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EFFECT OF AEROBIC AND FLEXIBILITY EXERCISES ON LOW DENSITY LIPOPROTEIN AMONG TYPE II DIABETICS

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Abstract:

The purpose of this study was to find out the effect of aerobic and flexibility exercise on Low Density Lipoprotein among type II diabetics. For this study, altogether thirty Diabetic patients were chosen on random basis from St. Antony Multi Specialty Hospital, Madurai district, Tamilnadu. Their age group ranges from thirty five to forty five. The thirty diabetes divided into two groups of fifteen. The experimental group had gone throw aerobic and flexibility exercise, the control group (n = 15 CP group) did not gone throw any specific training. Pre-test and post-tests were conducted. Treatment have given for twelve weeks and finally the effects of aerobic and flexibility exercise on the diabetic patients explored Analysis of 't' ratio will be used in this study. The level of significance is 0.05 level of confidence which will be considered to be the appropriate one for this study. The result was significant improvement in the experimental group. The experimental group better than the control group in Low Density Lipoprotein.

Keywords: *Aerobic, Flexibility and Low Density Lipoprotein.*

INTRODUCTION:

Diabetes mellitus is a metabolic disorder and is often called as diabetes. There is an increased level blood sugar levels which is referred as hyperglycemia and usually caused by hereditary and environmental factors. The high level of sugar may be due problem in either in insulin secretion or resistance to insulin action. Insulin is secreted in the beta cells of pancreas and which controls the

levels of blood glucose in the body (Rocher, 2007).

AEROBIC EXERCISE:

Aerobic exercise can help to live longer and healthier irrespective of age. The movement of muscles of various parts of the body preparty for long time. It leads to breath faster and quicker maximize the amount of oxygen in blood. The heart contract and relaxes faster whereby there is an increase in blood flow to the muscle and back to the lungs the capillaries are widened to deliver more oxygen and nutrients and carry away waste products. It helps to lose weight, reduce the risk of many conditions like fat heart attack, high blood pressure, diabetes etc.,

Flexibility makes the body more supple and makes the aerobic training easier and allowing deeper movements. It increases the range of motion, balance. Activities such as yoga combine stretching and relaxation improves body's ability. Experts no longer recommend stretching before exercise. It is recommended to start the workout routine with a warm up. Followed by aerobic exercise and flexibility exercise as a post work out cool down.

Hence Aerobic with flexibility exercise was considered as Independent variables.

DYSLIPIDEMIA:

A disorder in lipoprotein metabolism is called as dyslipidemia. It may be due over production or under production of lipoprotein. It is manifested total cholesterol, and low density lipoprotein commonly called as bad cholesterol and the triglyceride concentrations, and a decrease in high-density lipoprotein (HDL) commonly referred as good cholesterol in the blood.

A systematic exercises program brings out biochemical changes and results in the increase of high density lipoprotein, decrease in low density lipoprotein, total cholesterol and tri glycerides and ultimately change in the body composition. (Fox and Mathews, 1981).

METHODOLOGY:

The purpose of this study was to find out the effect of aerobic and flexibility exercise on LDL among type II diabetics. For this study, altogether thirty Diabetic patients were chosen on random basis from St. Antony Multi Specialty Hospital, Madurai district, Tamilnadu. Their age group ranges from thirty-five to forty five. The thirty-diabetes divided into two groups of fifteen. The experimental group had gone throw aerobic and flexibility exercise, the control group (n = 15 CP group) did not gone throw any specific training. Pre-test and post-tests were conducted. Treatment have given for twelve weeks and finally the effects of aerobic and flexibility exercise on the diabetic patients explored. Analysis of 't' ratio will be used in this study. The level of significance is 0.05 level of confidence which will be considered to be the appropriate one for this study.

Computation of 't' Ratio between the Pre and Post Means Values for Experimental Group Control Groups on Hypertension among Type II Diabetics

Variables	Group	Test	Mean	Sd	df	't' Ratio
Low density Lipoprotein	Control Group	Pre test	110.60	17.75	14	0.43
		Post test	108.00	20.75		
	Experimental Group	Pre test	104.46	18.40	14	**3.59***
		Post test	92.40	19.08		

DISCUSSION ON FINDINGS:

The investigator had a through and vision that aerobic and flexibility exercise on low density lipoprotein among type II diabetics which in turn would help them to type II diabetes patients better. The investigator selected exercises that are aerobic and flexibility exercise for type II diabetes patients.

The statistical values presented in Table proved that there was a significant improvement in selected low density lipoprotein among type II diabetes patients due to aerobic and flexibility exercises. Obtained 't' value of low density lipoprotein is 3.59 which is greater than the required 't' value to be significant. For the degrees of freedom 2.15 at 0.05 level of confidence.

Thus, the hypothesis of this study that there would be significant improvement due to aerobic and flexibility exercise on low density lipoprotein among type II diabetics was accepted at 0.05 level of confidence.

CONCLUSIONS:

Based on the results of the present study the following conclusions.

1. The results of the study showed that there were significant improvements in low density lipoprotein variables after six weeks aerobic and flexibility exercises among type II diabetics.

REFERENCES:

1. Ramamoorthi R, Gahreman D, Skinner T, Moss S. The effect of yoga practice on glycemic control and other health parameters in the prediabetic state: A systematic review and meta-analysis. PLoS One. 2019 Oct 16;14(10):e0221067. doi: 10.1371/journal.pone.0221067. eCollection 2019.
2. Nagarathna R, Tyagi R, Kaur G, Vendan V, Acharya IN, Anand A, Singh A, Nagendra HR. Efficacy of a Validated Yoga Protocol on Dyslipidemia in Diabetes Patients: NMB-2017 India Trial. Medicines (Basel). 2019 Oct 11;6(4). pii: E100. doi: 10.3390/medicines6040100.
3. Nuhu JM, Maharaj SS, Influence of a mini-trampoline rebound exercise program on insulin resistance, lipid profile and central obesity in individuals with type 2 diabetes.J Sports Med Phys Fitness. 2018 Apr;58(4):503-509. doi: 10.23736/S0022-4707.17.07120-1. Epub 2017

Mar 1.

4. Saghebjoo M, Nezamdoost Z, Ahmadabadi F, Saffari I, Hamidi A. The effect of 12 weeks of aerobic training on serum levels high sensitivity C-reactive protein, tumor necrosis factor-alpha, lipid profile and anthropometric characteristics in middle-age women patients with type 2 diabetes. Diabetes MetabSyndr. 2018 Apr - Jun;12(2):163-168. doi: 10.1016/j.dsx.2017.12.008. Epub 2017 Dec 21. PMID: 29287840 DOI: 10.1016/j.dsx.2017.12.008