EFFECT OF RESISTANCE TRAINING ON RESTING PULSE RATE AMONG WOMEN PHYSICAL EDUCATION STUDENTS

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ABSTRACT

The purpose of the study was to find out the effect of resistance training on resting pulse rate among women physical education students. It was hypothesized that there would be significant differences on resting pulse rate due to the effect of resistance training. For the present study the 30 women physical education students from Sri Sarada College of Physical Education for Women, Salem, Tamilnadu were selected at random and their age ranged from 18 to 25 years. The resting pulse rate was assessed by stethoscope. For the present study pre test – post test random group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'I' and Group 'II'. Group 'I' underwent resistance training and Group 'II' has not undergone any training. Resting pulse rate was assessed by bio-monitor. The data was collected before and after twelve weeks of training. The data was analyzed by applying ANCOVA test. The level of significance was set at 0.05. The results of the study showed that the experimental group reduced the resting pulse rate than the control group.

KEYWORDS: Resistance Training, Resting Pulse Rate, Physical Education Students.

INTRODUCTION

Resistance training improves the muscle strength, power and endurance. Weight training mostly increases the size of muscle fibers. During this training the muscle protein content increases rapidly which involves in metabolic reactions. Strength training can be resulted in hypertrophy of the muscle, partly through an enlargement of muscle fibers. In addition, training with high weight can change the fiber type distribution in the direction of faster twitch fibers. An improvement in muscular strength training through isolated movements seems closely related to training speeds. It was well established that weight training can enhance the force production capabilities of an older adult by increasing muscle mass or improving muscle quality (i.e., the force-generating capacity of individual muscle fibers). The goal of weight training is to "gradually and progressively overload the musculoskeletal system so it gets stronger" and also recommends that the training should be in progressive manner depends upon the capacity of an individual. It was recommend that beginners starts with 8 to 10 exercises for the major muscle groups with more repetitions thrice in a week. Before the weight training the doctor's suggestion for people who have overweight. This type of training needs the selection of right equipment and must be conditioned before the weights. Weight training can be used without recourse to the devices (Loftice, et al. 2004).

METHODOLOGY

The purpose of the study was to find out the effect of resistance training on resting pulse rate among women physical education students. It was hypothesized that there would be significant differences on resting pulse rate due to the effect of resistance training. For the present study the 30 women physical education students from Sri Sarada College of Physical

Education for Women, Salem, Tamilnadu were selected at random and their age ranged from 18 to 25 years. The resting pulse rate was assessed by stethoscope. For the present study pre test – post test random group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'I' and Group 'II'. Group 'I' underwent resistance training and Group 'II' has not undergone any training. Resting pulse rate was assessed by bio-monitor. The data was collected before and after twelve weeks of training. The data was analyzed by applying ANCOVA test. The level of significance was set at 0.05.

RESULTS

The analysis of covariance on resting pulse rate on resistance training group and control group were statistically examined and presented in table – I.

TABLE – I
ANALYSIS OF COVARIANCE ON RESTING PULSE RATE OF RESISTANCE TRAINING AND CONTROL GROUPS

	Resistance training group	Control group	Source of variance	Sum of squares	df	Mean squares	'F' ratio
Pretest Mean SD	68.42	68.63	Between	27.24	1	27.24	1.84
	3.97	4.02	Within	413.56	28	14.77	
Posttest Mean SD	63.15	67.98	Between	184.72	1	184.72	14.91*
	3.89	3.76	Within	347.02	28	12.39	
Adjusted Posttest Mean	64.38	68.23	Between	43.89	1	43.89	29.86*
			Within	39.82	27	1.47	

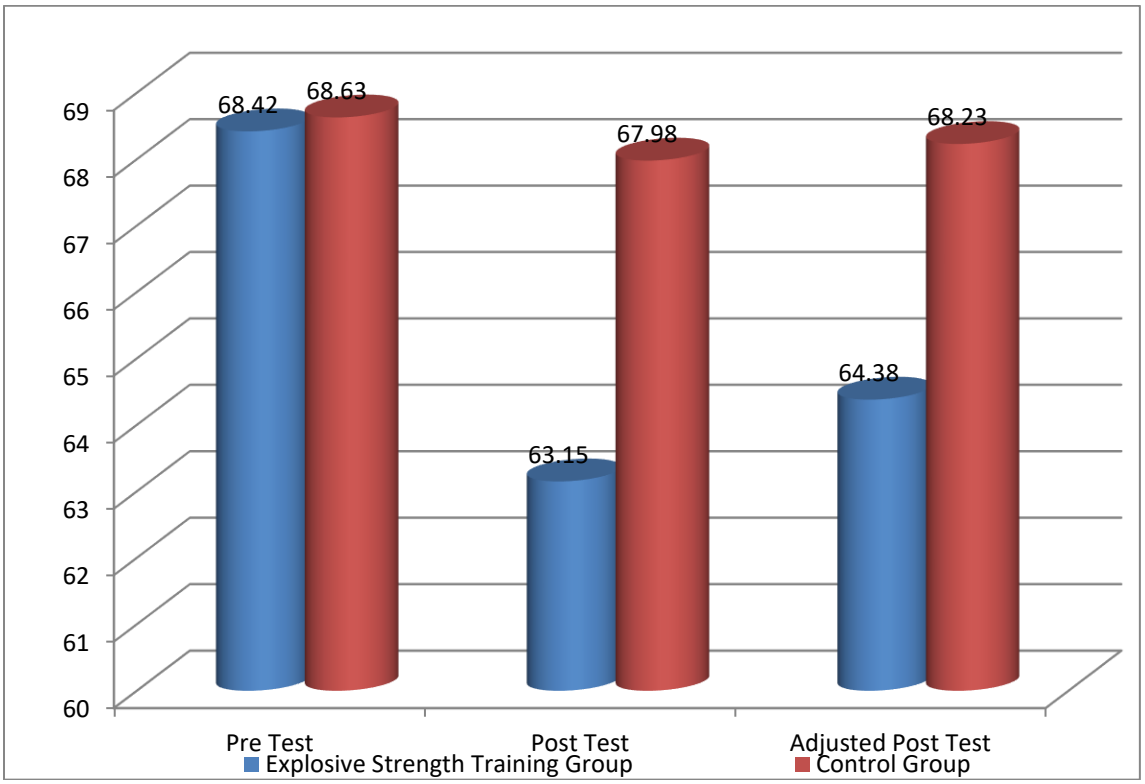
The required table value for significance at 0.05 level of confidence with degrees of freedom 1 and 27 is 4.21 and degree of freedom 1 and 28 is 4.20.

Table-I shows that the pre test means of resting pulse rate of resistance training and control group are 68.42 and 68.63 respectively. The obtained 'F' ratio value of 1.84 for pre test means on resting pulse rate is lesser than the required table value of 4.20 for significance at 0.05 level of confidence with degrees of freedom 1 and 28. The post-test means on resting pulse rate of resistance training and control groups are 63.15 and 67.98 respectively. The obtained 'F' ratio value of 14.91 for post-test data on resting pulse rate is greater than the required table value of 4.20 for significance at 0.05 level of confidence with degrees of freedom 1 and 28. The adjusted post-test means on resting pulse rate of resistance training and control groups are 64.38 and 68.23 respectively. The obtained 'F' ratio value of 29.86 of adjusted post-test data on resting pulse rate is greater than the table value of 4.21 required for significance at 0.05 level of confidence with degrees of freedom 1 and 27. The results of the study showed that there was significant difference among the adjusted post-test means of resistance training and control groups. It may be concluded from the results of the study that significant differences were found

on resting pulse rate between resistance training and control group. This shows that resistance training had significant impact on resting pulse rate of the subjects.

FIGURE – I

GRAPHICAL REPRESENTATION OF PRE, POST AND ADJUSTED POST TEST MEAN VALUES OF RESISTANCE TRAINING AND CONTROL GROUPS ON RESTING PULSE RATE



CONCLUSION

1. The results of the study showed that the experimental group reduced the resting pulse rate than the control group. This may be due to the nature of the resistance training programme that was advocated in the training schedule.

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