Nawal Hamad, Madridge J Food Technol. 2017
http://dx.doi.org/10.18689/2577-4182.a1.006

madridge CONFERENCES

International Conference on
Obesity and Weight Loss

November 6-8, 2017 Barcelona, Spain

The Effects of a Combined Exercise Programme Aerobic and Resistance or Resistance Alone or Aerobic Alone on Blood Glucose, in Cretin, Metabolic and Inflammatory Mediator that could Control the Diabetes and Increase Insulin Sensitivity in Type 2 Diabetes

Nawal Hamad
De Montfort university, UK

An excessive number of calories consumed daily, in addition to a sedentary lifestyle, are the main causes of increasing type 2 diabetes (T2D) prevalence worldwide (LEE, H.K. et al., 2010). Diabetes usually accompanied by hypertension, lipid disorders and obesity. Recent studies show that the reduction in HbA1c cause 35% relative risk reduction for fatal/nonfatal cardiovascular disease. Also 56% reduction in CVD when this reduction of HbA1c accompanied with systolic blood pressure (SBP) decrease. Moreover, 75% reduction in CVD if reduction of HbA1c and SBP accompanied with decrease in non-HDL level (Eeg-Olofsson et al., 2016).

The aim of this study to prove that combination exercise is better than aerobic or resistance alone. It is going to compare T2D and ND who are doing combination exercise with same study groups who are doing either aerobic or resistance training. Moreover, it is going to compare the intervention group with control group of both T2D and ND who are following sedentary life style. All these comparisons to show if the changes in primary and secondary outcome are significant between the different groups. This study is also looking for the changes in incretin level in all groups to see if there is any effect of exercise on the secretion of this hormone and compare it to T2D who are using different medication for diabetes. T2D is considered as a serious disease, which needs immediate intervention. This intervention depends on the severity of the case. It could be either diet and exercise or pharmacological intervention by using anti-diabetic medication or insulin to control blood glucose levels within normal levels. It is necessary to check routinely to discover T2D at an early stage because identification and early treatment can prevent further complications in pre-diabetes or metabolic disorder. Diet and exercise can potentially prevent the development of T2D of many of those at risk or in early stages (Diabetes UK, 2016).

Research questions:
Are there demonstrable health differences after the six weeks exercise intervention?
Does exercise change glucose and lipid derangements?
Does exercise affect the inflammatory nature of T2D?
Are the metabolic and inflammatory profiles related?
Do the improvements correlate with medication type?
Do the improvement affect in cretin involvement?

Conclusion: In T2D and ND combination exercise has significant effect on HbA1c, and the anthropometric variables (weight, waist, BMI and lung capacity). Previous studies and researchers had evaluated the effects that aerobic training and resistance training had on the glycaemic control in term of HbA1c in patients suffering from T2D (Sigal et al., 2007); (Yavari et al., 2012). This study shows reduction in BG after aerobic exercise more than after resistance, which illustrate that, performing resistance exercise before aerobic exercise improved glycaemic control during exercise (Yardley et al., 2013). OGTT shows a very significant improvement of BG level in both groups, that was higher in T2D. This suggests that combination exercise is valuable in improving insulin sensitivity in T2D. It was concluded that the combination exercise was the best exercise for improvements to insulin resistance (Davidson et al., 2009).

Biography:

Nawal Hamad completed her MSC. Degree (Clinical Pharmacy International Practice and Policy) and currently she works as a Clinical Pharmacist, Prince Sultan Military Medical City, (PSMMC). Lecturer at King Saud University as part time for Clinical Ocular Pharmacology.