EFFECT OF CIRCUIT TRAINING ON SELECTED PHYSICAL VARIABLES AMONG COLLEGE WOMEN STUDENTS

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ABSTRACT

The purpose of the study was to find out the effect of circuit training on selected physical variables among college women students. It was hypothesized that there would be significant differences on selected physical variables due to the effect of circuit training among college women students. For the present study the 30 college women students from Sri Sarada College of Physical Education for Women, Salem, Tamilnadu were selected at random and their age ranged from 18 to 21 years. 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 circuit training and Group 'II' has not undergone any training. Leg strength was assessed by dynamometer and muscular strength endurance was assessed by sit ups. 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 that practiced circuit training exercises increased the selected physical variables than the control group.

KEYWORDS: Circuit training, Physical Variables, College Students.

INTRODUCTION

Circuit training is an effective and testing type of molding. It functions admirably for creating quality, perseverance, adaptability and coordination. Its adaptability has made it famous with the overall population directly through to first class competitors. For sports people, it very well may be utilized during the shut season and early pre-season to help build up a strong base of wellness and set up the body for more distressing ensuing training. Circuit preparing is a compelling hierarchical type of doing physical activities for improving all physical wellness parts. When preparing, the underlying and last tests were directed for the factors, for example, speed, readiness, power, co-appointment, static equalization and dynamic parity for the test and control gatherings. Aerobics is an activity program that creates generally speaking wellness. Performed normally, high-intensity exercise will all the while improve strong quality, continuance, cardiovascular wellness, and adaptability. Aerobics was designed in 1953 as a productive path for mentors to prepare numerous competitors in a restricted measure of time with restricted hardware. The exerciser traveled through a progression of weight preparing or workout orchestrated continuously. It was a relentless exercise of 15 to 45 seconds for every station with nearly nothing (15 to 30 seconds) or no rest between stations. Today, this is known as "circuit weight preparing". Examination has indicated that it can increment solid quality and continuance. There is a gentle improvement in high-impact endurance however just if the rest time frames are kept short (Sudhakar & Paul 2013).

METHODOLOGY

The purpose of the study was to find out the effect of circuit training on selected physical variables among college women students. It was hypothesized that there would be significant differences on selected physical variables due to the effect of circuit training among college women students. For the present study the 30 college women students from Sri Sarada College of Physical Education for Women, Salem, Tamilnadu were selected at random and their age ranged from 18 to 21 years. 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 circuit training and Group 'II' has not undergone any training. Leg strength was assessed by dynamometer and muscular strength endurance was assessed by sit ups. 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

TABLE – I
ANALYSIS OF COVARIANCE ON LEG STRENGTH OF EXPERIMENTAL AND CONTROL GROUPS

	Circuit training	Control Group	Source of variance	Sum of Squares	df	Mean squares	Obtained 'F' ratio
Pretest Mean	94.87	94.62	Between	8.64	1	8.64	0.03
SD	12.29	11.28	Within	9396.87	28	335.60	
Posttest Mean	105.31	94.93	Between	2712.04	1	2712.O4	15.23
SD	11.68	10.78	Within	4985.92	28	178.07	
Adjusted Posttest Mean	103.59	94.89	Between	2846.83	1	2846.83	25.93
			Within	2963.79	27	109.77	

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 leg strength of circuit training and control groups are 94.87 and 94.62 respectively. The obtained 'F' ratio value of 0.03 for pre test means on leg strength is lesser than the 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 leg strength of circuit training and control groups are 105.31 and 94.93 respectively. The obtained 'F' ratio value of 15.23 for post-test data on leg strength 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 leg strength of circuit training and control groups are 103.59 and 94.89 respectively. The obtained 'F' ratio value of 25.93 of adjusted post-test data on leg strength is greater than the table value of 4.21 required for significance at 0.05 level of confidence. It may be concluded from the results of the

study that significant differences were exist between circuit training and control groups on leg strength. This shows circuit training had significant impact on leg strength of the subjects.

FIGURE – I
BAR DIAGRAM SHOWS THE PRE, POST AND ADJUSTED POST TEST MEAN VALUES ON LEG STRENGTH OF EXPERIMENTAL AND CONTROL GROUPS

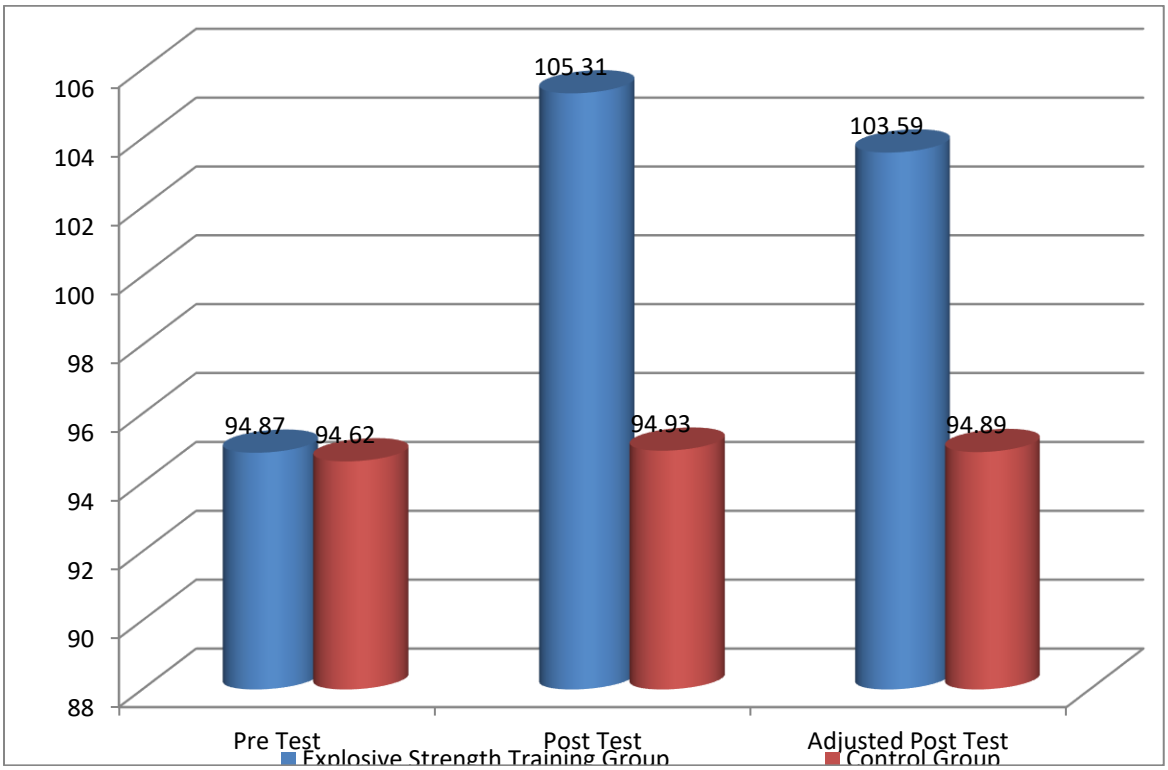


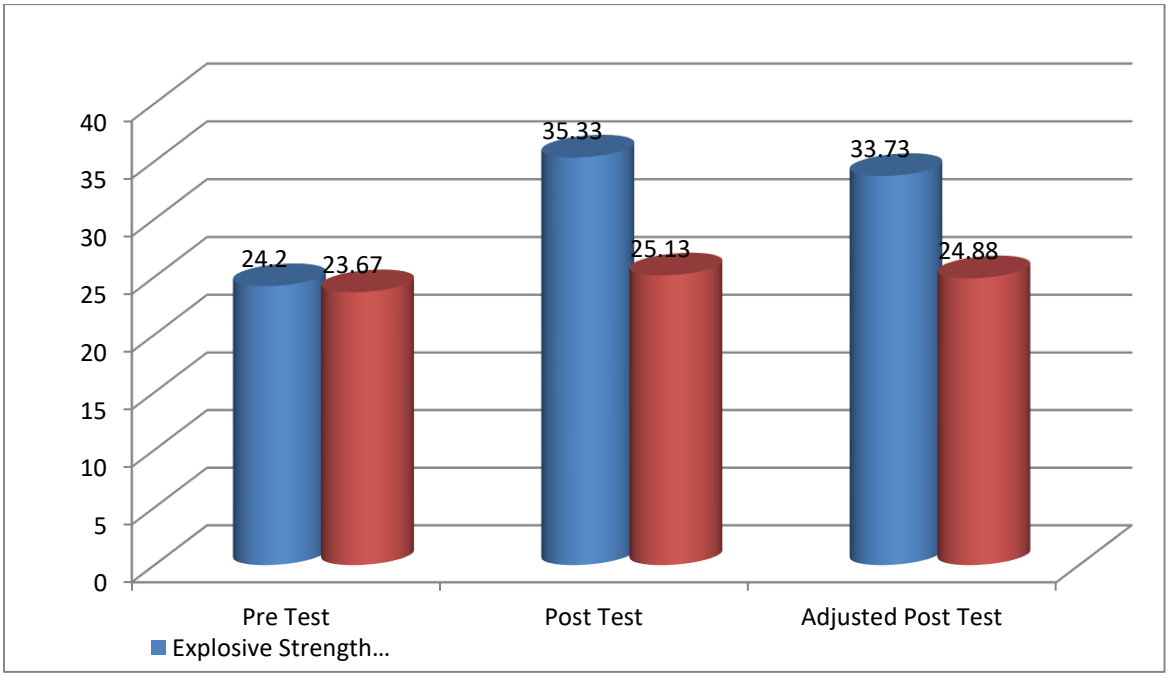
TABLE – II
ANALYSIS OF COVARIANCE ON MUSCULAR STRENGTH ENDURANCE OF EXPERIMENTAL AND CONTROL GROUPS

	Circuit Training	Control Group	Source of variance	Sum of Squares	df	Mean squares	Obtained 'F' ratio
Pretest Mean SD	24.20	23.67	Between	71.63	1	71.63	2.51
	3.03	2.38	Within	797.73	28	28.49	
Posttest Mean SD	35.33	25.13	Between	504.30	1	504.30	36.67
	2.45	3.64	Within	385.07	28	13.75	
Adjusted Posttest Mean	33.73	24.88	Between	223.72	1	223.72	89.39
			Within	67.57	27	2.503	

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-II shows that the pre test means of muscular strength endurance of circuit training and control group are 24.20 and 23.67 respectively. The obtained 'F' ratio value of 2.51 for pre test means on muscular strength endurance 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 muscular strength endurance of circuit training and control groups are 35.33 and 25.13 respectively. The obtained 'F' ratio value of 36.67 for post-test data on muscular strength endurance 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 muscular strength endurance of circuit training and control groups are 33.73 and 24.88 respectively. The obtained 'F' ratio value of 89.39 of adjusted post-test data on muscular strength endurance 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. It may be concluded from the results of the study that significant differences were exist between circuit training and control group on muscular strength endurance. This shows that circuit training had significant impact on muscular strength endurance of the subjects.

FIGURE – II
BAR DIAGRAM SHOWS THE PRE, POST AND ADJUSTED POST TEST MEAN VALUES ON MUSCULAR STRENGTH ENDURANCE OF EXPERIMENTAL AND CONTROL GROUPS



CONCLUSION

1. The results of the study showed that the experimental group that practiced circuit training exercises increased the selected physical variables than the control group.

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