Effect of Weight Training on High Density Lipoprotein Cholesterol Among Middle Aged Overweight Men

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Abstract **- The purpose of the study was to find out the effect of weight training on high density lipoprotein cholesterol among middle aged overweight men students. To achieve the purpose of the study, 24 subjects were randomly assigned to experimental group (12) and control group (12). Physical examination and medical checkup at the initiation of the study yielded normal results in all the subjects. The experimental group underwent a Weight Training Program for a period of 24 weeks, whereas the control group maintained their regular routine activities. The subjects of both the groups were tested on selected criterion variable such as body mass index 24 hours before and after the period of experimentation. The analysis of covariance (ANCOVA) was used to find out the significant differences if any, between the experimental group and control group on selected criterion variable. In all cases, 0.05 level of significance was fixed to test the significance, which was considered as an appropriate. The result of the present study has revealed that there was significant difference among the experimental and control group on high density lipoprotein cholesterol.**

Index Terms **- weight training, high density lipoprotein cholesterol, middle aged, overweight men.**

I.INTRODUCTION

Man lives for satisfaction. Joy gives him happiness and fulfillment, which relies upon his physical and mental capacity. The crude man may because of the actual idea of his every day exercises, assembles a solid constitution better than the cultivated man. In modem enlightened hardware world, the opportunity for the proactive tasks is less a direct result of the creation of PC thus numerous different gadgets and the fundamental need of interest in the active work to keep a decent wellbeing is practically neglected. The Health is characterized as a condition of complete physical, mental and social prosperity and not simply liberated from illnesses or sickness. Everyone wants a long and solid life and exercise has an incredible part to play in this. In one perspective the body can be said to initiate maturing from the second it is conceived, despite the fact that it is regular to say it truly starts in with regards to the mid-thirties. Anyway various frameworks of the body age at various rates, almost certainly relying on how they are utilized or not utilized. Many individuals proceed with an exceptionally dynamic life, both actually and intellectually, well in to their advanced age. The obstruction of these exercises regularly is by all accounts physiological instead of physical, and when an individual thinks he is too old to even consider accomplishing something truly he likely could be totally off-base, albeit a lot of activity could do hurt. The best way to see whether one can do something is to attempt.

Actual Training suggests investment in a program of normal and lively active work with the essential expectation of working on either actual execution or wellbeing through the improvement of some part of wellness, for example, cardio-vascular capacity or muscle strength. Active work is characterized as "real development created by skeletal muscles that requires energy consumption" and produces sound advantages. Exercise, a sort of active work, is characterized as an arranged, organized, and dull in essence development done to improve or keep at least one parts of actual wellness. Actual dormancy signifies a degree of action not exactly that expected to keep up with great wellbeing.

Better exhibitions are principally the result of proficient strategy, the movement of speed and the developing cutthroat mentality on a sound premise of general perseverance, all round strength and general portability. The improvement of all round strength is

best accomplished by means of aerobics and afterward advancing this through strength preparing. Strength preparing is practice that utilizations loads to condition the muscles by further developing muscle tone, strength and perseverance. Strength preparing not just tones muscles, it diminishes fat, speeds digestion, expands perseverance, further develops pose, fortifies bones, and cuts the danger of injury and battle the indications of maturing. One can supplant muscle lost to maturing by strength preparing. Studies show that a few months of solidarity preparing can supplant 3 pounds of muscle. By lifting loads, you likewise counter your body's regular metabolic decay of 2 to 5 percent every decade.

Weight preparing is pivotal to weight control, since people who have more bulk have a higher metabolic rate. Muscle is dynamic tissue that burns-through calories while put away fat uses next to no energy. Strength preparing can give up to a 15% increment in metabolic rate, which is immensely useful for weight reduction and long haul weight control. Strength preparing gives comparative enhancements in sadness as stimulant drugs.

Weight preparing is significant for cardiovascular wellbeing since coronary illness hazard is lower when the body is more streamlined. Investigations have discovered that heart patients acquired strength and adaptability as well as high-impact limit when they did strength preparing three times each week as a component of their restoration program. This load of studies have incited the American Heart Association to prescribe strength preparing as an approach to diminish hazard of coronary illness and as a treatment for patients in cardiovascular recovery programs.

Weight preparing is otherwise called opposition preparing or strength preparing. Strength is the capacity to conquer opposition or to act against obstruction. Strength ought not be considered as a result of just strong constrictions. Strength is a contingent capacity that relies for the most part on the energy progression measure in the muscles.

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II. MATERIALS AND METHODS

An absolute number of 41 possibly overweight men chipped in for the review. In the principal stage every one of them were educated exhaustively the idea of the review and what their commitment will be. Out of which 9 subjects quit. In the second stage the tallness, weight and heartbeat pace of the multitude of 32 subjects in fasting state without shoes and with least dress were estimated. Every one of the estimations were acted in the erect situation by the scientist. The Body Mass Index (BMI) was processed as the weight (Kgs) partitioned by stature square (m2). Out of the 32 subjects 29, who were having BMI over 27 were chosen for the third stage. In the third stage a composed clarification of the test method and potential danger factors were given to each subjects. Five of them quit the concentrate because of individual reasons. The wide range of various 24 chipped in as subjects for the review and their educated assent was gotten.

The 24 subjects were haphazardly allotted to either Experimental gathering ('EXP', No: 12) or Control bunch ('CON', No: 12). Actual Examination and Medical test at the inception of the review yielded typical outcomes in every one of the subjects and none of the subjects got any time of the review. The benchmark qualities of the prescription during the subjects were given in Table-I

	Experimental Group		Control Group		Total	
	Mean	SD	Mean	SD	Mean	SD
Age	39.17	2.29	41.75	2.45	40.45	2.67
Height	168.42	6.14	166.92	5.70	167.67	5.84
Weight	88.00	9.02	87.83	7.80	86.10	8.79
BMI	30.96	2.07	31.52	1.89	31.24	1.96

They chose subjects were haphazardly separated into three gatherings of 12 subjects each gathering. Gathering one went about as trial gathering, and gathering II went about as control bunch. The test bunch subjects were went through ordinary weight preparing practice for 24 weeks. The subjects were tried on chosen rule variable, for example, absolute cholesterol before and following the preparation time frame. Investigation of covariance (ANCOVA) was applied for dissect the information. The 0.05 level was utilized to test this importance.

Estimation of HDL Cholesterol

Chylomicrons, VLDL and LDL fractions in plasma were separated from HDL by precipitating with phosphotungstic acid and manganese chloride. After centrifugation, the cholesterol in the HDL fraction in the supernatant was assayed with enzymatic cholesterol method using cholesterol esterase, cholesterol oxidase peroxides and the chromogen 4 amino phenazone phenol.

Reagents

1. Buffer / Enzymes / Chromogen: Added 29 ml of distilled water to one bottle and mixed.
2. Phenol solution
3. Working Reagent: One volume of (1) was mixed with one volume of (2)
4. HDL cholesterol standard - 50 mg/dl
5. Precipitating reagent

Procedure

To 0.2 ml of plasma, 0.2 ml of precipitating reagent was added, mixed well and centrifuged at 1500 rpm for 10 minutes. To 20 ml of the clear supernatant and 20 ml of the standard, 1.0 ml of working reagent was added. The tubes were kept at 37°C for 5 minutes and the colour developed was read at 505 nm against reagent blank.

III. RESULT FINDINGS

The data collected prior to and after the experimentation period on HDL Cholesterol among experimental and control groups were statistically analyzed and presented in table II.

Analysis of Covariance for HDL Cholesterol among Experimental & Control Groups

		Control Group	Exp. Group	F ratio
Pre	Mean	39.33	40.17	0.128
	SD	6.47	4.84	
Post	Mean	40.00	40.33	0.028
	SD	5.67	3.94	
Adj Post	Mean	39.98	39.52	0.374

Table II shows that the Pre Test means of HDL Cholesterol among Experimental group (40.17 ±4.84) and Control group (39.33 ± 6.47) resulted in F - ratio of 0.128 which indicates no significant difference between Pre Test means at .05 level of confidence. The Post Test means of HDL Cholesterol among Experimental group (40.33 ± 3.94) and Control group (40.00 ± 5.67) resulted in a F - ratio of 0.028 which is not significant at .05 level of confidence, and the adjusted post test means of Experimental (39.52) and Control groups (39.98) resulted in a F - ratio of 0.374 which was again not significant at .05 level of confidence.This indicates that there is no significant change in HDL Cholesterol among experimental group when compared with the control group. After going through the results, it was concluded that Weight Training Program has not significantly reduced HDL Cholesterol among over weight middle aged men.

IV. DISCUSSION ON FINDINGS

The Pre Test means and Post Test means of of HDL Cholesterol ng Control group (39.25 ± 6.47 vs 40.00 ± 5,67) shows an increase of A75 (19%). While the Pre Test means and Post Test means of HDL Cholesterol among Experimental group (40.17 ± 4.84 vs 40.33 ± 3.94) shows no change Furtherer more when the adjusted post test means of Experimental (39.52) and Control groups (39.98) were analyzed by means of Analysis of Covariance, The obtained results indicates no significant change in of HDL Cholesterol in the Experimental group when compared with the Control Group ($P < 0.05$).

On the basis of the results obtained it was concluded that Resistance Training Program has not resulted in any significant change in of HDL Cholesterol among Overweight middle aged men. The role of resistance raining in HDL cholesterol modification is inconclusive with some studies showing a positive change (Goldberg L. et al., 1984; Fripp RR, and Hodson L, 1987; Ullrich IH, Et al., 1987; Shaw BS,

and Shaw 1.,2005; Hurley BF, et al., 1989, and Boyden TW, et al., 1993) and others reported no change(Hurley BF, 1989 and Kokkions et al., 1991) In the present study the intensity of the exercise may not be sufficient to impart any significant change in HDL cholesterol.

V. DISCUSSION ON HYPOTHESIS

On the basis of the results obtained it was concluded that Resistance Training Program has not resulted in a significant increase in HDL cholesterol. In hypothesis it was stated that there will be a significant reduction in HDL cholesterol. The result of the study does not shows any such reduction and hence the hypothesis is rejected.

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