

EFFECT OF COMPLEX TRAINING ON BLOOD PRESSURE AMONG COLLEGE MEN STUDENTS

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Abstract

The intention of the present study was to find out the Complex training on blood pressure among college men students. Twenty (30) college men students were ranged from aged 18 to 25 years were randomly selected from Intercollegiate and inter university level men' s students for various sports, Tirunelveli, Tamilnadu, India. They selected subjects have been randomly divided into two equal groups namely Complex training Group (CTG) (N=15) and Control Group (CG) (N=15). Six weeks complex training programme has been formulated to see the effectiveness of given training programme on blood pressure among college men students. The blood pressure such as systolic and diastolic blood pressure has been tested by ' sphygmomanometer' on before the training starts and after completion of six weeks complex training programme. Significant positive changes occurs in blood pressure has been found by analysing and comparing the pre-test and post-tests are through paired sample ' t' test and ANCOVA among the college men students of CTG and CG. So this study was concluded that six weeks of Complex training programme was shown effective in the improvement of blood pressure among college men students. However the control group had not shown any significant positive changes on blood pressure while because they were not engaged to participated in to any specific training programme apart from their routine works.

Keywords: Complex training, Blood Pressure, College men students.

Introduction

Training is a systematic process of repetitive, progressive exercise or work involving learning process and acclimatization [1]. Sports is a human activity that involves specific administration, organization and an historical background of rules which define the object and limit the pattern of human behavior; it involves competition or challenge and a definite outcome primarily determined by physiological skill [2 " Sports performance can be improved through Sports training. Like any other type of human performance, a sports performance is also a product of the total personality of the sports person. In generals the personality of a person reflects the aspects like physical, physiological, social and psychic traits. Therefore, apart from physical and physiological traits, the social and psychic trait of the sports person needs to be improved for achieving improvement in sports performances" [3].

Complex training is a combination of high intensity resistance training followed by plyometrics. Complex training, one of the most advanced forms of sports training, integrates strength training, plyometrics, and sport-specific movement. It consists of an intense strength exercise followed by a plyometric exercise. Complex training activates and works the nervous system and fast twitch muscle fibers simultaneously. The strength exercise activates the fast twitch muscle fibers. The plyometric movement stresses those muscle fibers that have been activated by the strength training movement. During this activated state, the muscles have a tremendous ability to adapt. This form of intense training can teach slow twitch muscle fibers to perform like fast twitch fibers [4].

Complex training (CT), a form of combination training, can best be described as training that alternates between traditional resistance (heavy resistance exercise) and plyometric exercises (light resistance exercise) within a single exercise session [4]. Complex training may be an optimal training strategy for developing sport-specific athletic strength, if it is indeed true that this form of training is more effective than other training programs at enhancing strength (and possibly strength-power) production because of enhanced neuromuscular activity [5].

Physiology is the branch of biology that deals with the normal functions of living organisms and their parts. Exercise Physiology deals with body's structures and functions are altered when exposed to acute and chronic bouts of exercise. Regular physiological assessments enable fitness to be

determined in a controlled condition and can assist the coach with prescribing training programmes tailored to the specific performance needs for sportsman. Based on the assessment training is prepared to improve performances [6].

Systolic blood pressure is the amount of pressure that blood exerts on vessels while the heart is beating. In a blood pressure reading (such as 120/80), it is the number on the top [7]. Diastolic Blood Pressure is the period of time when the heart relaxes after contraction in preparation for refilling with circulating blood [8].

Methods and Materials

This research stays in quantitative research, although in terms of the method used in this research, it is a quasi-experimental research. Based on data analysis using quantitative analysis, the intervention group was assessed by providing the kind of exercise in the form of complex training to raise the ability of the blood pressure on college men students. The samples in this study were selected college men students and their age were ranged from 18 to 25 years were randomly selected Intercollegiate and inter university level men's students for various sports, Tirunelveli, Tamilnadu, India. The selected subjects have been randomly divided into two equal groups namely Complex training Group (CTG) (N=15) and Control Group (CG) (N=15). Six weeks Complex training programme has been formulated to see the effectiveness of given training programme on blood pressure among college men students.

Statistical Analysis

A significant positive change occurs in selected blood pressure such as systolic and diastolic blood pressure and it has been found by analysing and comparing the pre-test and post-test scores through paired sample 't' test and to find out the difference exists between both groups were analysed through one way ANCOVA at the level of significance at 0.05. The collected data were statistically analysing with use of SPSS 17.1 trail version.

Analysis of Data

Table-1 : Means and Paired Sample-' t' Test for the Pre and Post Tests on Blood Pressure of CTG and CG

Criterion variables	Test	CTG	CG
Systolic Blood Pressure (mm/Hg)	Pre test	124.36	123.51
	Post test	121.52	123.14
	' t' -test	15.27*	1.03
Diastolic Blood Pressure (mm/Hg)	Pre test	84.62	85.17
	Post test	80.41	84.39
	' t' -test	9.05*	1.47

*Significant at .05 level. (Table value required for significance at .05 level for ' t' -test with df 9 is 2.26)

The table-1 shows that the pre-test mean value of CTG and CG on systolic blood pressure and diastolic blood pressure were 124.36 & 123.51 and 84.62 & 85.17 respectively. The post test mean value of BBTG and CG on systolic blood pressure and diastolic blood pressure were 121.52 & 123.14 and 80.41 & 84.39 respectively. The obtained paired sample t-ratio values between the pre and post-test means of CTG and CG were 15.27 & 1.03 and 9.05 & 1.47 respectively. The required table value for significant difference with df 9 at 0.05 level is 2.26. From the above table the paired sample t-test value of arm strength and back strength between pre and post-tests means of CTG was greater than the table value 2.26 with df 9 at .05 level of confidence, it was concluded that the CTG had significant improvement in the systolic blood pressure and diastolic blood pressure when compared to CG.

Table-2 :Computation of Mean and Analysis of Covariance on Blood Pressure of CTG and CG

Adjusted Post Mean	CTG	CG	Source of Variance	Sum of Squares	Df	Mean Square	F
Systolic Blood Pressure	121.17	123.23	BG	281.35	1	281.35	65.89*
			WG	72.59	17	4.27	
Diastolic Blood Pressure	80.25	84.27	BG	490.68	1	490.68	29.72*
			WG	280.67	17	16.51	

* Significant at 0.05 level. Table value for df 1, 17 was 4.45

Table-2 shows that the adjusted post-test means values on systolic blood pressure and diastolic blood pressure of CTG and CG are 121.17 & 123.23 and 80.25 & 84.27. The obtained f- ratio of adjusted post-test mean value was 65.89 & 29.72 which was greater than the required table value 4.45 with df 1 and 17 required for significance at 0.05 level of confidence. The results of the study indicated that there was a significant mean difference exist between the adjusted post-test means of CTG and CG on systolic blood pressure and diastolic blood pressure.

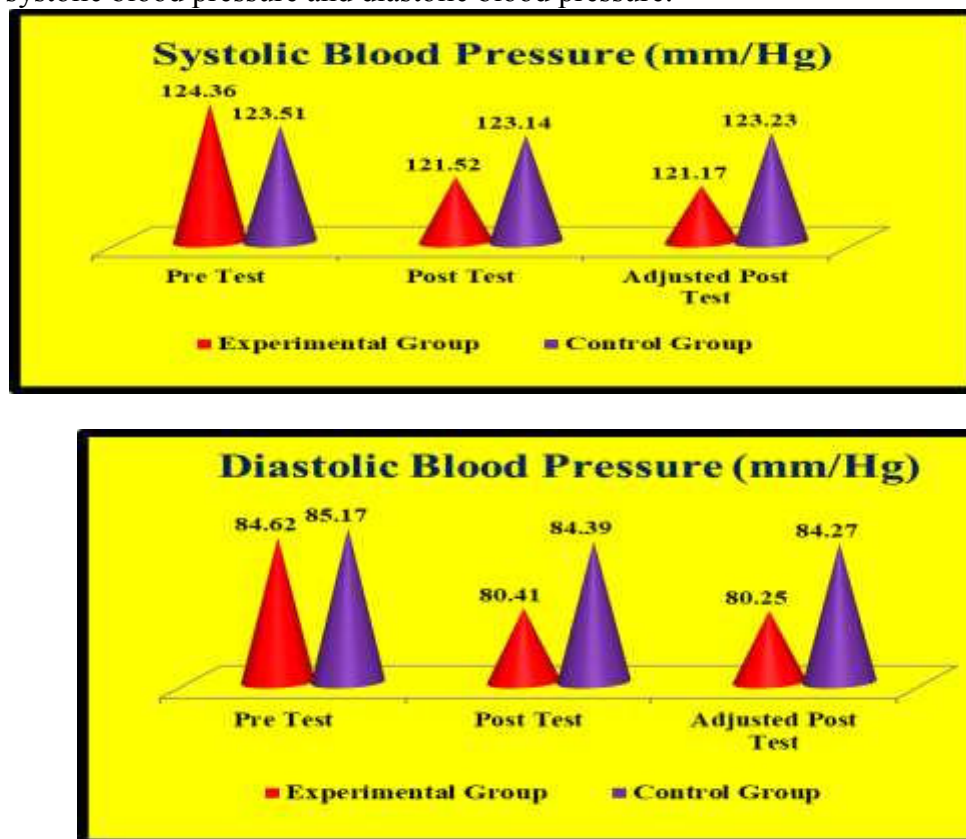


Figure-1 shows that the mean values of pre, post and adjusted post tests on systolic blood pressure and diastolic blood pressure of CTG and CG.

Discussion on Findings

The present study was to found statistically significant improvement on systolic blood pressure and diastolic blood pressure, which showed that positive impact of complex training among adult men. The following findings as same as my study such as Ebben, (2002) conducted the brief review of complex training. Santo & Janeira, (2008) analysed the effects of complex training on explosive strength in adolescent male basketball players. Jensen & Ebben, (2003) evaluated the kinetic analysis of complex training rest interval effect on vertical jump performance. Ingle, (2006) conducted the effect of a complex training and detraining programme on selected strength and power variables in early pubertal boys. MacDonald, Lamont & Garner, (2012) compared the effects of 6 weeks of traditional resistance training, plyometric training, and complex training on measures of strength and

anthropometrics. Baker, (2005) conducted the acute effect on power output of alternating an agonist and antagonist muscle exercise during complex training. The results of the study showed that there was significant level differences exist between complex training and control group. Complex training group showed significant improvement on systolic blood pressure and diastolic blood pressure, when compared to control group.

Conclusions

There was significant improvement on systolic blood pressure and diastolic blood pressure due to the impact of complex training practices among college men students. There was significant differences exist between CTG and CG on systolic blood pressure and diastolic blood pressure. However the control group had not shown any significant improvement on any of the selected variables.

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