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Effect of Interval Training on selected hematological Variables among Badminton Players

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Abstract

The purpose of the study was to find out the effect of interval training on selected hematological variables among badminton players. It was hypothesized that there would be significant differences on selected hematological variables due to the effect of interval training among badminton players. For the present study the 30 male badminton players from Trivendrum District, Kerala were selected at random and their age ranged from 18 to 25 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 'A' and Group 'B'. Group 'A' underwent interval training and Group 'B' has not undergone any training. The data was collected before and after six weeks of training. The data was analyzed by applying dependent 't test. The level of significance was set at 0.05. The findings of the present study have strongly indicates that interval training of six weeks have significant effect on selected hematological variables i.e., LDL and HDL of badminton players.

Keywords: Interval Training, HDL, LDL, Badminton.

Introduction

Interval training is a highly taxing type of training that we could compare with the extremely strenuous work performed by Sisyphus. According to Greek mythology, Sisyphus was the king of Corinth and well known for his craftiness. When Hades, the god of death, came to get him, Sisyphus tricked Hades and put him in chains. Hades eventually escaped and punished Sisyphus for his trickery. The sentence was that Sisyphus would eternally push a huge stone to the top of a hill. Every time Sisyphus reached the summit the stone would roll back down forcing him to start his work again and again and again. Those who want to experience Interval training had better remember the work of Sisyphus.

The concept of interval training has existed for a number of years in one form or another. Humphreys & Halman (1986) credit the famous German coach, Woldemar Gerschler, with the formalization of a structured system of interval training in the 1930s. With interval training, short to moderate periods of work are alternated with short to moderate periods of rest, or reduced activity. The concept has a firm foundation in hematological principles. Researchers have demonstrated that athletes can perform a considerably greater volume of work by breaking the total work into short, intense bouts with rest, or reduced activity, intervals interspersed between consecutive work bouts. The intervals of work and rest are usually equal and can vary from several seconds to five minutes or more (Wilmore & Costill, 1986).

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Methodology

The purpose of the study was to find out the effect of interval training on selected hematological variables among badminton players. It was hypothesized that there would be significant differences on selected hematological variables due to the effect of interval training among badminton players. For the present study the 30 male badminton players from Trivendrum District, Kerala were selected at random and their age ranged from 18 to 25 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 'A' and Group 'B'. Group 'A' underwent interval training and Group 'B' has not undergone any training. The data was collected before and after six weeks of training. The data was analyzed by applying dependent 't test. The level of significance was set at 0.05.

Analysis of Data

The findings pertaining to analysis of dependent 't' test between experimental group and control group on selected hematological variables among badminton players for pre-post test respectively have been presented in table I to II.

Results

Table I. Significance of mean gains & losses between pre and post test scores on selected variables of interval training group

S.No	Variables	Pre-Test Mean	Post-Test Mean	Mean difference	Std. Dev (±)	σ DM	't' Ratio
1	LDL	115.61	107.40	8.21	2.17	0.61	9.11*
2	HDL	64.88	70.30	5.42	3.06	0.76	5.74*

An examination of table-I indicates that the obtained't' ratios were 9.11 and 5.74 for LDL and HDL rate respectively. The obtained't' ratios were found to be greater than the required table value of 2.14 at 0.05 level of significance for 14 degrees of freedom. So it was found to be significant. The results of this study showed that statistically significant and explained its effects positively. The graphical representation of data has been presented in figure I.

Figure I. Comparisons of pre – test means and post – test means for experimental group in relation to hematological variables

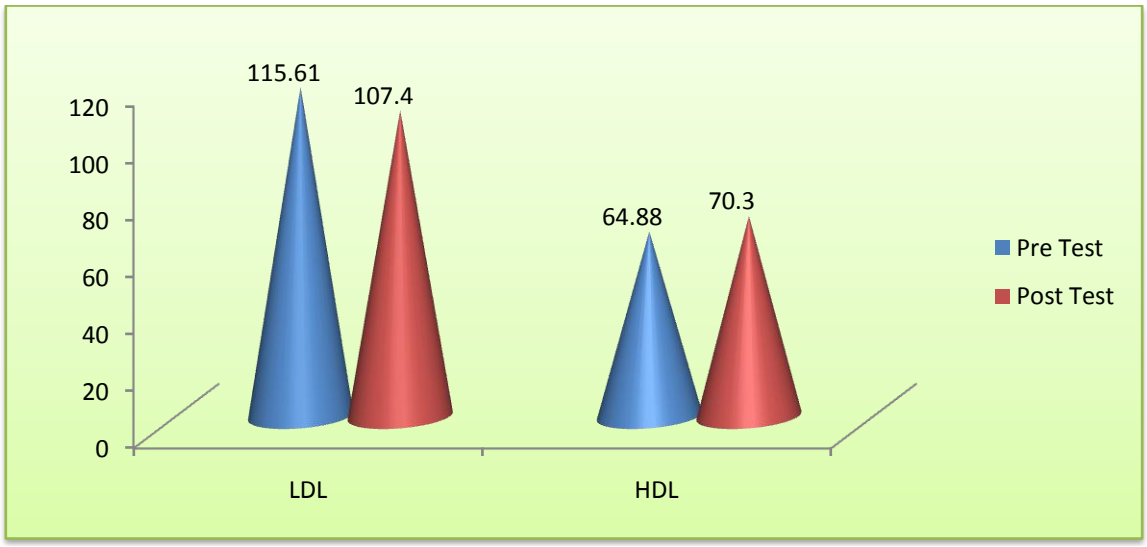
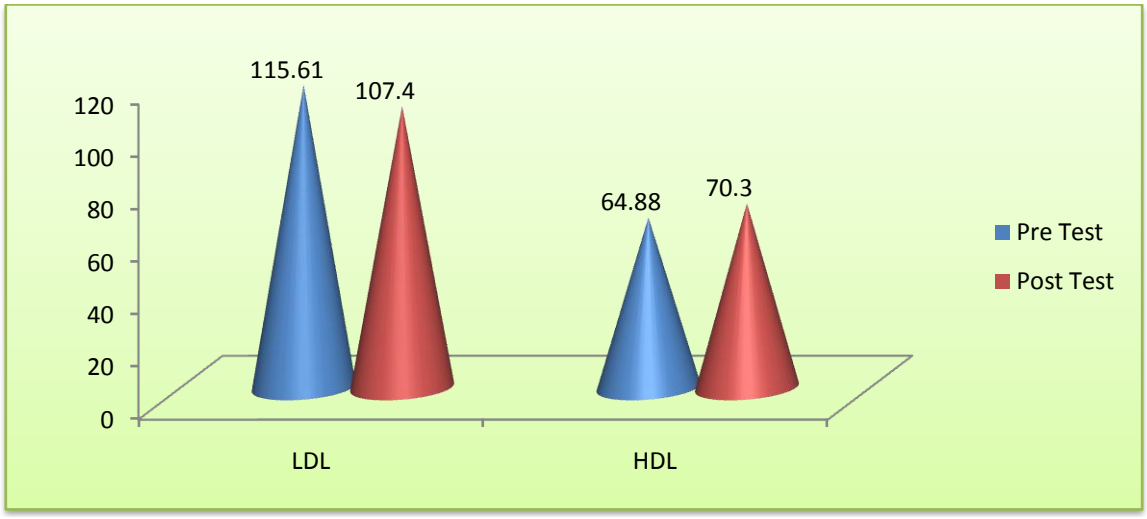


Table II. Significance of mean gains & losses between pre and post test scores on selected variables of control group

S.No	Variables	Pre-Test Mean	Post-Test Mean	Mean difference	Std. Dev (±)	σ DM	't' Ratio
1	LDL	116.91	115.55	1.36	3.23	0.78	1.41
2	HDL	64.19	64.57	0.38	3.52	0.92	0.30

An examination of table-II indicates that the obtained't' ratios were 1.41 and 0.30 for LDL and HDL rate respectively. The obtained't' ratios were found to be lesser than the required table value of 2.14 at 0.05 level of significance for 14 degrees of freedom. So it was found to be insignificant. The graphical representation of data has been presented in figure II.

Figure II. Comparisons of pre – test means and post – test means for control group in relation to hematological variables



Discussions on Findings

In case of hematological variables i.e. LDL and HDL the results between pre and post test has been found significantly higher in experimental group in comparison to control group. This is possible because due to regular interval training which may also bring sudden spurt in hematological variables in badminton players. The findings of the present study have strongly indicates that interval training of six weeks have significant effect on selected hematological variables i.e., LDL and HDL of badminton players. Hence the hypothesis earlier set that interval training programme would have been significant effect on selected hematological variables in light of the same the hypothesis was accepted.

Conclusions

On the basis of findings and within the limitations of the study the following conclusions were drawn:

1. The interval training had positive impact on LDL and HDL among badminton players.
2. The experimental group showed better improvement on LDL and HDL among badminton players than the control group.

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