



EFFECT OF ANAEROBIC TRAINING AND SUPER CIRCUIT TRAINING ON EXPLOSIVE STRENGTH AMONG COLLEGE MEN STUDENTS

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Abstract

The purpose of present study was to find out the effect of anaerobic training and super circuit training on explosive strength among college men students. To achieve the purpose of this study, the investigator proposed to select forty-five men students from Acharya Nagarjuna University affiliated colleges as subjects with the age group of 18 to 23years. The selected subjects (N=45) will be classified into three equal groups of fifteen each (n=15). Group-I will undergo anaerobic training, group-II will undergo the super circuit training and group-III will act as control. Prior to and after the training period the subjects were tested for, explosive strength. Explosive strength was assessed by standing broad jump. The statistical tool were used for the present study is Analysis of covariance (ANCOVA). If obtained 'F' ratio is significant, Scheffe's test used as a post hoc test to find out the differences among the groups. The result of the study was a significant altered on explosive strength after twelve weeks of anaerobic training and super circuit training. However the different was favour of experimental groups. There was significant difference was occurred between anaerobic training and super circuit training group after twelve weeks of anaerobic training and super circuit training.

Key Words: - *Anaerobic training, Super circuit training and explosive strength*

INTRODUCTION

“Training is a programme of exercise designed to improve the skill and increase the energy capacities of an athlete for a particular event” (Singh, 1991)

Anaerobic processes occur in the cells of the body without the presence of oxygen. Anaerobic training is of high intensity and short duration, with the aim of the efficiency of the body’s anaerobic energy producing systems.

A super circuit training would be designed for sports persons looking to improve their performance in a particular sport. A running circuit might include leg and core strengthening exercisers interspersed among half-mile race pace runs on the treadmill, kickboxing circuits alternating core, shoulder and gluteus strength-moves with punching and kicking segments, and football circuits alternating agility drills with weight training.

Explosive strength is the speed at which you can use your strength! It involves heavy loading in shorter high speed movements for a few repetitions with long rest periods between. Think one rep max vertical leap, or one rep max snatch/clean and jerk.

STATEMENT OF THE PROBLEM

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METHODOLOGY

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ANALYSIS OF DATA

The data collected prior to and after the experimental periods explosive strength on anaerobic training, super circuit training and control group were analyzed and presented in the following table –I

Table-I

Analysis of covariance on explosive strength of anaerobic training, super circuit training and control groups

	Anaerobic training group	Super circuit training Group	Control Group	SOV	SS	df	MS	'F' - ratio
Pre- test Mean	1.922	1.923	1.926	B:	005	2	005	.175
S.D.	0.016	0.0175	0.0150	W:	.011	42	.001	
Post-test Mean	1.971	2.033	1.928	B:	.082	2	.041	51.442*
S.D.	0.0213	0.0241	0.0474	W:	.017	42	.001	
Adjusted Post-test Mean	1.972	2.034	1.928	B:	0.84	2	.042	146.842*
				W:	.012	41	.225	

* Significant at 0.05 level of significance.

(The table value required for significance at 0.05 level of significance with df 2 and 42 and 2 and 41 were 3.22 and 3.23 respectively).

Table – I shows that the pre-test means on explosive strength of anaerobic training, super circuit training and control groups were 1.922 ± 0.016 , 1.923 ± 0.0175 and 1.926 ± 0.0150 . The obtained 'F' - ratio value of 0.175 for pre-test score on explosive strength was lesser than the required table value of 3.22 for significant with df 2 and 42 at 0.05 level of significance.

The post-test mean values of explosive strength for anaerobic training, super circuit training and control groups were 1.971 ± 0.0213 , 2.033 ± 0.0241 and 1.928 ± 0.0474 respectively. The obtained 'F' - ratio value of 51.442 for post test scores of anaerobic training, super circuit training and control groups was more significant than the required table value of 3.22 for highness with df 2 and 42 at 0.05 level of significance.

The adjusted posttest mean values of anaerobic training, super circuit training and control groups were 1.972, 2.034 and 1.928 respectively. The obtained 'F' - ratio value of 13.06 for adjusted post test scores was significant than the table value of 3.23 for significance with df 2 and 41 at 0.05 level of significance.

The above statistical analysis indicates that there was a consequent increase in execution of explosive strength after the preparation time frames. Further to figure out which of the adjusted post-test mean has a critical improvement, Scheffé S test was applied. The significance of the following test is presented in table - II.

Table - XII

**SCHEFFÉ S TEST FOR THE DIFFERENCE BETWEEN THE ADJUSTED POST TEST MEAN
OF EXPLOSIVE STRENGTH**

Adjusted Post-test Mean on Explosive Strength				
Anaerobic training group	Super circuit training group	Control group	Mean Difference	Confidence interval at .05 level
1.972	2.034	--	0.062	0.795
1.972	--	1.928	0.044	0.795
--	2.034	1.928	0.106*	0.795

*Significant at 0.05 level of significance

Table - II shows that the adjusted post-test mean difference in explosive strength between super circuit training group and control group were 0.106 which were significant at 0.05 level of significance. In any case, the adjusted post-test mean difference in explosive strength between anaerobic training group and control group and anaerobic training group and super circuit training group were 0.062 and 0.044, which was insignificant at .05 level of significance. It could be found that the anaerobic training and super circuit training groups have significant increase in explosive strength after their training programs.

The adjusted post-test mean values on explosive strength of anaerobic training, super circuit training and control groups are graphically represented in figure - I.

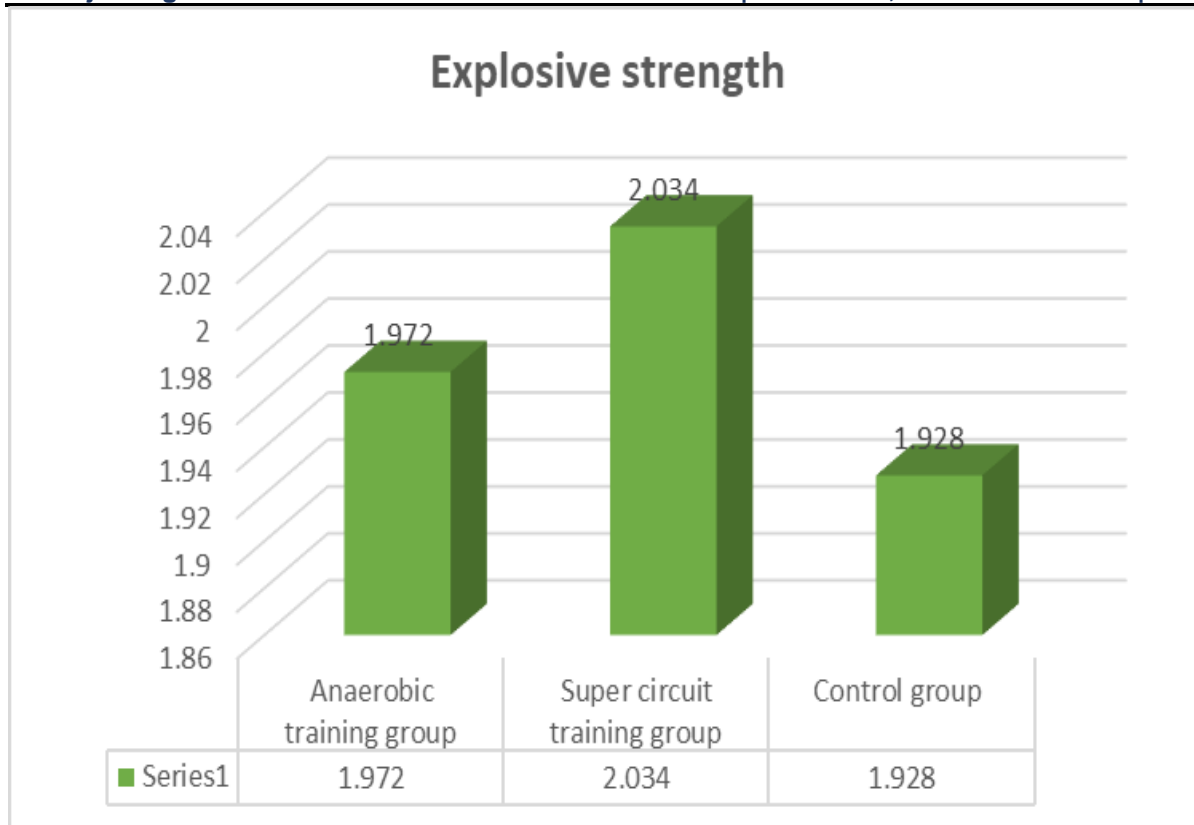


Figure I- Adjusted post-test mean values on explosive strength of anaerobic training, super circuit training and control groups

CONCLUSIONS

From the analysis of the data, the following conclusions were drawn.

The conclusion of the study indicated that there was enormous improvement in explosive strength for the training groups in contrast with the control group. There was no significant difference between anaerobic and super circuit training on explosive strength. Moreover, there was no significant difference between anaerobic and control group on explosive strength. In addition that super circuit training have better than anaerobic training group.

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