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Comparison of Vo_2 max among College men Volleyball and Football Players

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Abstract

The present study deals with Comparison of Vo_2 max (Maximum Oxygen Consumption) among college men Volleyball and Football Players. In present study 40 volleyball and 40 football players were selected randomly as subjects who participated in inter collegiate and different level of competition in Tamilnadu. The ages of the subjects were between 18-25 years. The Vo_2 max (Maximum Oxygen consumption) was determined by Astrand Nomogram using step bench test. To find significance between Volleyball and football players 't' ration was used. The level of confidence was set at 0.05. It was found that Football players have highest level of Vo_2 max in comparison of volleyball players.

Keywords: Vo_2 max, Astrand Nomogram, Step bench test, Volleyball players, Football players.

Introduction

Exercise physiology is concerned with changes in function brought about by participation in physical exercise. Successful distance running primarily requires development of aerobic endurance. The demand of oxygen differs from one sport to other sports. It's a common observation whenever athlete go for anaerobic type of training his/her anaerobic capacity is enhanced, but along with this it is also observed that after anaerobic type of training the aerobic capacity of the athlete is also improves. The complex nature of physical fitness includes the muscular strength, muscular endurance cardio respiratory endurance. The most important of them is the cardio-respiratory endurance.

Cardio Vascular efficiency reflects the capacity of an individual to undertake and continues physical efforts of sub maximal nature for a relatively longer period of time. To measure cardio vascular efficiency, test of Vo_2 max was determined by Astrand Nomogram using step bench test. The degree to which the Cardio Vascular fitness contributes to a particular games (or) sports depends upon the type and variety of movements involved in them. Without having physical fitness no one can elicit his amble performance level. Therefore it is essential to investigate that in which game among volleyball and football the level of Vo_2 max is more essential.

Selection of Subjects

To achieve the purpose eighty (N=80) inter collegiate men volleyball and football players aged between eighteen to twenty five were selected as subjects. The subjects were divided into equal group of forty subjects each. To measure Vo_2 max, bench stepping frequency was 30 steps per minute.

Selection of Variables

The experimental variable Vo_2 max (Maximum Oxygen Consumption) was selected as variable to compare the college men volleyball and football players.

Criterion Measure

VO_2 Max (Maximum Oxygen Consumption) was determined by step bench test using astrand nomogram. Bench stepping was formed. The stepping frequency was 30 steps per minute.

Statistical Analysis

The statistical procedure followed for comparison of Vo_2 max of college men volleyball and football players are't' ratio, mean, standard deviation and standard error findings are presented in the tables. To predict the Vo_2 Max a scale connecting straight edge on Vo_2 scale with corresponding point on the pulse rate and predicted Vo_2 Max was read from the middle scale.

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Result and Discussion

Table 1
Mean, Standard deviation for the test Vo_2 max on college volleyball and football players

Group	Mean (M)	Standard Deviation
Volleyball Players	3.22	0.29
Football Players	3.55	0.37

Table 2
Computation of 't' ratio on VO_2 Max on college volleyball and football players

Group	M	SD	DM	σ DM	't'
Volleyball Players	3.22	0.29			
Football Players	3.55	0.37	0.33	0.08	4.13

Significant at 0.05 level of Confidence, dt:68
Table value at 0.05 level of Confidence is 2.00

The analysis of data in the above table shows that mean difference of Vo_2 max among college men volleyball and football player was 0.33 the calculated't' value was 4.13. Since the calculated't' value (4.13) was more than table value 2.00 at 0.05 level of confidence df = 68. The mean difference on Vo_2 max between college volleyball and football players was significant.

Discussion

The significant difference between college men volleyball and football players on Vo_2 max (Maximum Oxygen Consumption) was attributed to the participation of the subjects in football team. The study shows that the football players have highest level of Vo_2 max consumption in comparison to volleyball players. The reason could be that football players involved in cross country running which is aerobic in nature.

Conclusion

On the basis of findings of the study, the following conclusions are drawn.

1. Football players have highest level of Vo_2 max consumption in comparison to volleyball players.
2. The result shows that there is a significant difference between volleyball and football players in relation to maximum oxygen consumption.

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