

Effect of Exercise on BMI and Biochemical Profile of Selected Obese Diabetic Women

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Abstract

The present study was undertaken to investigate the effect of modified diet and exercise among the selected 100 obese type 2 diabetic women in the age group of 25-45 years having fasting blood sugar levels above 150mg/dl, post prandial blood sugar level above 250mg/dl and with elevated blood lipid values. Out of the hundred subjects, 40 were taken as control group (Group I) and the remaining 60 were divided into 3 groups of 20 each as experimental group II, III and IV respectively. All the subjects were advised to take the diet with modified calories as per their Ideal Body Weight but group II, III and IV were advised with different exercise pattern like walking (30 minutes), treadmill (30 minutes) and walking and treadmill (15 minutes each) respectively along with modified diet. Results revealed that, among the three types of exercises, treadmill exercise shows significant reduction in body mass index (BMI), fasting blood sugar, post prandial blood sugar, total cholesterol, triglyceride, low density lipoprotein (LDL) and body fat and significant increase in high density lipoprotein (HDL) level.

Key Words: Walking, Treadmill, BMI, Blood Sugar, Lipid Profile

Introduction

Diabetes is one of the oldest diseases documented in medical literature before over 2000 years (*The Hindu, 2000*). World over in 2003, there were 180 million diabetics and the estimated prevalence of diabetes by the beginning of the new millennium in the year 2025, will be 500 million globally and India may have the maximum number of diabetics (57.2 million) in the world (*The Hindu, 2004*).

Diabetes mellitus is a chronic disorder of glucose metabolism resulting from dysfunction of pancreatic beta cells and insulin resistance. It is still a series health problem all over the world (*Day, 2000*). Physical inactivity leading to increase in obesity is considered to be an important reason for the development of diabetes in various populations. The prevalence of

obesity has increased considerably in many countries in recent decades and is affecting both sexes (*Boker et al., 2005*).

Even though millions of people all over the world are affected with diabetes, not all are well informed about the nature of the disease (*Raghuram and Swaransharma, 2003*). Lower education has been reported to be associated with higher obesity rates. *Boker (2005)* reported that age, education and origin were important risk factors for obesity in women. In general, due to lack of dietary control and energy expenditure by adequate exercise, the obese women with diabetes mellitus experience disturbed blood glucose level; lipid profile and body fat and thus aggravate the problems associated with diabetes.

According to *Bauman (2004)*, the physical activity confers a positive benefit