



A SCIENTIFIC STUDY ON LOW AND MODERATE LEVEL OF INTENSE CIRCUIT TRAINING ON SELECTED PHYSIOLOGICAL PARAMETER AMONG ELITE FEMALE ATHLETES

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ABSTRACT The purpose of the present study was to investigate the effect of a scientific study on low and medium level of intense circuit training on selected physiological parameter among elite female athletes. To achieve the purpose of the study thirty female athletes were selected from Erode District, Tamilnadu, India during the year 2021. The subject's age ranges from 21 to 25 years. The selected subjects were divided into two equal groups consists of 15 subjects each namely experimental group and control group. The experimental group underwent a combined low and medium level of intensity circuit training programme for eight weeks. The control group was not taking part in any training during the course of the study. Resting heart rate was taken as criterion variable in this study. The selected subjects were tested on resting heart rate was measured through heart rate monitor. Pre-test was taken before the training period and post- test was measured immediately after the eight week training period. Statistical technique 't' ratio was used to analyse the means of the pre-test and post test data of experimental group and control group. The results revealed that there was a significant difference found on the criterion variable. The difference is found due to combined low and medium level of intensity circuit training given to the experimental group on heart rate when compared to control group.

KEYWORDS : Combined low and medium level of intensity circuit training, Resting Heart rate and 't' ratio.

INTRODUCTION

Circuit training is the training which was made by different stations, each stations having different exercise. These exercise are done with the specific density as well as specific intensity is called circuit training. This training not having rest between the stations.

Resting heart rate is the most important physiological component that plays a vital role in health practicing low and moderate level of circuit training increase the level of wellness in the sports man conditions and leads to higher performance.

RESEARCH METHODOLOGY

Selection of subjects

The purpose of the study was to find out the effect of low and medium level of intense circuit training on selected physiological parameter among elite female athletes. To achieve this purpose of the study, female athletes were selected as subjects at random. The age of the subjects were ranged from 20 to 25

Selection of variable

Independent variable

- Combined low and medium level of intensity circuit training

Dependent variable

- Resting heart rate

EXPERIMENTAL DESIGN AND IMPLEMENTATION

The selected subjects were divided into two equal groups of fifteen subjects each, such as a combined low and medium level of intensity circuit training group (Experimental Group) and control group. The experimental group underwent combined low and medium level of intensity circuit training for four days (two days low intensity and two days moderate intensity) per week for eight weeks. Control group, which they did not undergo any special training programme apart from their regular physical activities as per their curriculum. The following physiological variable namely resting heart rate was selected as criterion variable. All the subjects of two groups were tested on selected criterion variable resting heart rate was measured through heart rate monitor at prior to and immediately after the training programme.

ANALYSIS OF THE DATA

The significance of the difference among the means of the experimental group was found out by pre-test. The data were analysed and dependent 't' test was used with 0.05 levels as confidence.

Table I Analysis Of T-ratio For The Pre And Post Tests Of Experimental And Control Group On Resting Heart Rate (scores In Bpm)

Variables	Group	Mean		Degree of freedom	't' ratio
		Pre	Post		
Resting heart rate	Control Group	71.06	71.13	14	0.32
	Experimental Group	71.20	68.86		

Significance at .05 level of confidence.

The Table-I and II shows that the mean values of pre-test and post-test of the control group on heart rate were 71.06 and 71.13 respectively. The obtained 't' ratio was 0.32, since the obtained 't' ratio was less than the required table value of 2.14 for the significant at 0.05 level with 14 degrees of freedom it was found to be statistically insignificant. The mean values of pre-test and post-test of the experimental group on heart rate were 71.20 and 68.86 respectively. The obtained 't' ratio was 14.64* since the obtained 't' ratio was greater than the required table value of 2.14 for significance at 0.05 level with 14 degrees of freedom it was found to be statistically significant. The result of the study showed that there was a significant difference between control group and experimental group in heart rate. It may be concluded from the result of the study that experimental group improved in heart rate due to eight weeks of low and medium level of intensity circuit training.

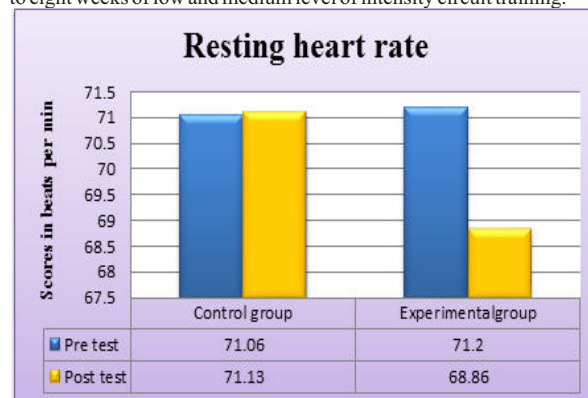


Figure-1 Bar Diagram Showing the Pre and Post Mean Values of Experimental and Control Group on Resting Heart rate

DISCUSSIONS ON FINDINGS

The result of the study indicates that the experimental group, namely low and medium level of intensity circuit training group had significantly improved the selected dependent variable, namely heart rate, when compared to the control group. It is also found that the improvement caused by low and medium level of intensity circuit training when compared to the control group.

CONCLUSION

On the basis of the results obtained the following conclusions are drawn,

- There was a significant difference between experimental and control group on heart rate after the training period.
- There was a significant improvement in heart rate. However the improvement was in favor of experimental group due to eight weeks of low and medium level of intensity circuit training.

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