



EFFECT OF LADDER TRAINING CIRCUIT TRAINING AND COMBINATION OF LADDER AND CIRCUIT TRAINING ON BLOOD PRESSURE VARIABLE OF BADMINTON PLAYERS

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Cite This Article: Dr. D. Sakthignanavel, "Effect of Ladder Training Circuit Training and Combination of Ladder and Circuit Training on Blood Pressure Variable of Badminton Players", International Journal of Applied and Advanced Scientific Research, Volume 2, Issue 2, Page Number 354-356, 2017.

Abstract:

For the purpose of this study total 60 badminton players were selected from various badminton clubs in Kanayakumari dist. All random based method was used and subjects age range between 18-22 as per the club age proofs. Total population was split into four groups namely circuit training group (CG), ladder training group (LG) combination of circuit and ladder training group (CG & LG) and control group (Cnt. G). Each group contain 15 subjects and underwent 12 weeks of training programme. Pre and post test blood pressure score were taken and test values are computed with the help of SPSS, ANCOVA. Diastolic table 1.33 F value was observed in pre test and 36.42 and 41.49 was noticed for post test and adjusted post this value was higher than the table 2.77 hence this result shows significant different on diastolic and Systolic pressure. Table mean and Scheffe's post hoc test we understood that 12 weeks of circuit, ladder and combination circuit and ladder training improve the diastolic and systolic pressure and combination of ladder and circuit training have shows good training effects.

Key Words: Circuit Training, Ladder Training, Combination of Ladder and Circuit Training, Badminton, Systolic Blood Pressure & Diastolic Blood Pressure

Introduction:

The word 'training' has been a part of human language since ancient times. It means the process of preparation for some task. This procedure invariably extends to a period of days and even months or years. The term 'training' is widely used in sports. There is, nevertheless, some difference among sports coaches and also among sports scientists regarding the exact meaning of this word. Some specialists, particularly belonging to sports medicine, recognize sports training as basically doing physical exercises. Several terms used in training, for example, strength training, circuit training. Numerous training procedures are in practice to improve each and every physical and physiological quality at numerous levels. Every type of training produces its individual effect on fitness. Training results define the physiological changes that occur from regular participation in a fitness programme¹. These basic training procedures will serve better when utilized with modification to suit an individual or a group dealt with. The best training programme is that which increases the desired quality at a higher rate without causing unwanted effects. A definite improvement in the individual's physical and physiological qualities can be achieved through appropriate training². The major aim of sports training is to achieve high level performance. The aims relate to different factors. The sports performance depends largely on physical fitness. Sports activity is a physical activity which is not possible without these motor abilities. Therefore the improvement of physical fitness or motor abilities is a principal aim of sports training³. The process of improvement of physical fitness also includes the improvement of general health and organic functions as well as the increasing the strength and stability of the musculoskeletal system. The physical fitness can be differentiated into general land of specific fitness⁴.

Hypothesis:

It was hypothesized that there would be a significant improvement on ladder training circuit training and combination ladder circuit training on blood pressure variable of badminton players

Methodology:

For the purpose of this study total 60 badminton players were selected from various badminton clubs in Kanayakumari dist. All random based method was used and subjects age range between 18 - 22 as per the club age proofs. Total population was split into four groups namely circuit training group (CG), ladder training group (LG) combination of circuit and ladder training group (CG&LG) and control group (Cnt.G). Control group did not undergo any training programme rather than their routine work. The blood pressure was measured by using sphygmomanometer The data were collected on blood pressure for all the four groups before the experimental period (pre test), after 12 weeks of training (post test) respectively. Pre and post test blood pressure diastolic and systolic pressure were taken and test values are computed with the help of SPSS, ANCOVA.

Result and Discussion:

Table 1: Analysis of Covariance for the Pretest and Posttest Data of Experimental Group I, Experimental Group II, Experimental Group III and Control Group on Diastolic Pressure (Hg. mm)

	CG	LG	CG & LG	Cnt. G	SV	Sq	MS	F Ratio
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Pre test	81.03	80.57	80.39	81.59	B	3.59	3	1.33
					W	50.12	56	
Post test	78.61	78.39	78.72	81.40	B	125.39	3	36.42*
					W	62.54	56	
Ad. Post test	78.63	78.34	76.51	81.35	B	131.27	3	41.49*
					W	56.64	55	

The required table value at 0.05 level of significance for 3 for 56, 3 for 55 degrees of freedom is 2.77. Form the table 1.33 F value was observed in pre test and 36.42 and 41.49 was noticed for post test and adjusted post this value was higher than the table 2.77 hence this result shows significant different on diastolic blood pressure.

Table 2: Scheffe's Test for the Differences between the Paired Adjusted, Post - Test Means on Diastolic Pressure for Four Groups

CG	LG	CG & LG	Cnt. G	M.D	C.I
78.63	78.34			0.29	1.06
78.63		76.51		2.12*	
78.63			81.35	2.72*	
	78.34	76.51		1.83*	
	78.34		81.35	3.01*	
		76.51	81.35	4.84*	

Table II shows the difference between paired adjusted post test means on diastolic pressure. The confidence interval value at .05 level was 1.06. The adjusted post test mean difference on diastolic pressure the three experimental group shows significance compare with the control group, the mean differences were 2.72, 3.01 and 4.84 the obtained value respectively the significant at 0.05 level. But the combination of ladder and circuit training groups shows adjusted post test mean difference with other two experimental groups.

TABLE 3: Analysis of Covariance for the Pretest and Posttest Data of Experimental Group I, Experimental Group II, Experimental Group III and Control Group on Systolic Pressure (Hg.mm)

	CG	LG	CG & LG	Cnt. G	SV	Sq	MS	F Ratio
Pre Test	120.12	120.19	119.72	120.90	B	1.91	3	1.14
					W	31.06	56	
Post Test	117.83	118.00	116.18	119.99	B	104.93	3	44.99*
					W	43.06	56	
Ad. Post Test	117.83	117.95	116.24	119.98	B	100.99	3	44.18*
					W	41.88	55	

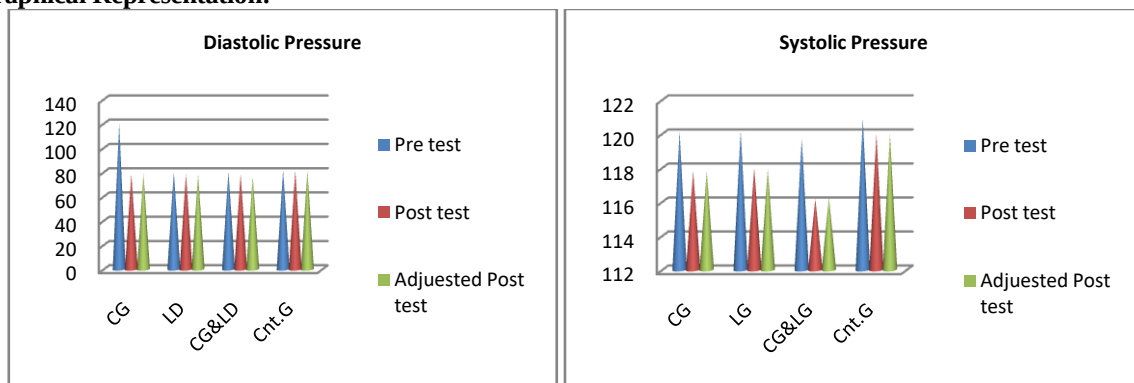
The required table value at 0.05 level of significance for 3 for 56, 3 for 55 degrees of freedom is 2.77. Form the table 1.14 F value was observed in pre test and 44.99 and 44.18 was noticed for post test and adjusted post this value was higher than the table 2.77 hence this result shows significant different on systolic blood pressure.

Table 4: Scheffe's Test for the Differences between the Paired Adjusted, Post - Test Means on Systolic Pressure for Four Groups

CG	LG	CG & LG	Cnt. G	M.D	C.I
117.83	117.95			0.12	0.91
117.83		116.24		1.59*	
117.83			119.98	2.15*	
	117.95	116.24		1.71*	
	117.95		119.98	2.03*	
		116.24	119.98	3.74*	

Table 4 shows the difference between paired adjusted post test means on Systolic pressure. The confidence interval value at .05 level was 0.91. The adjusted post test mean difference on systolic pressure the three experimental group shows significance compare with the control group, the mean differences were 2.15, 2.03 and 3.74 the obtained value respectively the significant at 0.05 level. But the combination of ladder and circuit training groups shows adjusted post test mean difference with other two experimental groups.

Graphical Representation:



Result and Discussion:

From the table 2 and 4 adjusted post test mean and graph we understood that 12 weeks of circuit, ladder and combination of circuit and ladder training improve the diastolic and systolic pressure(reduction) compare with the control group. But there was no difference between circuit and ladder training groups. Particularly the combination of ladder and circuit training shows differences on Diastolic and systolic pressure compare with all the groups due to the good training effects.

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