**ID: 1520**

**Congress: The First International & 4th National Congress on health Education & Promotion, 2011**

**Title:** The Effect of 8-Week Aerobic Exercise on body composition, Blood Glucose and Cardio-Vascular Risk Factors in women with type 2 diabetes

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**Abstract:** Background: Physical exercise can be therapeutic in patients with type 2 diabetes that the resistance to insulin increases due to the accumulation of too much fat. Aerobic Exercise holds promise for reducing risk factors for type 2 diabetes by promoting weight loss, improving glucose levels and insulin sensitivity, reducing blood pressure and lipid levels.

The aim of this study was to determine the effect of 8-week aerobic exercise on blood glucose and cardio-vascular risk factors in patients with type 2 diabetes.

**Method:** Thirty five diabetic women (age:38-48) were divided in to exercise (aerobic) (n=18) and no-exercise (control) (n=17) groups. The aerobic group exercised 8 weeks; three times per week, 40-60 min each session, with training progressing gradually in length and intensity. Heart rate monitors (Polar Electro;Finland) were used to adjust workloads to achieve target heart rate. Participants progressed from 40min per session at 60% of maximum heart rate to 60min per session at 75% of measured maximum heart rate.

**Results:** Results indicated significant difference in fat percentage, WHR1 , and fasting blood glucose in exercise group compared with control group. HDL and LDL levels did not change between two groups. Total cholesterol level decreased by %8.1 in aerobic group. Triglycerides level decreased by 22.2 percent in exercise group. This value was 4.9% in control group.

**Conclusion:** It is well documented that exercise training induces increased expression of the GLUT4 isoform of the glucose transporter in muscle. Increase in GLUT4 results in a proportional increase in the number of GLUT4 glucose transporters that are translocated to the cell surface in response to a given insulin stimulus. This appears to be the mechanism by which exercise results in an increase in insulin responsiveness. Aerobic exercise can improve blood glucose in patients with type II diabetes, therefore; it should be considered seriously as part of the treatment protocol of these patients.

**Aerobic Exercise, Fat Percentage, Blood Glucose, Lipid Profile**

**Presentation:** Oral