

EFFECT OF WEIGHT TRAINING ON BODY MASS INDEX 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 body mass index 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 body mass index.

Key Words: weight training, body mass index, middle aged, overweight men

1. INTRODUCTION

Man lives for happiness. Happiness gives him enjoyment and satisfaction, which depends on his physical and mental ability. The primitive man may due to the very nature of his daily activities, builds a strong physique superior to the civilized man. In modern civilized machinery world, the chance for the physical activities is less because of the invention of computer and so many other devices and the basic need of participation in the physical activity to maintain a good health is almost forgotten. The Health is defined as a state of complete physical, mental and social well being and not merely free from diseases or infirmity. Everybody desires a long and healthy life and exercise has a great part to play in this. In one aspect the body can be said to commence ageing from the moment it is born, although it is usual to say it really begins in about the mid-thirties. However different systems of the body age at different rates, no doubt depending upon how they are used or not used.

Many people continue a very active life, both physically and mentally, well in to their old age. The barrier of these activities often seems to be physiological rather than physical, and when a person thinks he is too old to do something physically he may well be completely wrong, although too much of exercise could do harm. The only way to find out if one can do something is to try.

Physical Training implies participation in a program of regular and vigorous physical activity with the primary intention of improving either physical performance or health through the development of some component of fitness such as cardio-vascular function or muscle strength. Physical activity is defined as "bodily movement produced by skeletal muscles that requires energy expenditure" and produces healthy benefits. Exercise, a type of physical activity, is defined as a planned, structured, and repetitive bodily movement done to improve or maintain one or more components of physical fitness. Physical inactivity denotes a level of activity less than that needed to maintain good health.

Better performances are primarily the outcome of efficient technique, the progression of speed and the maturing competitive attitude on a sound basis of general endurance, all round strength and general mobility. The development of all round strength is best achieved via circuit training and then progressing this through strength training. Strength training is exercise that uses weights to condition the muscles by improving muscle tone, strength and endurance. Strength training not only tones muscles, it reduces fat, speeds metabolism, increases endurance, improves posture, strengthens bones, and cuts the risk of injury and fight the signs of aging. One can replace muscle lost to aging by strength training. Studies show that two to three months of strength training can replace 3 pounds of muscle. By lifting weights, you also counter your body's natural metabolic decline of 2 to 5 percent each decade.

Weight training is crucial to weight control, because individuals who have more muscle mass have a higher metabolic rate. Muscle is active tissue that consumes calories while stored fat uses very little energy. Strength training can provide up to a 15% increase in metabolic rate, which is enormously helpful for weight loss and long-term weight control. Strength training provides similar improvements in depression as anti-depressant medications.

Weight training is important for cardiac health because heart disease risk is lower when the body is leaner. Studies

have found that cardiac patients gained not only strength and flexibility but also aerobic capacity when they did strength training three times a week as part of their rehabilitation program. All these studies have prompted the American Heart Association to recommend strength training as a way to reduce risk of heart disease and as a therapy for patients in cardiac rehabilitation programs.

Weight training is also known as resistance training or strength training. Strength is the ability to overcome resistance or to act against resistance. Strength should not be considered as a product of only muscular contractions. Strength is a conditional ability that depends mostly upon the energy liberalization process in the muscles.

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Resistance training is also known as strength training or weight training. Strength is the ability to overcome resistance or to act against resistance. Strength should not be considered as a product of only muscular contractions (Hardayal Singh, 1991). Strength is a conditional ability that depends mostly upon the energy liberalization process in the muscles.

2. 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		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.

Measurement of Body Weight

The subjects with minimum clothing and without foot wear were asked to stand on the platform of the weighing machine. The test score was the digit on the eyepiece of the weighing machine and it was recorded in kilograms.

Measurement of Height

A stadiometer consisting of a sliding calibrated rod with hinged top piece was used for the purpose of measuring height of the subjects. Subjects without shoes and with minimum dress were asked to stand erect with the back against a support in anatomical standing position. Care was taken so that upper surface was horizontal and not tilted and also that the pressure did not cause the subjects to slump or alter their position. The vertex was measured to the nearest centimeter as the test score and converted into meters.

Calculation of Body Mass Index (BMI)

The height (mts) and weight (kgs) of each and every subject were measured in the fasting state and with minimum clothing and without any footwear.

Body Mass Index (BMI) was calculated by using the formula

$$BMI = \frac{\text{Weight (kg)}}{\text{Height (meters)}^2} \quad \text{kg/m}^2$$

3. RESULTS FINDINGS

The mean and standard deviation scores of pretest, posttest and changed posttest of body mass index on weight preparing and control bunch are given in table. 'F' ratio test processed concerning the body mass index on weight preparing and control bunch in the pretest, posttest and changed post test are additionally introduced in table II.

The information gathered before and after the experimentation time frame on body mass index among test and control bunches were measurably broke down and introduced in table II.

Analysis of Covariance for Total Cholesterol among Experimental & Control Groups

		Control Group	Exp. Group	F ratio
Pre	Mean	31.52	30.95	0.493
	SD	1.90	2.06	
Post	Mean	31.59	28.99	11.44*
	SD	1.78	2.01	
Adj Post	Mean	30.18	32.29	214.36*

Table II shows that the Pre Test method for body mass index among Experimental gathering (30.95 ± 2.06) and Control bunch (31.52 ± 1.90) brought about F - proportion of 0.493 which demonstrates no huge distinction between Pre Test implies at .05 degree of certainty. The Post Test method for body mass index among Experimental gathering (28.99 ± 2.01) and Control bunch (31.59 ± 1.78) brought about a F — proportion of 11.44 which isn't huge at .05 degree of certainty, though the changed post is method for Experimental (32.29) and Control gatherings (30.18) brought about a F - proportion of 214.36 which was huge at .05 degree of certainty. This shows that there is a critical change in body mass index among trial bunch when contrasted and the benchmark group. Subsequent to going through the outcomes, it was reasoned that Weight Training Program has altogether decreased body mass index among over weight moderately aged.

4. DISCUSSION ON FINDINGS

The Pre Test means and Post Test means of body mass index among Control group (31.52 ± 1.90 vs 31.59 ± 1.78) shows an increase of 0.07 (0.22%), While the Pre Test means and Post Test means of body weight among Experimental group (30.95 ± 2.06 vs 28.99 ± 2.01) shows a decrease of 1.96 (6.33%). Furtherer more when the adjusted post test means of Experimental (30.18) and Control groups (32.29) were analyzed by means of Analysis of Covariance, The obtained results indicates a significant

decrease in body mass index 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 resulted in a significant decrease in Body mass index among Overweight middle aged men. The obtained results were in conformation with the findings of Chilibeck PD, et al. (1996, 1998), and Cullinen, K. and Caldwell, M. (1998).

5. DISCUSSION ON HYPOTHESIS

Weight Training Program resulted in a significant decrease in Body mass Index among Overweight middle aged men. In hypothesis it was stated that there will be a significant reduction in BMI. The results of the study show similar results and hence the hypothesis is accepted.

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