



ANALYSIS OF VO₂ MAX BETWEEN COLLEGE AND VERSATILE SPORTS PERSONS

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ABSTRACT

Maximal oxygen consumption reflects the cardio respiratory fitness of an individual and is an important determinant of their endurance capacity during prolonged exercise. To achieve the purpose, a total number of twenty four male (N=24) subjects were selected and in which twelve subjects (n-12) were from the Madras Veterinary College students and twelve subjects were from (n-12) the Sports Authority of India, Chennai, Tamil Nadu. Their age were ranged from 19 to 21 years. The dependent variable selected as VO₂max. The selected criterion variable VO₂ max test was assessed with Beep test. One of the well-known and widely used functional tests for indirect evaluation of VO₂max is the 20 m. shuttle run test (Beep test). The collected data were treated with independent 't'.test. The level of confidence was fixed at 0.05. The study of results showed that the versatile sports persons had significantly better VO₂max compared with college level sports persons.

Keywords: VO₂ max, Versatile, College and Sports.

INTRODUCTION

The complex nature of physical fitness includes the muscular strength, muscular endurance, cardio-respiratory endurance and the most important of them is the cardio- respiratory endurance (Peter V. Karpovich and Wayne E. 1975). The most important determinant of athletes' cardio respiratory fitness is being considered as VO₂ max. VO₂ max helps in performing moderate to high intensity exercises for prolonged period of time (Katch 2011). The maximum oxygen uptake (VO₂ max)

describes the maximal consumption of oxygen voluntarily despite increase in exercise intensity (Kumar and Agrahari, 2012). VO₂ max can be determined by doing direct or indirect measurements, and the Beep test method one of the testing is one of the reliable and valid technique that can be employed for this purpose. 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, tests of physical work capacity and VO₂max. have been developed to use in laboratory and field situations to assist the scientists, physical educators and coaches. VO₂ max is also helpful in endurance activity and thus it is found to be useful in long or medium distance running, swimming, cycling, soccer etc (Joyner M.J., Coyle E. F. 2008). Every individual has different VO₂ max level according to their participation of particular type of sports event.

METHODOLOGY

To achieve the purpose of the present study, twelve subjects (n-12) were selected from the Madras Veterinary College(male) and twelve subjects (n-12) were from the Sports Authority of India, Chennai, Tamil Nadu. Their age ranged from 19 to 21 years. The dependent variable selected as VO₂max. The selected criterion variable VO₂max test was assessed with beep test. One of the well-known and widely used functional tests for indirect evaluation of VO₂max is the 20 m. shuttle run test (Beep test). The collected data data were treated with independent 't'.test. The level of confidence was fixed at 0.05.



RESULTS

TABLE-I
COMPUTATION OF VO₂ MAX BETWEEN COLLEGE AND VERSATILE SPORTS PERSONS

Test	Mean	S.D	D.M	σ DM	't'
College Sports Persons	47.38	7.14	6.54	2.60	2.52*
Versatile Sports Persons	53.92	5.49			

*Significant at 0.05 level of significance.

Table-I Indicates that the college and versatile sports persons of VO₂max mean and standard deviation values. The college sports persons mean value was 47.38 and 7.14 was standard deviation value and versatile sports persons mean value was 53.92 and standard deviation value 5.49 and obtained 't' value is 2.52 which is greater than the table value 2.07 with df 23. The finding of the study indicates that versatile sports persons had better VO₂max compared with college sports persons.

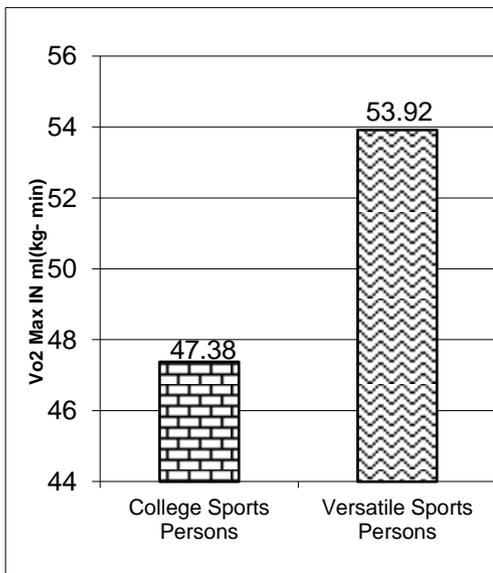


Figure-1 Mean values of VO₂ max of Versatile Sports Persons and College Sports Persons.

TABLE-2
QUALITATIVE GRADING FOR COLLEGE AND VERSATILE SPORTS PERSONS

Beep Test Norms	College	Versatile
Excellent (more than 60)	-	2 (16.67%)
Good (52-60)	3(33.33%)	5(41.67%)
Above Average (47-51)	3(25%)	3(25%)
Average (42-46)	3(25%)	-
Below Average (37-41)	1(8.33%)	1(8.33%)
Poor (30-36)	1(8.33%)	1(8.33%)
V.Poor (less than 30)	-	-

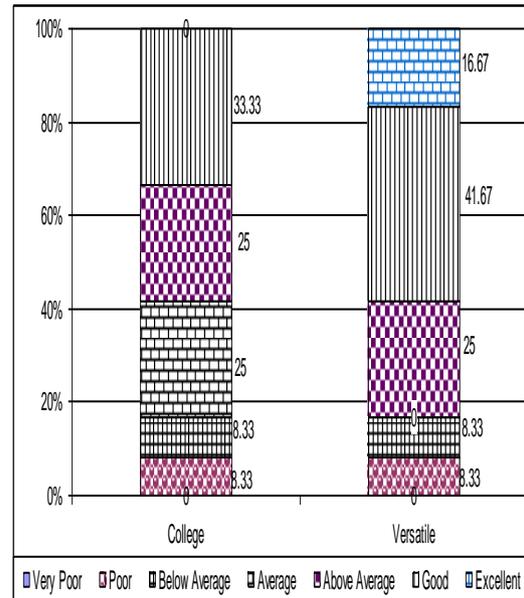


Fig. 02: Percentage bar diagram for college and versatile sports persons of VO₂ max

DISCUSSION ON FINDINGS

Based on results of the study shows that versatile sports persons have better VO₂ max compared with college sports persons. Due to the versatile sports persons involved in training methods, such training methods are more influential for improvement of VO₂max. The college level sports persons have minimal time of participation towards sports activities. The results line with that variety of exercise they improved their vo₂ max of individuals (Thompson et al.,2009). The important component



of VO₂max all persons they can improve only through exercises (Levine 2008). The assessment of beep test measurement of the aerobic capacity of female field hockey players, they improved on VO₂max (Anton Manchev 2012). Each individual has different capacities of VO₂max and different type of games which varies the VO₂max levels (Mukesh Kumar Mishra et al., 2015).

CONCLUSION

The results of the study proves versatile sports persons have better VO₂max compared with college sports persons.

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