



Effect of Alternate High and Low Intensity Training on Physiological Variables among Inter-Collegiate Male Kabaddi Players

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Abstract

The purpose of present study was to find out the effect of Alternate High & Low Intensity Training on selected physiological variables among intercollegiate men Kabaddi players of Bangalore University. For this purpose, thirty men Kabaddi players in the age group of 18 - 25 years were selected as subjects. The selected subjects were divided into two equal groups, in which, Group-I: Alternate High & Low Intensity Training Group (BSTG) (n=30) underwent specific training and Group-II: Control Group (CG) (n=30) acted as control which did not participate any training but allowed to take part in their regular Kabaddi training and playing programme. The training programme was carried out for this study was five days per week for twelve weeks. Prior to and after the training period the subjects were tested for resting heart rate, resting respiratory rate and blood pressure (systolic and diastolic.) The resting heart rate, resting respiratory rate and blood pressure (systolic/diastolic) were collected by using automatic blood pressure monitor. The statistical tool used for the present study was 't' test. After applying the 't' test, it was found that there was significant improvement in the selected physiological variables such as resting heart rate, resting respiratory rate and blood pressure for Alternate High & Low Intensity Training Group (BSTG) when compared with control group. Based on the results it was concluded that the Alternate High & Low Intensity Training was significantly improved in the selected physiological variables of Kabaddi players.

Keywords: High & Low Intensity Training, Physiological, Resting Heart Rate, Respiratory Rate, Blood Pressure.

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Introduction

Regularly indulging in sports helps in keeping the immune system strong and prevents disease. It also increases the appetite of the person. Thus, sports promote good health. Sports inculcate discipline, dedication and responsibility in a person, which he is able to apply in other areas of life as well. This makes him achieve success in every sphere of life, thus, making him even more confident. In the case of Kabaddi, the basic skills like holding, riding, blocking, and breath holding are highly needed. It is true that these skills are basic abilities for all Kabaddi players, but the performance potential depends on specific variables. The coaches and trainees may not be able to determine them by their subjective observations of performances alone. A scientific analysis of the player's performance with respect to their skills might help in a much more positive way. A close relationship exists between physical fitness and sports performance. In case the standard of games and sports in the country is to be improved, adequate stress have to be given for enhancing the physical fitness

status of sports persons. Regular participation on training schedule improves all the important physical, physiological and psychological fitness components. Sport training is a conscious human activity. Also, it is a goal oriented activity. Hence, sports training gives high weightage for studying the nature and genesis of sports performance in training and competition, similarly a large portion of sports training is devoted to the study of performance capacity which further comprises physical condition, technique, coordinative abilities tactics, physique and psychic factors (Haradaya Singh, 1991).

Intensity of training must be individualized and relative to the requirements of the event and fitness of the athlete. A warm-up for an athlete may be a very intense workout for another. The intensity must not be so high that recovery cannot take place before the next workout period. The intensity, frequency and duration of workouts must match the capabilities of the athlete. Some very intense workouts such as strength training or intense running may require more than twenty four hour of recovery time. Thus alternate workouts, of mixing hard and easy days are important factors in proper recovery. During sub maximal exercise, greater aerobic conditioning results in proportionally lower heart rate at a specified rate of work. Six months of endurance

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training program of moderate intensity decreases in heart rate of 20 to 40 beats per minute are common at the same standardized sub maximal rate of work. These decreases indicate that the heart becomes more efficient through training. Different activities make different demands upon the organism with respect to the circulatory, respiratory, metabolic, and neurological and temperature regulating function in specific activity. The training effects are of various kinds and may be observed throughout the body. Apart from various changes, which occur at the tissue level, many systematic changes also occur and these affect primarily on the circulatory and respiratory systems. Hardayal Singh (1991) points out the positive effect of endurance activity on various physiological systems that is cardio respiratory, digestion and metabolism. He also states that these activities have a preventive and curative effect on a number of health problems. Resisting heart rate, resting respiratory rate and cardiovascular endurance are certain parameters or external signs of human health and physical fitness. Hence the present study is explore the effectiveness of alternate high & low intensity training on selected physical variables among men Kabaddi players.

Objective of the Study

The objective of the study was to determine the effect of Alternate High & Low Intensity Training on selected Physiological variables of intercollegiate male Kabaddi players.

Hypothesis of the Study

It is hypothesized that there would be a significant difference in the selected Physiological

variables among experimental group by practicing high and low intensity training.

Methodology

To achieve the purpose of this study, 60 Inter collegiate male Kabaddi players were selected from Bangalore University, Karnataka, India. They were divided into two equal groups namely Group-I AHLITG (Alternate High & Low Intensity Training Group) and Group-II CG (Control Group). After assigning the subjects in groups, 't'- test was conducted to assess the physiological variables. The resting heart rate, resting respiratory rate and blood pressure (systolic/diastolic) were collected by using automatic blood pressure monitor and this was considered as a pre-test. After the pre-test, the Group-I (AHLITG) underwent high and low intensity training program for training for 12 weeks, and Group-II (CG) did not engage any training given by the scholar. After the 12 weeks, post-test was conducted for both groups, and score were recorded accordingly. The collected data was evaluated using 't' test analysis. The proposed hypothesis was tested at 0.05 and 0.01 levels of confidence. The Statistical Software for Social Science (SPSS) was used.

Analysis of Data

The data collected prior to and after the experimental periods on selected physiological variables such as resting heart rate, respiratory rate blood pressure (systolic/diastolic) of Alternate High & Low Intensity Training Group (AHLITG) and Control Group (CG) were analyzed and presented in the following table-I.

Table I. Table showing 't' test analysis between pre test and post test scores for selected Physiological variables such as Resting Heart Rate, Resting Respiratory Rate and Blood Pressure (Systolic and Diastolic) for Alternate High & Low Intensity Training Group (AHLITG) and Control Group (CG) (N=30 Each group)

| Physiological Variables | Tests | Control Group | | | Experimental Group | | |
|--------------------------|-----------|---------------|-------|--------------------|--------------------|------|-----------|
| | | Mean | SD | 't' Value | Mean | SD | 't' Value |
| Resting Heart Rate | Pre Test | 71.50 | 3.63 | 1.38 ^{NS} | 71.86 | 3.72 | 5.51* |
| | Post Test | 70.23 | 3.45 | | 67.56 | 5.02 | |
| Resting Respiratory Rate | Pre Test | 15.80 | 4.51 | 0.06 ^{NS} | 15.75 | 3.20 | 5.70* |
| | Post Test | 14.93 | 4.05 | | 15.54 | 3.08 | |
| Blood Pressure Systolic | Pre Test | 119.50 | 13.31 | 0.96 ^{NS} | 118.03 | 7.44 | 4.17* |
| | Post Test | 119.16 | 12.16 | | 116.86 | 6.11 | |
| Blood Pressure Diastolic | Pre Test | 79.86 | 10.96 | 0.68 ^{NS} | 79.90 | 5.55 | 4.24* |
| | Post Test | 79.45 | 8.93 | | 77.66 | 5.38 | |

^{NS}Not Significant: * Significant at 0.05 level [Table Value = 2.04]

The above table-1 shows that the obtained 't' values 1.38 (resting heart rate); 0.06 (resting respiratory rate); 0.96 (blood pressure systolic) and 0.68 (blood pressure diastolic); for control group which are less than the table value 2.04, hence, it was not significant even at 0.05 level of confidence. It is concluded that the changes made from pre-test to post test was statistically not significant among control group.

The table-1 further shows that that the obtained 't' values 5.51 (resting heart rate); 5.70 (resting respiratory rate); 4.17 (blood pressure systolic) and 4.24 (blood pressure diastolic) for Alternate High & Low Intensity Training group (AHLITG) which are greater than the table value 2.04, hence, it is significant at 0.05 level of confidence. It is concluded that the AHLITG specific training group was significantly improved the

selected physiological variables of men Kabaddi players. This may be due to AHLITG group subjects participated

in alternate high and low intensity training programme.

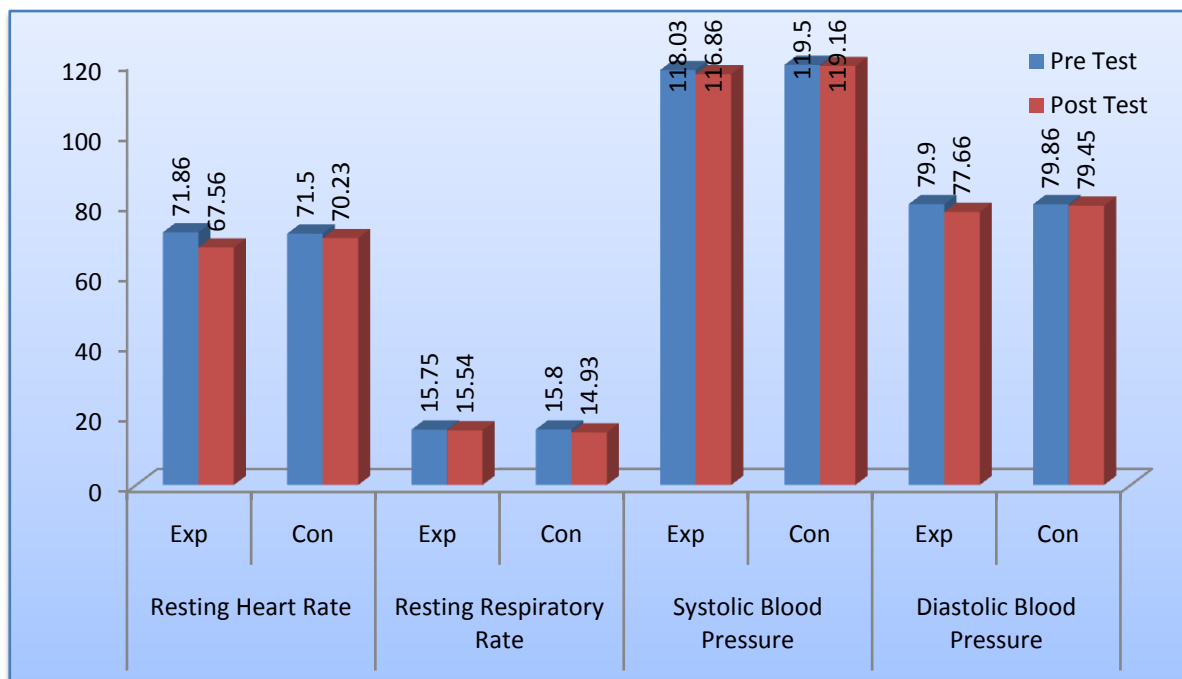


Figure I. Comparison of pre test and post test mean scores of selected physiological variables among control and experimental groups

Discussion on Findings

The present study find out the effect of AHLITG programme on selected physiological variables of Bangalore University Kabaddi men players after test measures for collection of data with appropriate statistical analysis. The researcher examined the effect of alternate high & low intensity training on selected physiological variables of Kabaddi players. The result shows that the 12 weeks specific exercises improved reducing resting heart rate, respiratory rate and blood pressure of men Kabaddi players. This may be due to subjects participated in alternate high & low intensity training was to specifically target the requirements of competitive Kabaddi players. The similar results supported by Sedano (2013) and Pinto (2013) found that specific exercise programmes was improved the physiological variables among athletes.

Conclusion

This study confirmed that the alternate high & low intensity training group was significantly improved the selected physiological variables of men Kabaddi players when compared to the control group.

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