Original Article

Resting Pulse Rate And Blood Pressure In Football Players Using High-Intensity Interval Training Data

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Abstract

OBJECTIVES

High-intensity interval training is a popular form of interval training. A study found the impact of high-intensity interval training on resting pulse rate and blood pressure among football players' understudies.

METHODS

To Achieve the justification behind a focus on 30 football players from GTN College of Arts and Science, Madurai Kamaraj University, Madurai, Tamil Nadu, India. The age ranged divided into 18 to 25 years. They were randomly divided and assigned into two groups of fifteen each as the experimental group (high-intensity interval training) 1(n=15) and control group 1 (n=15). The data were collected pre and post of the training period of 8 weeks, and the data collected from the subjects were statistically analysed f ration to find out significant improvement, if any, at a 0.05 level of confidence.

RESULTS

The obtained resting pulse rate test for HIIT and CG F-Ratio regard 5.96*; the procured systolic pressure later test for HIIT and CNG F-Ratio regard 3.65*. The procured diastolic pressure later test for HIIT, and CNG F-Ratio regard 4.89* seen as higher than the fundamental worth 3.23 was on an elementary level more imperative than the table worth 3.23 DF 1 and 28.

CONCLUSION

The results of the resting pulse rate, systolic and diastolic pressure improved significantly due to the impact of high-intensity interval training with the limitations of (diet, climate, lifestyle) status, and previous training; the result of the present study coincides with the findings of the investigation done by different experts in the field of sports sciences. High-intensity interval training significantly improved college football players' resting pulse rate and systolic and diastolic pressure.

Keywords: High-Intensity Interval Training, resting Pulse rate, and blood pressure.

BACKGROUND

Sport pertains to any form of competitive physical activity or game (1). that aims to use, maintain, or improve physical ability and skills while providing enjoyment to participants and, in some cases, entertainment to spectators (2).

Sports can improve one's physical health through casual or organized Participation. There are hundreds of sports, from those with one participant to hundreds of players playing simultaneously once, either in teams or independently. In certain sports, such as racing, many contestants may compete simultaneously or consecutively, with one winner; in others, the contest (a match) is between two sides, each attempting to exceed the other. Some sports allow a "tie" or "draw", where there is no single winner; others provide tie-breaking methods to ensure one winner and one loser. Organizing several competitions in one, from which the champion would emerge, is

possible**.** Many sports leagues host an annual championship game during the regular season, followed by playoffs in some cases.

Football is a family of team sports involving varying degrees, kicking a ball to score a goal. Unqualified, the word football typically means the form of football that is the most popular where the word. Sports commonly called football gridiron football, Australian rules football; rugby union and rugby league; and Gaelic football. (3)

High-intensity interval training (HIIT) is a training protocol alternating short periods of intense or explosive anaerobic exercise with brief recovery periods until the point of exhaustion. (4) HIIT involves exercises performed in repeated quick bursts at maximum or near maximal effort with periods of rest or low activity between bouts. The very high level of intensity, the interval duration, and the number of bouts distinguish it from aerobic (cardiovascular) activity because the body significantly recruits anaerobic energy systems (although not entirely to the exclusion of aerobic pathways). (4)

Many studies are involved in the high intensity interval training for football players due to the effect of training to develop performance and improve their physiological performance level (5,6,7).

To our best knowledge, their proven and philosophical studies have shown the best investigation of high-intensity interval training high-intensity interval training on resting pulse rate and blood pressure among football players' understudies. Therefore, the main goal of this study was to apply HIIT in college men's football players to examine the effects of high-intensity interval training on selected resting pulse rates and blood pressure. As a result, an improvement in physiology after HIIT was hypothesized, with no adverse effects on resting pulse rate and blood pressure.

METHODS

Participation

They were targeting college football men for the study. Thirty men Participations from GTN College of Arts and Science, Dindigul, volunteered to participate in the study. Participants were not involved in any organized sports activity but were required to perform an average of 50 minutes per session. Their age ranged from 18 to 24 years, respectively all Participation, later having stayed informed about the objective and protocol of the study, gave their return consent to participate in the study. The randomized pre-post-test control group design was adopted for the study. The Participations were unsystematically assigned into two groups: experimental group 1 high-intensity interval training (HIIT N=15) and control group (CG N=15). The study was conducted during the competitive season and was approved by the Clinical Research Ethics Committee of the High Institute of Sports and Physical Education of the department of physical education, and the protocol was conducted in accordance with the Declaration of Helsinki. All participants provided their written informed consent to participate in the study.

STUDY STRATEGY AND INVESTIGATIONAL PROCESS

The experimental group Participation in 8 weeks of high intensity interval training and was given a weekly three days morning session Monday, Wednesday, and Friday, the ladder training was given alternative days of three days a week in the morning session Tuesday, Thursday, and Saturday, The control group did not go under any training. (Table 1)

Table 1 PHASE - I HIGH INTENSITY INTERVAL TRAINING SCHEDULE FOR I TOVIII WEEKS

S. No	HIIT	Time	Rest	Repetitions
1	Warm up	2 mins	1 min	2
2	Walking	2 mins	1 min	2
3	Running	2 mins	1 min	2
4	Stair climbing	2 mins	1 min	2
5	Jumping jack & run	2 mins	1 min	2
6	10 yards sprint and jog	2 mins	1 min	2
7	Cross-country running	2 mins	1 min	2

8	Star jump	2 mins	1 min	2
9	Stationary jump	2 mins	1 min	2
10	Barbee jump	2 mins	1 min	2
11	Two count jump	2 mins	1 min	2
12	Four count jump	2 mins	1 min	2
13	Cool down	2 mins	1 min	2

The pre and post testing measurement were conducted on two different ways separately by minimum 24 hours. Taken into consideration feasibility of criteria, availability of instrument and the relevance of the variables of the present study, the following variables were selected. The resting pulse rate was tested by radial pulse rate was tested by radial pulse method measured by in seconds. The systolic and diastolic pressure was tested by sphygmomanometer method measured by in MmHg.

STATISTICAL ANALYSES

Statistical analysis of the data was performed for each group using the mean and standard deviations. Students paired test was used to compare the pre- and post-training values of both the groups. The differences between the two groups for the physiological variables were determined using the statically analysed (ANOVA) 0.05 Significance level was to describe the differences between the pre-test and post-test means of football players criteria was used for establishing significances P value of lesser than 0.05 was accepted as indicating significant difference between test the obtained results on all the variables, level of significance 0.05 was chosen and considered. The derived results are discussed as follows table 2.

Table- 2 ANOVA OF RESTING PULSE RATE AND BLOOD PRESSURE AMONG FOOTBALL PLAYERS OF HIGH-INTENSITY INTERVAL TRAINING AND CONTROL GROUP

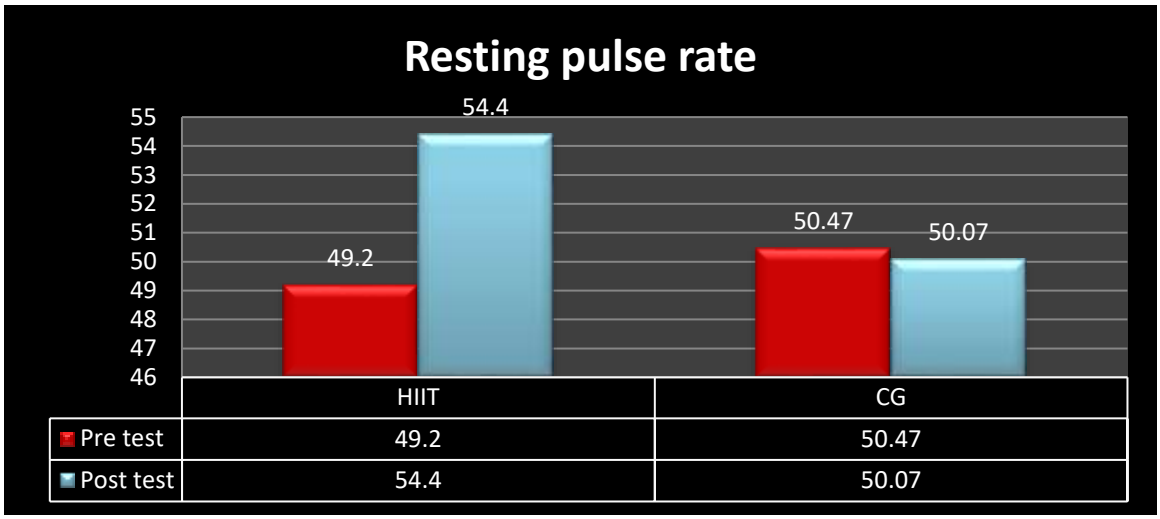
Resting Pulse Rate						
Test	HIIT	CG	SOS	DF	Mean	F- Ratio
Before Test	49.20	50.47	12.03	1	18.03	1.28
			1174.13	28	42.64	
After test	54.40	50.07	240.83	1	240.84	5.96*
			1131.86	28	40.42	
Systolic Pressure						
Test	HIIT	CG	SOS	DF	Mean	F- Ratio
Before Test	68.27	68.01	0.533	1	0.53	1.03
			484.93	28	17.31	
After test	64.27	67.80	64.53	1	64.53	3.65*
			494.13	28	17.64	
Diastolic Pressure						
Test	HIIT	CG	SOS	DF	Mean	F- Ratio
Before Test	46.57	46.78	5.37	1	2.69	1.09
			126.2	28	30.07	
After Test	45.52	46.75	52.53	1	26.29	4.89*
			146.2	28	29.24	

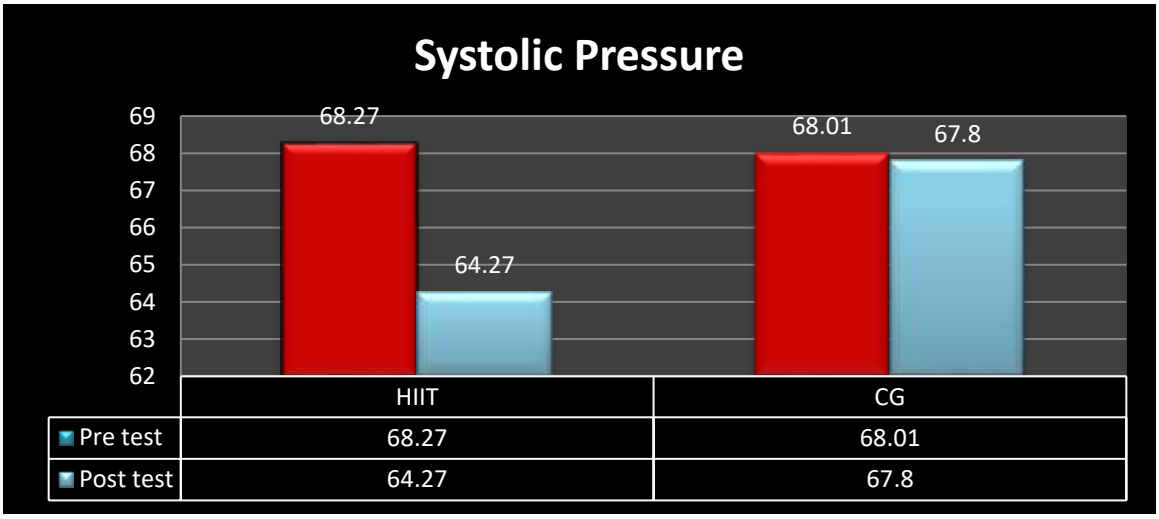
The value of resting pulse rate F-test for HIIT and CG F-Ratio regard 1.28 was seen as lower than the fundamental worth 3.23 was by and large lesser than the table worth 3.23 df 1 and 28 significance at the LOC 0.05. The obtained resting pulse rate later test for HIIT and CG F-Ratio regard 5.96* was seen as greater than the fundamental worth 3.23 was essentially more critical than the table worth 3.23 df 1 and 28.

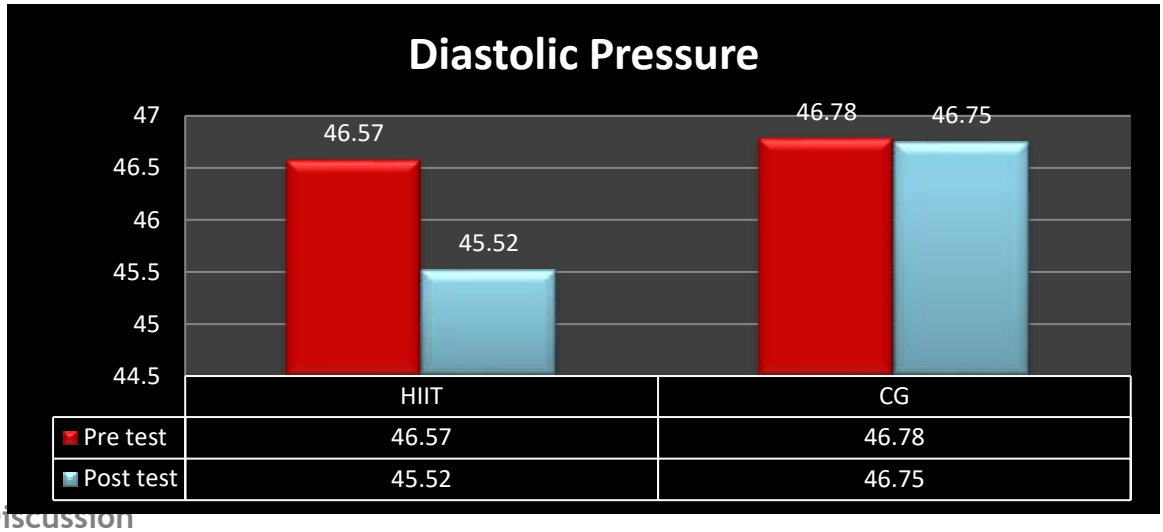
The value of systolic pressure before-test for HIIT and CG F-Ratio regard 1.03 was seen as lower than the fundamental worth 3.23 was by and large lesser than the table worth 3.23 df 1 and 28. The procured systolic pressure later test for HIIT and CNG F-Ratio regard 3.65* was seen as higher than the fundamental worth 3.23 was on a very basic level more imperative than the table worth 3.23 df 1 and 28.

The value of diastolic pressure before-test for HIIT and CG F-Ratio regard 1.03 was seen as lower than the fundamental worth 3.23 was by and large lesser than the table worth 3.23 df 1 and 28. The procured diastolic pressure later test for HIIT and CNG F-Ratio regard 4.89* was seen as higher than the fundamental worth 3.23 was on a very basic level more imperative than the table worth 3.23 df 1 and 28.

The Pre and Post-test Mean values graphically represented the high intensity interval training group and control group on resting pulse rate systolic pressure and diastolic pressure in figures 1, 2, and 3.







Discussion

The result of this study validates that 8 weeks of high intensity interval trainig resting pulse rate and blood pressure (systolic and diastolic pressure) among college women students. As shown in the results all the parameters in the high intensity interval training (drills) exercise practices. Statistically significant improvement of resting pulse rate and blood pressure after regular practice of high intensity interval training practice is attributed. It is also observed that regular high intensity interval exercise practices reduce basal cardiac output changes and regulate the metabolic rate and resting oxygen consumption and overall fitness level.

As shown in the results all the parameters in the high intensity interval training shows statistically significant with high intensity interval exercises. Statistically significant improvement in resting pulse rate and systolic and diastolic pressure after regular practice of high intensity interval training is attributed shown statistically significant improves the resting pulse rate, systolic pressure and diastolic pressure reductions after high intensity interval training. However, after high intensity interval training there was a significant increase in resting pulse rate, systolic pressure and diastolic pressure after the training.

Conclusion

The results of the present study suggest that high intensity interval training appear to be effective and safe means by which to significant improvement on resting pulse rate, systolic pressure and diastolic pressure among college football men players. These advantages may enhance with the training program, whereas resting pulse rate, systolic pressure and diastolic pressure can be used as simple and effective methods to prescribe work intensities and to provide progressive increases in intensity that are necessary for continued increases in resting pulse rate, systolic pressure and diastolic pressure. The present study showed significant improvement in resting pulse rate, systolic pressure and diastolic pressure, after 8 weeks of training. The improvement of the resting pulse rate, systolic pressure and diastolic pressure, if there was one, was significant at the levels obtained in the present study because the various groups trained at different intensities.

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