided by University of Otago

Citation: High-intensity exercise may restore heart function in people with type 2 diabetes (2019, May 23) retrieved 10 April 2024 from https://medicalxpress.com/news/2019-05-high-intensity-heart-function-people-diabetes.html