



## EFFECT OF INTERVAL TRAINING ON SELECTED ENDURANCE COMPONENTS AMONG COLLEGE KABADDI PLAYERS

**Dr.M.SURESH KUMAR**

Director of Physical Education, Ganesar College of Arts & Science, Ponnamaravathi, Tamilnadu, India.

### Abstract

*The purpose of the study was to find out the effect of interval training on endurance components among college Kabaddi players. To achieve the purpose of the present study, thirty men Kabaddi players from Ganesar College of Arts & Science, Pudukkottai, Tamilnadu, India were selected as subjects at random and their ages ranged from 18 to 25 years. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects (N=30) were randomly assigned to two equal groups of fifteen subjects each. Pre test was conducted for all the subjects on selected endurance components. This initial test scores formed as pre test scores of the subjects. The groups were assigned as Experimental Group and Control Group in an equivalent manner. Experimental Group was exposed to interval training and Control Group underwent no training. The duration of experimental period was 12 weeks. After the experimental treatment, all the thirty subjects were tested on their selected endurance components. This final test scores formed as post test scores of the subjects. The pre test and post test scores were subjected to statistical analysis using paired 't' test. In all cases 0.05 level of significance was fixed to test hypotheses.*

**Keywords:** Interval Training, Endurance Components, Kabaddi Players.

### Introduction

The interval programmes of today have become highly sophisticated methods of structured training for athletic performance enhancement. Physiologists and trainers have designed interval programmes that are specifically suited to individual athletes. These sessions include precisely measured intervals that match the athlete's sport, event and current level of conditioning. Often the appropriate intensity and duration of the intervals are determined by the results of anaerobic threshold testing (AT) that includes measuring the blood-lactate of an athlete during intense exercise. Interval training works both in the aerobic and the anaerobic system. During the high intensity effort, the anaerobic system uses the energy stored in the muscles (glycogen) for short bursts of activity. Anaerobic metabolism works without oxygen. The by product is lactic acid, which is related to the burning sensation felt in the muscles during high intensity efforts.

The sport has a long history dating back to pre-historic times. It was probably invented to ward off croup attacks by individuals and vice-versa. The game was very popular in the southern part of Asia played in its different forms under different names. A dramatized version of the great Indian epic, the "Mahabharata" has made an analogy of the game to a tight situation faced by Abhimaneu, the heir of the Pandava kings when he is surrounded on all sides by the enemy. Buddhist literature speaks of the Gautam Buddha played Kabaddi for recreation. History also reveals that princes of yore

played Kabaddi to display their strength and win their brides. The origin of kabaddi can be traced to the pre-historic times when the game was devised as a way to develop the physical strength and speed in young men. The game is essentially an Indian one, and commands huge popularity in the Indian hinterland.

### Review of Related Literature

Krishnaleela & Gopinath (2015) examined the effect of different intensities of interval training and detraining on cardio respiratory endurance. Sixty subjects were selected and they were divided into four equal groups of fifteen each. The first group performed low intensity interval training, second group performed medium intensity interval training, third group performed high intensity interval training and the fourth group acted as control. After the completion of twelve-weeks of interval training period the subjects of group I, II and III were physically detrained for thirty days. The pre and posttest data on cardio respiratory endurance was statistically analyzed by applying the analysis of covariance (ANCOVA). The data collected on post experimentation and during detraining were statistically analyzed by using two way (4x4) factorial ANOVA with last factor repeated measures. Statistical analysis found significant improving in cardio respiratory endurance and significant decline during detraining period.

Giridharan & Saikumar (2015) examined the effects of high intensity aerobic interval training, concurrent low intensity aerobic and resistance interval

training on physiological variables of college level football players. To achieve the purpose of this study, forty five football players from Velammal Institutions, Chennai, Tamilnadu state, India were selected as subjects at random and their age ranged from 18 to 23 years. The subjects were divided into three groups consisting of 15 each. The experimental group I was treated with the high intensity aerobic interval training (HIAIT), experimental group II was treated with the concurrent low intensity aerobic and resistance interval training (CLIARIT) and group III as control group (CG). Vo<sub>2</sub> max was assessed by Queen's college step test and cardio respiratory endurance was measured by Cooper's 12 minutes run. analysis of covariance (ANCOVA) was computed because the subjects were selected random, but the groups were not equated in relation to the factors were examined. Whenever the adjusted post-test means were found significant, the scheffe's post-hoc test was administered to find out the paired means difference. To test the obtained results on variables, level of significance 0.05 was chosen and considered as sufficient for the study. Both the high intensity aerobic interval training group and concurrent low intensity aerobic and resistance interval training group had shown significant difference in improvement on physiological variables of college level football players. The concurrent low intensity aerobic and resistance interval training group showed significant improvement on

physiological variables than the other two groups.

### Methodology

The purpose of the study was to find out the effect of interval training on endurance components among college Kabaddi players. To achieve the purpose of the present study, thirty men Kabaddi players from Ganesar College of Arts & Science, Pudukkottai, Tamilnadu, India were selected as subjects at random and their ages ranged from 18 to 25 years. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects (N=30) were randomly assigned to two equal groups of fifteen subjects each. Pre test was conducted for all the subjects on selected endurance components. This initial test scores formed as pre test scores of the subjects. The groups were assigned as Experimental Group and Control Group in an equivalent manner. Experimental Group was exposed to interval training and Control Group underwent no training. The duration of experimental period was 12 weeks. After the experimental treatment, all the thirty subjects were tested on their selected endurance components. This final test scores formed as post test scores of the subjects. The pre test and post test scores were subjected to statistical analysis using paired 't' test. In all cases 0.05 level of significance was fixed to test hypotheses.

### Results

TABLE – I

**SIGNIFICANCE OF MEAN GAINS & LOSSES BETWEEN PRE AND POST-TEST SCORES ON SELECTED VARIABLES OF INTERVAL TRAINING GROUP (ITG)**

S.No	Variables	Pre-Test Mean	Post-Test Mean	Mean difference	Std. Dev (±)	σ DM	't' Ratio
1	Muscular endurance	34.90	40.22	5.32	1.94	0.50	10.49*
2	Cardio respiratory endurance	1547.31	1684.33	137.02	39.08	10.09	13.57*

\* Significant at 0.05 level

Table I shows the obtained 't' ratios for pre and post-test mean difference in the selected variable of muscular endurance (10.49) and cardio respiratory endurance (13.57). The obtained ratios when compared with the table value of 2.14 of the degrees of freedom (14) it was found to be statistically significant at 0.05

level of confidence. It was observed that the means gain and losses made from pre to post-test were significantly improved the endurance components. So it was found to be significant. The results of this study showed that statistically significant and explained its effects positively.

TABLE – II

## SIGNIFICANCE OF MEAN GAINS &amp; LOSSES BETWEEN PRE AND POST-TEST SCORES ON SELECTED VARIABLES OF CONTROL GROUP (CG)

S.No	Variables	Pre-Test Mean	Post-Test Mean	Mean difference	Std. Dev (±)	σ DM	't' Ratio
1	Muscular endurance	34.23	35.04	0.81	2.21	0.57	1.28
2	Cardio respiratory endurance	1535.00	1537.66	2.66	28.25	7.29	0.50

\* Significant at 0.05 level

Table II shows the obtained 't' ratios for pre and post-test mean difference in the selected variable of muscular endurance (1.28) and cardio respiratory endurance (0.50). The obtained ratios when compared with the table value of 2.14 of the degrees of freedom (14) it was found to be statistically significant at 0.05 level of confidence. It was observed that the means gain and losses made from pre to post-test were not significantly improved the endurance components. So it was found to be insignificant.

### Conclusion

From the analysis of the data, the following conclusions were drawn:

1. The interval training group had shown significant improvement in all the selected endurance components among state level women kabaddi players after undergoing interval training group for a period of twelve weeks.

### References

1. Baumgartner, T, A., Andrew, S. Jackson, Matthew, T. Mahar & Rowe, D.A. (2003). "Measurement for Evaluation in Physical Education & Exercise Science", New York: Mc-Graw Hill.
2. Berger, N.J., Tolfrey, K., Williams, A.G. & Jones, A.M. (2006). Influence of continuous and interval training on oxygen uptake on-kinetics. *Medicine and Science in Sports and Exercise*. 38(3):504-512.
3. Bompa, O.T. (1999) "Periodization training for sports", Champaign, Illinois: Human Kinetics.
4. Gillen, J.B. & Gibala, M.J. (2014). Is high-intensity interval training a time-efficient exercise strategy to improve health and fitness? *Appl Physiol Nutr Metab*. 39(3):409-12.
5. Giridharan, K. & Saikumar, CH, VST. (2015). Effects of High Intensity Aerobic Interval Training Concurrent Low Intensity Aerobic and Resistance Interval Training on Physiological Variables of College Level Football Players. *International Journal of Recent Research and Applied Studies*, 2,3 (9), 35 -39.
6. Giridharan, K. & Saikumar, CH, VST. (2015). Effects of High Intensity Aerobic Interval Training Concurrent Low Intensity Aerobic and Resistance Interval Training on Physiological Variables of College Level Football Players. *International Journal of Recent Research and Applied Studies*, 2,3 (9), 35 -39.
7. Jayachandran, K. (2014). Effect of Different Interval Training with Yogic Practices on Chosen Physical Fitness Variables among College Men Volleyball Players. *International Journal of Recent Research and Applied Studies*, 1, 4(22), 95 - 98.
8. Krishnaleela, V. & Gopinath, R. (2015). Effect of Different Intensities of Interval Training and Detraining on Cardio Respiratory Endurance. *International Journal of Recent Research and Applied Studies*, 2, 1(3), 12 - 16.
9. Singh, H. (1991). "Science of sports training", DVS publications New Delhi.