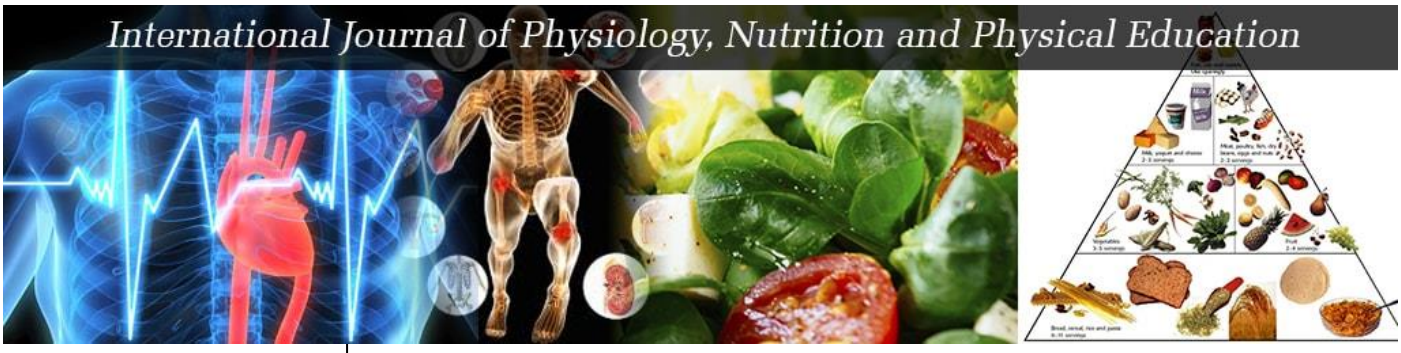

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Analysis of selected anthropometric and physical fitness variables among university male volleyball and basketball players

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Abstract
The analysis is an examination of data and facts to uncover and understand cause-effect relationships, thus providing the basis for problem-solving and decision making. The reason of the present study was to find out the difference between anthropometric variable (Arm length, Leg length) and physical fitness variables (Speed) between volleyball and basketball players. To achieve the reason of the study, fifteen (15) male volleyball and fifteen (15) male basketball players were randomly chosen from the Department of physical education Annamalai University, Tamil Nadu. The age of the chosen subjects varies from 19 to 23 years. The collected data were statistically analyzed between volleyball and basketball players by using ANOVA (Mean, Standard deviation, and t-test). The level of significance was fixed at 0.05 in all cases. The result shows a significant difference in selected variables among the male volleyball and basketball players.

Keywords: Anthropometric, physical fitness, volleyball and basketball, randomly ANOVA

Introduction
The importance of the physical program is linked to a higher quality of life as well as academic achievements (Enright 2006) [1]. It is well recognized that regular physical movement in youth and teens improve strength and endurance, health build, strong bones, and muscles, hip manages weight, decrease anxiety and stress increases self-esteem and may improve cardiorespiratory function. Physical fitness is documented as an important component of health (Limb *et al*, 1998 and Twisk *et al*, 2000) [2]. Physical strength has remained very necessary requirements for human from time immemorial. BUCHER has stated that search for food to satisfy starvation, the desire for safety against enemies, Innate drive for formulating and circulation, the age to influence brain and brawn, fear for strange and the unidentified and the need to associate with others, Hunting, Fishing, conflict, Dancing, and Play evolved as a outcome of these tendencies. (Thirumalaisami 1990) [4] conducted that the soccer players had lesser pulse rate, greater vital capacity, than volleyball and basketball players.
Further, it is also conducted that the volleyball players were significantly taller than other game players. The groups did not differ significantly in other anthropometric measurements. It is determined that the connection of power, agility, shoulder flexibility, arm length and Leg length to volleyball playing ability. These all are reliable in a prediction of playing ability of volleyball.

Materials and Methods
To achieve the purpose of the study, fifteen (15) male volleyball and fifteen (15) male basketball players were randomly selected from the department of physical education Annamalai University, Tamil Nadu. The age of the chosen subjects ranged from 19 to 23 years. The chosen subjects were tested on selected criterion variables such as Arm length and Leg length by measuring tape in Cm's and Speed by 50 m Dash in seconds. The collected data were statistically analyzed between volleyball and basketball players by using ANOVA (Mean, Standard deviation, and t-test.) The level of significance was fixed at 0.05 in all cases. Which is appropriate enough for the present study?

Mean, Standard deviation, and t-test.

S. No	Variables	Tests and Equipments	Unit of Measures
1	Arm Length	Measuring Tape	Cm's
2	Leg Length	Measuring Tape	Cm's
3	Speed	50m Dash	Seconds

Results and Discussion

Mean, S.D and't' ratio of selected anthropometric, physical and physiological variables among university male volley ball and basket-ball players were completed, the results have been present in the given below in each table.

Table 1: Statistical comparison of Arm Length between volley ball and basket-ball players

Group	Mean	S.D	t- ratio	p- value
Volley ball players	82.60	4.82	6.55	0.05
Basket-ball players	92.00	2.75		

*significant at 0.05 level of confidence

The table 1 indicates that the Mean and S.D values of volley ball and basket-ball players on arm length were 82.60 and 4.82 for volley ball players and 92.00 and 2.75 for basket-ball players respectively. By statistical analysis the variations by means of arm length of volley ball and basket-ball players as shown in the above table, as an outcome of t-ratio, it can be inferred that the t-ratio of 6.55 corresponding to the arm length of volley ball and basket-ball players is found to be significant at p-value of 0.05. Hence there is found a significant difference between volley ball and basket-ball players.

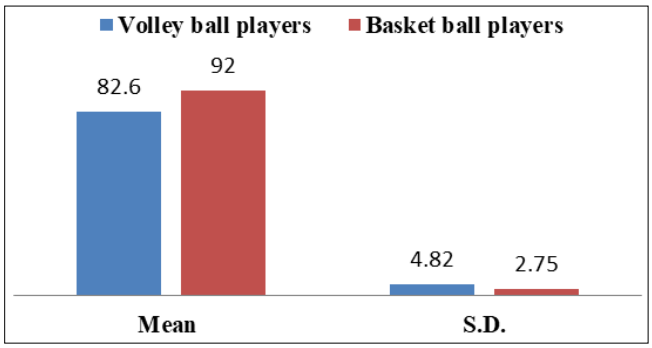

Fig 1: The mean, S.D and t- ratio on Arm length of volleyball and basketball players have been analyzed and graphically presented in fig.1.

Table 2: Statistical comparison of Leg Length between volley ball and basket-ball players

Group	Mean	S.D	t- ratio	p- value
Volley ball players	1O3.40	4.28	5.54	0.05
Basket-ball players	111.86	4.06		

*significant at 0.05 level of confidence

The table 2 indicates that the Mean and S.D values of volley ball and basket-ball players on leg length were 103.40 and 4.28 for volley ball players and 111.86 and 4.06 for basketball players respectively. By statistical analysis the variations by means of leg length of volley ball and basket-ball players as shown in the above table, as an outcome of t-ratio, it can be inferred that the t-ratio of 5.54 corresponding to the leg length of volley ball and basket-ball players is found to be significant at p-value of 0.05. Hence there is found a significant difference between volley ball and basket-ball players.

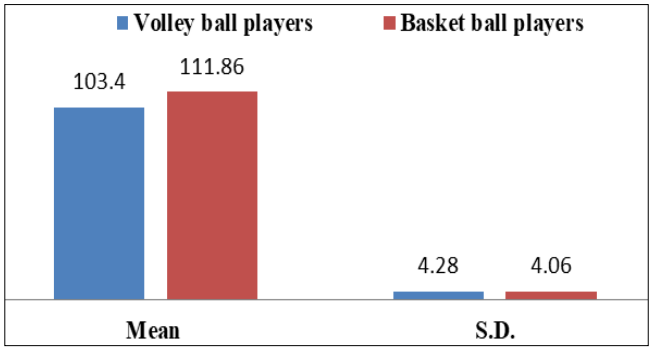

Fig 2: The mean, S.D and t- ratio on Leg length of volleyball and basketball players have been analyzed and graphically presented in fig.2.

Table 3: Statistical comparison of Speed between volley ball and basket-ball players

Group	Mean	S.D	t- ratio	p- value
Volley ball players	7.36	0.39	4.31	0.05
Basket-ball players	8.03	0.46		

*significant at 0.05 level of confidence

The table 3 indicates that the Mean and S.D values of volley ball and basket-ball players on speed were 7.36 and 0.39 for volley ball players and 8.03 and 0.46 for basket-ball players respectively. By statistical analysis the variations by means of speed of volley ball and basket-ball players as shown in the above table, as an outcome of t-ratio, it can be inferred that the t-ratio of 4.31 corresponding to the speed of volley ball and basket-ball players is found to be significant at p-value of 0.05. Hence there is found a significant difference between volley ball and basket-ball players.

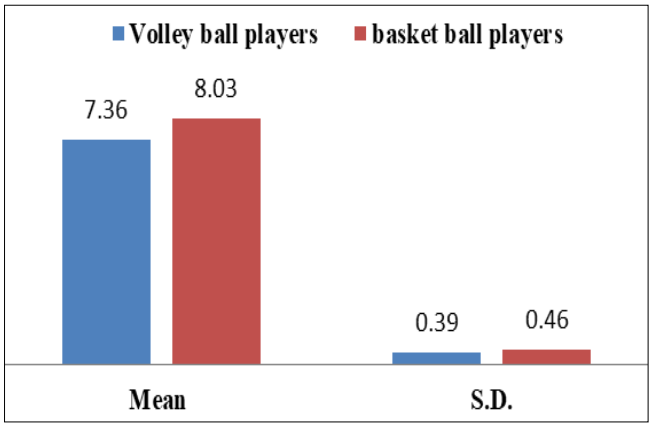

Fig 3: The mean, S.D and t- ratio on Speed of volleyball and basketball players have been analyzed and graphically presented in fig.3

Conclusion

The result of the present study pointed out that there was a significant difference in arm length, leg length and speed, among the male volley ball and basketball players. It was also conducted that the anthropometric, physical and physiological test is one of the best method for improving the ability of game performance as well as fitness for young generation.

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