

## Effect of Different Modes of Respiratory Practices on Football Shooting Performance Among College Men Players



### Physical Education

**KEYWORDS :** Hypoxic training, Pranayama Practices, Shooting

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### ABSTRACT

*Aim of the study was to find out Football shooting performance changes during different modes of respiratory practices among college men players. The study was conducted on forty five (N=45) men students studying various colleges affiliated to Bharathidasan University, Tamilnadu, India, during the year 2012-2013 were selected as subjects at random and they were divided randomly into two experimental groups and on control group of fifteen each, namely Group I Hypoxic Training, Group II Pranayama Practice and Group III acted as Control. The training period was limited to twelve weeks and for three days per week. The experimental groups underwent their respective experimental treatment for 12 weeks. Football shooting skill only selected as dependent variables. Football shooting skill was assessed by Mor- Christian General Soccer Ability Test. All the subjects were tested prior to and after the training for all the selected variables. The data collected from the three groups prior to and post experimentation was statistically analyzed by using Analysis of Covariance (ANCOVA). Scheffe's post hoc test was applied to determine the significant difference between the paired means. In all the cases .05 level of significance was fixed. The result reveals significant differences in Football shooting skill among the experimental groups.*

### INTRODUCTION

Football refers to a number of sports that involve, to varying degrees, kicking a ball with the foot to score a goal. The most popular of these sports worldwide is association football, more commonly known as just "football" or "soccer". Unqualified, the word football applies to whichever form of football is the most popular in the regional context in which the word appears, including association football, as well as American football, Australian rules football, Canadian football, Gaelic football, rugby league, rugby union and other related games. These variations of football are known as football "codes".

Various forms of "football" can be identified in history, often as popular peasant games. Contemporary codes of football can be traced back to the codification of these games at English public schools in the eighteenth and nineteenth century. The influence and power of the British Empire allowed these rules of football to spread, including two areas of British influence outside of the directly controlled Empire, though by the end of the nineteenth century, distinct regional codes were already developing: Gaelic Football, for example, deliberately incorporated the rules of local traditional football games in order to maintain their heritage. In 1888, The Football League was founded in England, becoming the first of many professional football competitions. In the twentieth century, the various codes of football have become amongst the most popular team sports in the world(Wikipedia).

Altitude training, also known as hypoxic training, involves exercising in, living in or otherwise breathing oxygen reduced air for the purpose of improved athletic performance, pre-acclimatization to altitude and/or physical wellness.

Traditionally, individuals had to travel to or live at high elevations to obtain the benefits of this phenomenon. Circa 1995, the patented technology of Hypoxico Inc. eliminated this hardship by allowing high altitude training facilities to be set up anywhere. Through the production of normobaric hypoxic (oxygen reduced) air, we can simulate altitudes of up to 21,000ft/6,400m. As a result, athletes, fitness enthusiasts and health conscious individual's worldwide can take advantage of the benefits associated with altitude training while at sea-level.

### METHODOLOGY

To achieve the purpose of the study, forty five men students studying under Graduate Degree course in HH The Rajah's College, Pudukkottai, Tamilnadu, India, during the year 2012-2013 were selected as subjects of this study. The age of the subjects were ranged from 18 to 21 years. The subjects were assigned at random into three groups of fifteen each (n=15). Group I underwent Hypoxic Training, Group II underwent Pranayama Practices and Group III acted as Control (n=15). Among the various Football Skills shooting only selected for this study. All the experimental

groups underwent their respective training for 12 weeks in addition to the regular training as per College curriculum. All the groups were tested on selected criterion variables prior to and immediately after the training periods. Football shooting skill was assessed by Mor-Christian General Soccer Ability Test.

### TRAINING PROTOCOL

During the training period, the experimental groups underwent their respective training programmes. Group-I underwent Hypoxic Training, Group-II underwent Pranayama Practice, for all three days per week for twelve weeks. The duration of training session in all the days was between thirty and forty five minutes approximately which included warming up and limbering down. For Hypoxic training continuous running with inhaling and exhaling with equal running stride was maintained throughout the course of training. Training progressing was given every week(i.e. first week three stride inhale and three stride exhale was given while continuous running with half an hour and following weeks one more stride of inhale and exhale was increased). All the subjects involved in this study were carefully monitored throughout the training programme to be away from injuries. They were questioned about their health status throughout the training programme. None of them reported any injuries or discomfort. However, muscle soreness appeared in the earlier period of the training programme and was reduced in due course.

### ANALYSIS OF THE DATA

The data collected from the three groups prior to and post experimentation on Football shooting skill were statistically analyzed by using Analysis of Covariance (ANCOVA).

Hence, whenever the obtained f-ratio value was significant the Scheffe's test was applied as post hoc test to determine the paired mean differences, if any. In all the cases .05 level of significance was fixed.

The Analysis of covariance (ANCOVA) on Football shooting skill of Experimental Groups, have been analyzed and presented in Table -1.

**Table - 1 ANALYSIS OF COVARIANCE ON FOOTBALL SHOOTING SKILL OF HYPOXIC TRAINING GROUP, PRANAYAMA PRACTICES GROUP AND CONTROL GROUP**

| Dependent Variables | Adjusted Post-test Means   |                                |                     | Source of Variance | Sum of Squares | df | Mean Squares | 'F' Ratio |
|---------------------|----------------------------|--------------------------------|---------------------|--------------------|----------------|----|--------------|-----------|
|                     | Hypoxic Training Group (I) | Pranayama Practices Group (II) | Control Group (III) |                    |                |    |              |           |

|                                         |        |        |       |                    |                    |         |                  |        |
|-----------------------------------------|--------|--------|-------|--------------------|--------------------|---------|------------------|--------|
| Football shooting skill<br>(In Numbers) | 119.41 | 103.70 | 87.56 | Between<br>With in | 7459.50<br>2021.04 | 2<br>41 | 3729.75<br>49.29 | 75.66* |
|-----------------------------------------|--------|--------|-------|--------------------|--------------------|---------|------------------|--------|

\* Significant at .05 level of confidence

(The table value required for Significance at .05 level with df 2 and 41 is 3.23)

Table 1 shows that the adjusted post test mean value of Football shooting skill for hypoxic Training group, pranayama practices group and control group are 119.41, 103.70, and 87.56 respectively. The obtained F-ratio of 75.66 values of 3.23 for df 2 and 41 required for significance at .05 level of confidence.

The results of the study indicate that there are significant differences among the adjusted post test means of experimental groups on the increase of Football shooting skill.

To determine which of the paired means had a significant difference, Scheffe's test was applied as Post hoc test and the results are presented in Table 2.

**Table - 2 THE SCHEFFE'S TEST FOR THE DIFFERENCES BETWEEN THE ADJUSTED POST TESTS PAIRED MEANS ON FOOTBALL SHOOTING SKILL**

| Dependent Variables                     | Adjusted Post-test means     |                                  |                       | Mean Difference | Confidence Interval |
|-----------------------------------------|------------------------------|----------------------------------|-----------------------|-----------------|---------------------|
|                                         | Hypoxic Training Group - (I) | Pranayama Practices Group - (II) | Control Group - (III) |                 |                     |
| Football shooting skill<br>(In Numbers) | 119.41                       | 103.70                           |                       | 15.71*          | 6.43                |
|                                         | 119.41                       |                                  | 87.56                 | 31.85*          | 6.43                |
|                                         |                              | 103.70                           | 87.56                 | 16.41*          | 6.43                |

\* Significant at .05 level of confidence

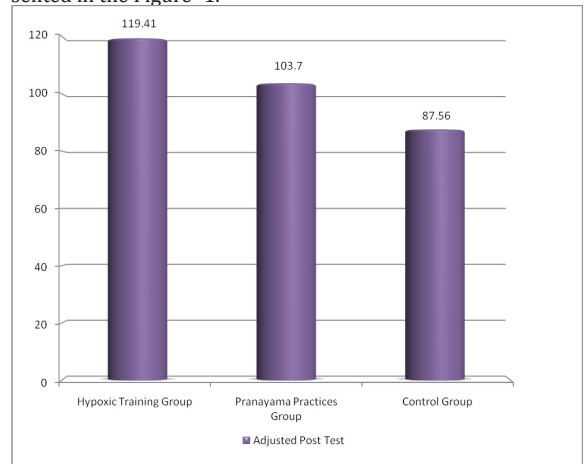
Table 2 shows that the adjusted post-test mean differences on Hypoxic Training Group and Pranayama Practices Group, Hypoxic Training Group and Control Group, Pranayama Practices Group and Control Group are 15.71, 31.85 and 16.41 respectively. These values are greater than the confidence interval value 6.43, which shows significant differences at .05 level of confidence.

It may be concluded from the results of the study that there is a significant difference in Football shooting skill between the adjusted post-test means of Hypoxic Training Group and Pranayama Practices Group, Hypoxic Training Group and Control Group, Pranayama Practices Group and Control Group. However, the improvements of Football shooting skill were significantly higher for Hypoxic Training Group than Pranayama Group and Control Group.

It may also be concluded that Hypoxic Training Group is better

than Pranayama Group and Control Group in improving Football shooting skill.

The adjusted post test mean values of experimental groups and control groups on Football shooting skill are graphically represented in the Figure - 1.



**Figure-1: The adjusted post tests mean values of experimental groups on Cardio respiratory endurance (In Meters)**

## RESULTS AND DISCUSSION

The results of the study indicate that all the experimental groups namely hypoxic training group and pranayama practices group had significantly improved in the selected dependent variable such as Football shooting skill. It is also found that the achieved by the hypoxic training group was greater when compared to pranayama practices group and control group.

It is inferred from the results of the present study that systematically designed Hypoxic training and Pranayama Practices enhance the performance standard, as the selected dependent variable are very important qualities for better performance in almost all sports and games. Hence, it is concluded from the results of the study that systematically and scientifically designed hypoxic training and pranayama practices may be given due recognition and implemented properly in the training programmes of all the disciplines in order to achieve maximum performance.

## CONCLUSION

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

1. The experimental groups namely, hypoxic training group and pranayama practices group had significantly improved in Football shooting skill.
2. Significant differences in achievement were found among hypoxic training group and pranayama practices group with regard to all the selected criterion variables such as Football shooting skill.

## REFERENCE

Retrieved from <http://en.wikipedia.org/wiki/Football> on 30.4.2012.