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Effect of Weight Training on Anthoropometric Characteristics among Students of Physical Education

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Abstract – The purpose of this study was to determine the effects of weight training on chest Muscle circumference, Upper arm muscle circumference, fore arm muscle circumference, thigh Muscle circumference and calf muscle circumference. In this study fifty male students of K.M. Govt. Collage Narwana, were selected as subjects and where divided into two equal groups namely experimental group and control group. The experimental group was treated with weight training and No training was given to the control group. The duration of training programmer was forty two days. The training was administrated on alterative day's i.e. three days per week. The data collecte before and at the end of the six weeks training programme, with the help of steel tape. The criterion measures were recorded in centimeters. To find t-test was employed and mean difference between pretest and posttest of on chest muscle circumference upper arm muscle circumference, fore arm, muscle circumference and calf muscle circumference and in case of thigh muscle circumference no significant effect was found on experimental group when compared with control group. Therefore, the weight training programme designed for this study might not be effective on thigh muscle circumference. The significant effect on subjects of experimental group might be due to the nature of weight training programme designed in the present study for the duration of six weeks.

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INTRODUCTION:-

Weight training is a very important aspect of sports training on physical body training and Everybody is aware of their effects on the body's muscles and tenbons. Training effect describes the Physiological changes that occur from regular participation in a fitness program. In weight lifting Terms it simply means that you have to push yourself and not to be afraid of acute pain. For example, after completing a set of bench pressues for 12 reps, you have to ask yourself if you could have completed a few more. If so, then the current weight is to light and you should increase the weight so, that the 12^{th} repetition will be the last and most difficult to complete (Joseph, 2000) To achieve the training effect an experience the benefits of exercise programs for increasing muscular strength and Weight training is an essential component of exercises programs for increasing muscular strength and size. Other terms that are used to refer to the use of weights or some form of resistance in order to increase muscle strength and size are "resistance training" and "weight training" the objective of the study was to find out the effect of weight training on chest muscle circumference and ,upper arm muscle circumference, fore arm muscle circumference, thing muscle circumference and calf muscle circumference. On the basic of available literature and resarcher's own experience and understanding about the problem, it is hypothesized that there would be significant effects of weight training on chest Muscle circumference, upper arm muscle circumference, fore arm muscle circumference, thigh muscle circumference and calf muscle circumference

METHODS:

In this study fifty male student of K.M. Govt. College, Narwana. Were selected by employing simple random sampling method.

SELECTION OF VARIABLES:

The chest muscle circumference, upper arm muscle circumference. Forearm muscle circumference, thigh muscle circumference and calf muscle circumference were selected anthropometric measurements for this study.

CRITERION MEASURES:

Description of training program:

The goal of this training programme was to build the muscle. This 3 day workout was divided into three parts over days a week. The first day for legs second

day for chest and third day was dedicated to the arms this traning programme was performed by the subjects on Monday Wednesday and Friday. Before starting the exercising the subjects performed warming up by doing 5-10 minutes cardio followed by stretching. The training equipments were free weights and machines. The number of sets per exercise was 3 and the number of repetitions for each execise were different in various exercises. The weight used for each set was 60% to 70% of 1 repetition maximum comfortable lifted by the subjects.

RESULTS AND DISCUSSIN:

The collected data on fifty subjects before and after six weeks weight trainings programmed on selected anthropometric measurements were analyzed by employing t test the mean, standard deviation and t value analyzed each dependent variable separately. For the sake of convince and methodical presentation of results, following order has been adopted:

Table -1 description of Mean Scrrores, Standard deviation, Mean difference, Standard error and t-ratio for the data of chest arm muscle circumference, forearm arm muscle circumference, upper arm muscle circumference thigh arm muscle circumference and calf am muscle circumference in pre and post –test of control groups.

Parameter	Name of group	Mean scores	S.D	M.D	S.E	t-ratio
Chest muscle circumference	Pre-test Control group	90.8	5.06	0.76	1.52	0.5ns
	Post – test Control group	91.56	5.53			
Forearm Muscle circumference	Pre-test Control group	25.4	2.27	0.72	0.78	0.37ns
	Post – test Control group	25.12	3.14			
Upper arm Muscle Circumference	Pre-test Control group	26.44	2.63	0.48	0.86	0.55ns
	Post – test Control group	26.92	3.33			
Thigh Muscle Circumference	Pre-test Control group	52.12	3.78	0.64	1.06	0.6ns
	Post – test Control group	52.76	3.63			
Calf Muscle Circumference	Pre-test Control group	53	4.51	1.52	1.31	1.16ns
	Post – test Control group	54.52	4.66			

NS= Not Significant

With regards to anthropometric in chest muscle circumference, forearm muscle

Circumference, upper arm muscle circumference, thigh muscle circumference and calf muscle Circumference of pre – post – test of control groups they have obtained the mean value of 90.8 and 91.56, 25.4 and 25.12, 26.44 and 26.92 and 52.76, and 53 and 54.52 respectively which are given in the

Table – 1 reveals that no significant effects was found on (t= 0.5). (t= 0.37), (t=0.55), (t= 0.66) and (t= 0.116) selected anthropometric measurement.

Table -2 descriptions of Mean Scores, standard deviation, Mean difference, standard error and t-ratio for the data of chest arm muscle circumference, forearm arm muscle circumference, upper arm muscle circumference thigh arm muscle circumference anf calf arm muscle circumference in pre and posttest of experimental groups.

Parameter	Name of group	Mean scores	S.D	M.D	S.E	t-ratio
Chest muscle circumference	Pre-test Experimental group	92.32	5.83	4.6	1.7	2.7*
	Post –test Experimental Group	96.92	5.98			
Forearm Muscle circumference	Pre-test Experimental Group	25.84	2.26	2.32	0.7	3.31*
	Post-test Experimental group	28.16	2.62			
Upper-arm Muscle Circumference	Pre-test Experimental Group	27.04	2.49	3	0.74	4.05*
	Post –test Experimental Group	30.04	2.77			
Thigh muscle Circumference	Pre-test Experimental Group	53	4.51	. 1.52	1.31	1.16ns
	Post –test Experimental group	54.52	4.66			
Calf muscle Circumference	Pre-test Experimental Group	36.74	2.07	3.12	0.6	5.12*
	Post –test Experimental group	36.96	2.22			

Significant.NS= Not Significant

With regards to anthropometric measurements in chest muscle circumference, forearm muscle circumference, upper arm muscle circumference anf calf muscle circumference of pre – posttest of experimental groups they have obtained the mean value of 92.32 and 96.2, 25.84 and 28.16, 27.04 and 30.04 and 33.84 and 36.96 respectively which are given in the table -2 reveals that significant effect was found on (t=2.7,p<.05), (t=3.31, p<.05) , (t=4.05, p<.05)and (t=5.12 p<.05) selected anthropometric measurements except thigh muscle circumference muscle circumference (t-1.16) That means weight training is beneficial for increasing chest muscle circumference among the physical education students.

It has been observed from the analysis of data was significant effect of weight training on chest muscle circumference, upper arm muscle circumference, fore arm muscle circumference and calf muscle circumference after administration of training programmed, but there was no significant effect of Wight training on thigh muscle circumference. The significant and insignificant effect was found because of some probable reasons which have been given as under the results showed that there was significant effect of weight training on chest muscle circumference of experimental group subjects s

compared to control group subjects. There was significant effect of six week weight training on upper arm muscel circumference this variable showed significant improvement after weight training was conducted on subjects for six weeks. The increase in forearm muscle circumference was probably related with sever factors uch as biochemical changes in muscle, muscle hypertrophy and eugenic changes. At length we can say that reasons for this increase may be training, because the weighty training causes the myogenic changes within muscle. The thigh muscle circumference showed one significant increase. After the administration of six weeks weight training programme there was the was significant increase calf muscle circumference. The weight training might resulted in muscle hypertrophy, because weight training is isotonic n nature.

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