

Exercises for Diabetic Patients with Hypertension: Rehabilitation of Twin Non-Communicable Disorder

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Abstract

This letter to editor aimed to question the role of exercises in treatment of people with co-morbid diabetes and hypertension as a twin non-communicable disorder through an overview of studies from PubMed. Limited and insufficient evidence existed for the efficacy of exercises, with two systematic reviews finding supervised structured exercises to produce beneficial effects on blood pressure and serum cholesterol.

Keywords: Diabetic Hypertension; Hypertensive Diabetes; Non-Communicable Disorders; Exercise Rehabilitation.

This letter to editor aimed to question the role of exercises in treatment of people with co-morbid diabetes and hypertension as a twin non-communicable disorder through an overview of studies from PubMed.

The mechanisms of exercise in patients with type-2 diabetes and hypertension include improvements in endothelial vasodilator function, left ventricular diastolic function, arterial stiffness. Systemic inflammation and reducing left ventricular mass total and abdominal fat which in turn mediate improvement in insulin sensitivity and endothelial function [1].

Hayashino et al [2] performed a systematic review of 42 RCTs on 2808 patients that assessed the effect of supervised exercise interventions on lipid profiles and blood pressure control. Structured exercise produced significant reductions in systolic blood pressure (SBP), diastolic blood pressure (DBP), high-density lipoprotein cholesterol (HDL-C), and low-density lipoprotein cholesterol (LDL-C).

Stewart [3] did a systematic review to evaluate the effects of exercise on the cardiovascular consequences of diabetes and hypertension and provided following conclusions; "Evidence for an exercise training

benefit is strongest for improvements in endothelial vasodilator function and left ventricular diastolic function. Exercise training also reduces total and abdominal fat which mediate improvements in insulin sensitivity and blood pressure thereby improving endothelial vasodilator function".

Limited and insufficient evidence existed for the efficacy of exercises, with two systematic reviews finding supervised structured exercises to produce beneficial effects on blood pressure and serum cholesterol.

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