高齡糖尿病患者運動處方：臨床應用方法

Exercise prescription for elderly diabetes patients: A clinical approach

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Abstract

Type 2 diabetes mellitus is highly prevalent among the elderly. Age-associated changes in body composition, obesity and sedentary behavior are some of the main factors responsible for the increased prevalence of diabetes in this population. Diabetes in the elderly has distinct metabolic aspects. There is a decreased production of glucose in the liver during fasting, increasing the risk of hypoglycemia among elderly with diabetes. Elderly patients frequently have higher levels of inflammation and multiple comorbidities, and use a number of medications that may affect glucose metabolism. Diabetic elderly patients have higher rates of lower limb amputations, myocardial infarction, visual impairment and end-stage renal failure than patients of any other age group. Epidemiological studies demonstrated that regular physical activity reduced type 2 DM in a dose response manner. Clinical trials and experiments revealed that exercise exerts pleiotropic effects of anti-hyperglycemia, anti-dyslipidemia, anti-oxidative stress, and anti-inflammation against type 2 DM. Mounting scientific evidences confirmed that both aerobic exercise training (AT) and resistance training (RT) or combination of AT and RT all effectively improve HbA1c, insulin sensitivity and other health benefits in type 2 DM patients. Recent evidences also highlighted the potential for low-volume, high-intensity interval training (HIIT) to be safely implemented as a time-efficient exercise option for reducing blood glucose levels and other beneficial effects in individuals with type 2 DM. Physical exercise has been also shown to be as effective for the treatment of diabetes in the elderly as in younger patients, so that its practice must be strongly encouraged. The prescription of exercises tailored for elderly patient's preferences and limitations is highly effective not only for glycemic control, but also for improving independence, self-esteem and quality of life. This presentation will present the effects of AT, RT, combination of AT & RT and HIIT on HbA1c and other health benefits in type 2 DM patients, and especially present the latest clinical exercise modality, intensity, duration, frequency and special care recommendations for prescribing exercise for elderly patients.