

**Effects of Physical Fitness Training Programmes on RHR on Volleyball Players****Dr. Vikram Kunturwar**Director of physical Education,  
Rajiv Gandhi College, Mudkhed, Nanded**Abstract**

The aim of the research was to determine the **effects of physical fitness training programmes on Resting heart rate on volleyball players**. Only one group was targeted experimental group, there was no control group. The 30 male volleyball players, participated in the study and their age ranged between 19-30 years. Training was given to the experimental groups. The data was collected through respondents in the form of different experimental tests. A training program was planned for 12 weeks, 5 days a week and 90 minutes. a day. Exercise that use large muscles groups that can be maintained continuously and are aerobic in nature. These exercises include walking, running, jogging, climbing, jumping row and cross country. The result reveals that there was significant effects of Physical fitness training programme was found in RHR on Volleyball players.

**Introduction**

Volleyball was first developed in 1895 by a physical education instructor, William Morgan, in Massachusetts, USA. He gives in the name 'Minotnette'. The game really took off as volleyball world-wide because it could be played so easily, All that was needed was a ball and a net. With no need for expensive equipment, it became popular all over the world, especially in countries where finance for sports facilities was limited. The physical fitness training programme refers to combination of aerobic exercise in certain period (Singh, 2012) .A normal resting heart rate for adults ranges from **60 to 100 beats per minute**. Generally, a lower heart rate at rest implies more efficient heart function and better cardiovascular fitness. For example, a well-trained athlete might have a normal resting heart rate closer to **40 beats per minute**. heart rate during exercise can show you how intensely you're working—a higher heart rate means you're putting greater demands on your cardiovascular system, and therefore, your heart is working really hard to pump blood quickly enough to meet those demands. The importance of resting heart rate is a little more vague, but this number can actually give you some insight into your fitness level and how it's changing over time( 2012c; Singh 2012g;) The more you exercise and the harder you train, the lower your resting heart rate," the resting heart rate is often cited as a good measure of how fit a person (Singh, 2012; Singh 2012 b; Singh 2012c; Singh 2012g;)

**Methods**

Only one group was targeted experimental group, there was no control group. The 30 male volleyball players, participated in the study and their age ranged between 19-30 years. Training was given to the experimental groups. The data was collected through respondents in the form of different experimental tests. The demographic information about Gender, age, daily smoking, drug use, etc. was obtained before seeking responses. The study area was restricted to Marathwada region of Maharashtra.

**Inclusion and exclusion criteria**

The inclusion and exclusion criteria for participants were as follows:

The inclusion criteria are:

1. The participant agreed to participate in the study via an informed consent.
2. The participants must be sedentary student in their under and post graduate degree programme aged range was 22 to 30 years.
3. The participants were not rotating through other health facility at the time of study.

**The exclusion criteria are:**

1. Active Physical illness. The participants advised not to participate if under any injuries and management within 2 weeks of study.
  2. Inability to obtain the consent of the respondent.
  3. Presence of chronic medical conditions such as asthma, heart disease or any other condition.
- And

4. Participants free from the smoking, drug abuse and alcohol consumptions during the experimental period

**2. Research design**

This study involves a cross sectional, comparative pre and post test of two groups of students in an experimental research. Since only experimental group will be taken by the investigator and there was no control group so this study was conducted in a quasi square experimental design..

**Procedure of Test**

Pre and post-test was taken on 30 Volleyball Players from various colleges, voluntary to participate in the Physical fitness training programmes. Exclusion criteria were the presence of chronic medical conditions such as asthma, heart disease or any other condition that would put the subjects at risk when performing the experimental tests. The subjects were free of smoking, alcohol and caffeine consumption, antioxidant supplementation and drugs during the programmes. They completed an informed consent document to participate in the study. The age, height, weight, resting heart rate, capacity of all subjects were measured in physical education department laboratory. All 30 acted as experimental group for Physical fitness training programmes with no control groups.

**Applied Training Program**

A training program was planned for 12 weeks, 5 days a week and 90 minutes, a day. Exercise that use large muscles groups that can be maintained continuously and are aerobic in nature. These exercises include walking, running, jogging, climbing, jumping row and cross country. There was training programmes in the academic schedule of physical education department. The exercise session should consist of the following procedure: Warm - up period will be approximately 10 min., this was combine callisthenic – type stretching, exercise and progressive aerobic activity. However, cool down period was 5 to 10 min. The data was collected through respondents in 30 volleyball players from different colleges of Swami Ramanand TeerthMarathwada University Instructions was given to the volleyball players.

**Resting heart rate** Resting heart rate of each subject was recorded before & after training. Before

recording Resting heart rate the subject was instructed to remain lying on their bed to record the heart rate, Heart rate was recorded by the palpation at radial artery per minute. The score was express in number of heart rate per minute.

**Results of the study**

The results concerning this are presented in the form of tables and also illustrated with the help of suitable figures where ever necessary. For the sake of t-ratio and methodical presentation of the results, following order has been adopted.

**Table -1**  
**Mean Scores and Standard Deviation of selected Components of volleyball players.**

Sr.No.	Components	Volleyball players	
		Mean	Standard Deviation
1.	Age (Year)	22.23	2.33
2.	Weight (Kg)	65.03	7.23
3.	Height (Cm)	175.87	14.12
4.	Competition in one year	7.09	2.33

Table 1 shows the mean (S.Ds.) age of volleyball players was 22.23 (2.33). Their weight was 65.03 (7.23) Kg. and their height was 175.87 (14.12) cm.

**Figure -1 Shows Mean Scores and Standard Deviation of selected Components of Volleyball players**

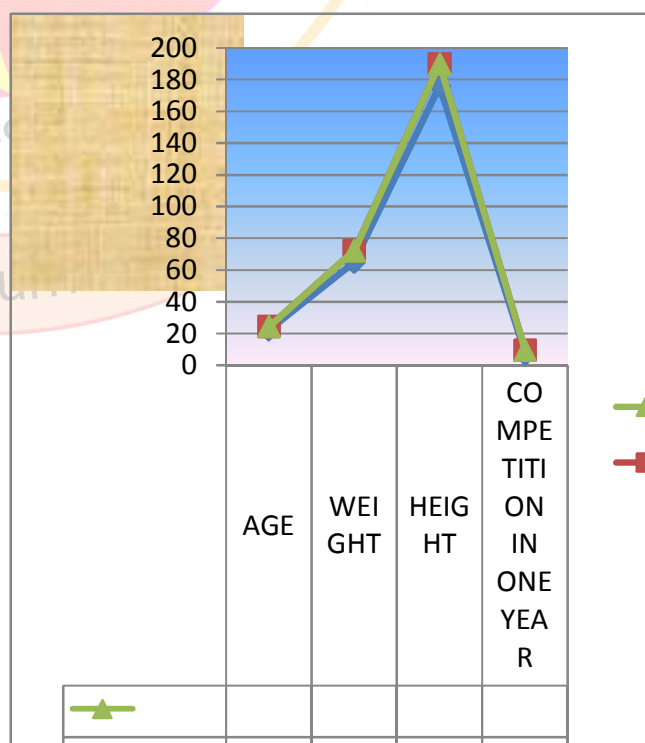


Table -2

Mean score standard deviation and t-ratio of HR in pre and post-test of Volleyball players.

Physiological Variable	Test	Number	Mean	S.D.	t-ratio
RHR	Pre Test	30	73.54	6.34	3.60*
	Post Test	30	69.21	5.39	

\* Significant at .05 level,

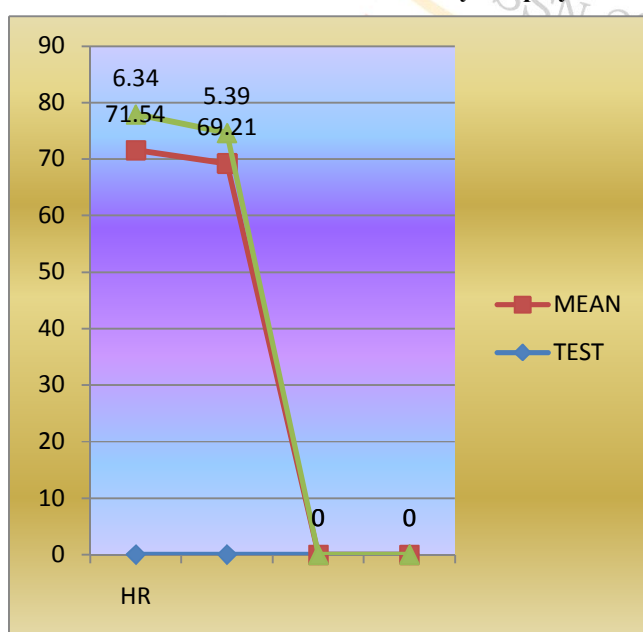
As per Table – 2 mean scores, standard deviation and t-ratio of selected physiological variable with respect to HR of pre and post-test of Volleyball players.

With regards to RHR of pre and post-test of Volleyball Players they have obtain the mean value of 73.54 and 69.21 respectively which are given in the Table – 2, reveals that there was significant effects of Physical fitness training programme was found in HR (  $t=p<.05$ ) on Volleyball players. That means Physical fitness training programme was beneficial for reducing the heart rate of volleyball players .This study also supported to (Singh, 2012; singh 2012 a ,Singh 2012 b; Singh 2012c; Singh 2012g) who studied the effects of exercise on Heart rate )

The Mean scores and standard deviation of selected physiological variable with respect to HR of pre and post-test of Volleyball players have been presented through graphically in figure-2.

Figure -2

Illustrates the Mean Scores and Standard Deviations of Heart rate of Pre and Post-Test of Volleyball players.



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