第二型糖尿病患者於運動前與運動期間之飲食攝取量
Dietary Intake in Patients with Type 2 Diabetes Mellitus Before and During Exercise

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摘要

本研究探討第二型糖尿病患者於運動前與運動期間之飲食攝取量。以立意取樣法篩選共十六位年齡 36 至 69 歲第二型糖尿病患者(十二位男性和四位女性)同意成為受試者，以不同速度與坡度的跑步機運動，估算最大耗氧量(estimated VO2 max)後，分別接受六次不同類型之跑步機運動，分別為 40%最大耗氧量 40 分鐘、60%最大耗氧量 40 分鐘、80%最大耗氧量 10 分鐘、80%最大耗氧量 20 分鐘、80%最大耗氧量 30 分鐘，及 80%最大耗氧量 40 分鐘。記錄受試者於每一類型運動前一天與當天之二十四小時飲食攝取，並以食品成分分析軟體分析飲食攝取量。結果顯示於運動前一天之熱量平均攝取量為 2064 大卡，其中蛋白質、脂質及醣類攝取量分別為總熱量之 16.4%、36.4%及 47.2%，於運動當天之熱量平均攝取量為 2077 大卡，其中蛋白質、脂質及醣類攝取量分別為總熱量之 15.8%、38.4%。第二型糖尿病患者之熱量和巨量營養素攝取量於運動前一天與當天並無差異。然而，纖維攝取量於運動當天顯著降低。攝取低脂(<30%總熱量)或高醣(?55% 總熱量) 飲食之受試者於運動當天顯著增加脂質和降低醣類攝取量。因此，建議攝取低脂或高醣飲食之第二型糖尿病患者於運動當天應注意脂質與纖維之攝取量。

Abstract

This study explored dietary intake in type 2 diabetes mellitus (DM) patients the day before and the day of exercise. Sixteen type 2 DM patients (12 males and 4 females), 36 to 69 years old, were recruited by purposive sampling. The estimated VO2max was determined alter subjects were tested using different speeds and grades of treadmill exercise. Subjects were then scheduled for six different treadmill sessions with an intensity at 40% or 60% estimated VO2max for 40 min, and with an intensity at 80% estimated VO2 max for 10, 20, 30, or 40 min. Subjects were requested to record 24-h dietary intake the day before and the day of each exercise session. Dietary intake was analyzed by food composition software. Results showed that the average intake was 2064 kcal/ day of which protein, fat, and carbohydrate comprised 16.4 %, 36.4 %, and 47.2 % of total energy, respectively, the day before exercise compared with 2077 kcal/day comprised of 15.8% protein, 38.4% fat, and 45.8% carbohydrate on the day of exercise. Energy and macronutrient intakes did not differ between the day before and the day of exercise in type 2 DM patients. However, fiber intake on the day of exercise significantly decreased. Subjects with a low-fat (< 30% of total energy) or high-carbohydrate (?55% of total energy) diet significantly increased fat intake and decreased carbohydrate intake, respectively,

on the day of exercise. Therefore, it is suggested that fat and fiber intake should closely monitored in type 2 DM patients with a low-fat or high-carbohydrate diets who are exercising.