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THE EFFECT OF EIGHT WEEKS OF COMPLEX TRAINING AND CONTRAST TRAINING ON SPEED AND RESTING PULSE RATE AMONG SPORTSMEN



S. Mohanasundaram

Ph.D. (Full time) Research Scholar, Department Of Physical Education and Sports, Pondicherry University, Puducherry.



Second Author Details :

G. Vasanthi

Associate Professor, Department Of Physical Education and Sports, Pondicherry University, Puducherry.

ABSTRACT

The purpose of this study is to determine the effect of complex training and contrast training on speed and resting pulse rate among sportsmen. Forty five subjects were selected from Selvam College of physical education, Namakkal, Tamilnadu and their age ranged from 18 to 23 years. The subjects were equally divided into three groups with fifteen subjects in each group. The group I was treated with complex training group, Group II was treated with



contrast training group and Group III was treated with control group. Training was given for a period of 8 weeks. The results of pre-test and post-test were statistically analyzed by using analysis of covariance. The result when compared between the two experimental groups revealed that resting pulse rate had no significant improvement due to complex training and contrast training when compared to the control group. But speed had significant improvement due to complex training and contrast training and contrast training and contrast training and contrast training when compared to the control group. The result when compared between the two experimental groups, it was found that contrast training group had significant effect on speed.

KEYWORDS: Complex Training, Contrast Training, Speed, Resting Pulse Rate, and Sportsmen.

INTRODUCTION:

Complex training is used to activate the nervous system and fast twitch muscle fibers at a similar time. The strength training exercise activates the fast twitch muscle fibers and also improving for explosive power. The plyometric exercises activate the muscle fibers that are activated by the strength employment movement. Throughout this activated state, the muscles have an improbable ability to adapt. This manner of intense employment can teach slow twitch muscle fibers to perform like fast twitch fibers".

Strength work has been suitable sports performance preferably for sprinters, jumpers and throwers but it isn't helpful in developing rate of force - the speed therewith force is achieved

THE EFFECT OF EIGHT WEEKS OF COMPLEX TRAINING AND CONTRAST TRAINING ON SPEED AND RESTING......

throughout a movement. It takes around four hundred meter/sec to develop most force throughout a squat exercise, but the foot-ground contact time in sprinting is around ninety meter/ seconds so there is not enough time to produce most force and so it is the speed of force development that necessary. To develop the speed of force and the type IIb muscle fibres need to be targeted, as these area unit once that manufacture force the most explosively lease most power. The classes of exercises that develop the type IIb fibres are:

- Speed strength exercises e.g. weighted squats jumps
- ▲ Plyometric exercises e.g. bounding.

Contrast training refers to a form of resistance training job that alternates the utilization of great and lightweight load exercises so on enhance muscular power. To reinforce power through your programme, you want to target creating a shot to supply further force or speed at the side of your exercises. Distinction coaching job accomplishes every by requiring you to perform two exercises consecutive. The first exercise could also be an ancient strength exercise, and so the second exercise is Associate in nursing explosive exercise that challenges an identical muscles and movement pattern. As a result of the resistance inside the initial exercise is serious, this could turn out further activation of the muscles involved inside the movement. Then, by following the first exercise with a further explosive, lighter load exercise that works identical muscles, you may not entirely teach your body the simplest way to activate further muscle, but the simplest way to activate that muscle or groups of muscles further quickly resulting in improved power. Associate in nursing example of a distinction coaching job set that will facilitate build your legs further powerful would be to perform a gaggle of 1to 5 serious sports equipment squats followed right away by a gaggle of eight to10 squat jumps. Train our central system and improve strength and athletic performance by alternating between serious exercise and explosive movements a strength coach World Health Organization works with high level athletes and a lecturer World Health Organization trains the trainers.

METHODOLOGY

The purpose of this study is to determine the effect of complex training and contrast training on speed and resting pulse rate among sportsmen. Forty five subjects were selected from Selvam college of physical education, Namakkal, Tamilnadu and their age ranged from 18 to 23 years. The subjects were equally divided into three groups with fifteen subjects in each group. The group I was treated with complex training group, Group II was treated with contrast training group and Group III was treated with control group. Training was given for a period of 8 weeks. The results of pre-test and post-test were statistically analyzed by using analysis of co-variance. The result when compared between the two experimental groups revealed that resting pulse rate had no significant improvement due to complex training and contrast training and contrast training when compared to the control group. The result when compared between the two experimental groups, it was found that contrast training group had significant effect on speed. Training was given on alternative days in a week except Saturday and Sunday. The training session was carried out for 60 min which includes warming up and cooling down. The results of pre-test and post-test were compared by using Analysis of Covariance (ANCOVA). The subjects living condition and life style were not taken into consideration for this study.

RESTING FOLSE RATE													
						Sum of	Df	Mean	'F'				
Variables	Test	CG	EGI	EGII	SOV	squares		squares	ratio				
Speed		10.3773	10.5073	10.0433	B:	1.719	2	0.859	2.427				
	Pre test	0.58616	0.68638	0.49770	W:	14.874	42	0.354					
		10.5327	10.2673	9.9593	B:	2.470	2	1.235	3.645*				
	Post test	0.47228	0.72956	0.51107	W:	14.231	42	0.339					
	Adjusted	10.470	10.084	10.205	B:	1.166	2	0.583	15.801*				
	Post test				W:	1.512	41	0.037					
Resting pulse rate		80.0000	79.8000	79.6667	B:	0.844	2	0.422	0.007				
	Pre test	8.65200	7.55173	6.82084	W:	2497.733	42	59.470					
		79.933	79.0667	79.4000	B:	5.733	2	2.867	0.049				
	Post test	8.68880	7.33355	6.74854	W:	2447.467	42	58.273					
	Adjusted				B:	3.535	2	1.768	2.011				
	Post test	79.759	79.089	79.553	W:	36.041	41	0.879					

TABLE-I ANALYSIS OF COVARIANCE FOR CONTROL GROUP AND EXPERIMENTAL GROUPS ON SPEED AND RESTING PULSE RATE

*Significant at 0.05 level.

Required table value at 0.05 level of significance for 2&42 degrees of freedom = 3.23 respectively.

Table I shows the analysis of co-variance for the pre-test mean on speed is 2.427. There is no significant difference among the three groups on speed, since the calculated 'f' value 2.427 is less than the required table value 3.23.But there is significant difference among the posttest means of the three groups on speed, since the calculated 'f' value 3.645 is greater than the required value 3.23. The Adjust posttest mean 15.801 is also significant, since the calculated value is greater than the required value is 3.23.Since the result showed significant difference among the three groups, the scheffe's post hoc test was used to find out the significant difference between the paired means.

The Resting Pulse Rate shows the analysis of co-variance for the pre-test mean on resting pulse rate is 0.007. There is no significant difference among the three groups on resting pulse rate, since the calculated 'f' value 0.025 is less than the required table value 3.23. But there is significant difference among the posttest means of the three groups on resting pulse rate, since the calculated 'f' value 0.049 is less than the required value 3.23. The Adjust posttest mean 2.011 is also non-significant, since the calculated value is lesser than the required value is 3.23.

TABLE-II ORDERED ADJUSTED MEANS AND DIFFERENCE BETWEEN MEANS FOR THE THREE GROUPS ON SPEED

		Adj	Mean	Confidence		
Si.no	variable	Control group	Experimental Group I	Experimental Group II	difference	interval value
1.	Speed	10.470	10.084	-	0.39	
	-	10.470	-	10.205	0.27	0.66
		-	10.084	10.205	0.12	

*Significant at 0.05 level. Scheffe's confidence circuit at 0.05 levels is 0.66

Table I1 shows the scheffe's post-hoc tests for the significant differences between the paired

means among the three groups. For speed the mean differences between the control group and Experimental Group I was 0.39. In the comparison between control group and Experimental Group II the mean difference was 0.27. The ordered adjusted difference on speed means between the Experimental Group I and Experimental Group II group are 0.12.

The above Resting pulse rate table reveals that the 'f' ratio value is less than the required table value 3.23. This shows that there is no significance difference among the three groups. Therefore the Scheffe's post hoc test is not analyzed.

GRAPHICAL REPRESENTATION OF PRE-TEST, POST TEST AND ADJUSTED POST TEST MEANS ON SPEED OF THE THREE GROUPS



FIGURE-1





CONCLUSION

The result of the study indicate that the complex training and contrast training for the experimental group improved significantly when compared to the control group and contrast training group is found to be better than the complex training group on speed and there is no significant in the resting pulse rate for both experimental groups.

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