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Comparative study of selected physical fitness components between basketball and volley ball players

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Abstract
The purpose of the study was to compare the physical fitness components between basketball and volley ball players. Total 40 players selected (20 male badminton players and 20 volleyball players) from district Jammu their age ranged from 18-25 years Only selected physical fitness components i.e. the speed, agility, endurance and muscular strength were measured by using respective techniques and equipment. The between-group differences were assessed by using independent 't' test. The level of $p \leq 0.05$ was considered significant.

Keywords: Physical fitness, volleyball, basketball

Introduction
Physical education is related with skills learning and development of fitness through physical activities as most of the "education through physical" takes place by means of particular skills of games and sports, athlete, gymnastics, dance etc. These particular skills may be defined as those physical activities making each sport that are unique to that sport like motor capacity (inborn ability) motor educability (ability to acquire new skills), motor capacity (acquired or inborn ability to perform motor activity) (kansal 2012) [3]. Life of human being is depending upon the body he keeps. All the activities of human being are done with the help of body. Nature has made humans to execute various activities effectively. Today technology has made human life easier, as most of the work is performed by the gadgets. The inactive life style of man has weakened the efficiency of humans. The less working capacity of humans has caused many dilemmas like weakness, illness, chronic diseases, etc. In past our ancestors were more fit. The big reason was that, they had to perform a lot of hard physical activity, like running, walking, jumping etc. The environment in past was less polluted. All these factors have reduced the efficiency of humans. Today, we desperately require physical fitness not only to improve our capacities but also to enhance our health and wellness. This will also help to make healthy environment around us along with community health, thus nation will be benefited. By developing physical fitness programs, we can improve our fitness, wellness and health (Kundra, 2009) [1]. Physical fitness is a required component for all the activities in our society. Physical fitness of an individual is mainly dependent on lifestyle related factors such as daily physical activity levels. Physical fitness is also considered as the degree of capacity to do a physical task under various ambient conditions (Basak & Dutta., 2016) [2]. Physical fitness has been of great importance in the lives of human beings form times immemorial. In the pre historic times, physical fineness was the key component for the survival of a human being. People during those times were confronted with hostile environment and only fit and strong individuals could survive. Hence survival of the fittest was the dictum. Even the civilization of Sparta, Athens and Rome in the history of the world has stressed physical fitness or physical programme as an imperative aim of the educational programme (Nixon *et al*., 1969) [4].

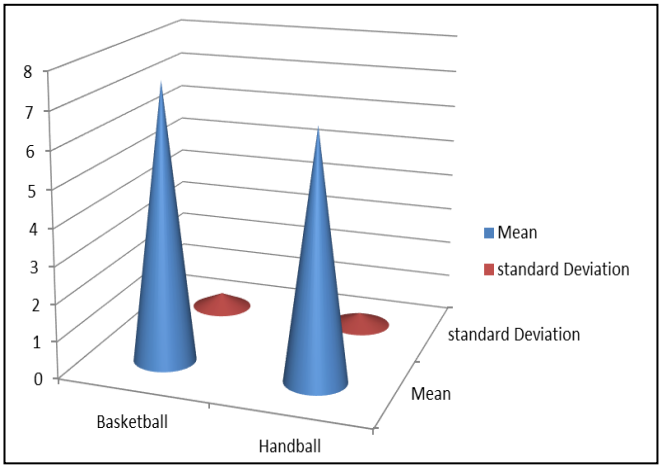
Materials and Methods
40 male subjects were selected from Jammu and Kashmir state sports council, Jammu and Kashmir randomly, the age group ranged between 20 to 25 years. All the subjects gave an informed consent after detailed protocol of the non-invasive technique was explained to them.

Physical test includes 50 yard dash for speed, shuttle run for agility, 12min. Run/Walk Testfor cardiovascular fitness, sit-up for muscular endurance.

Results

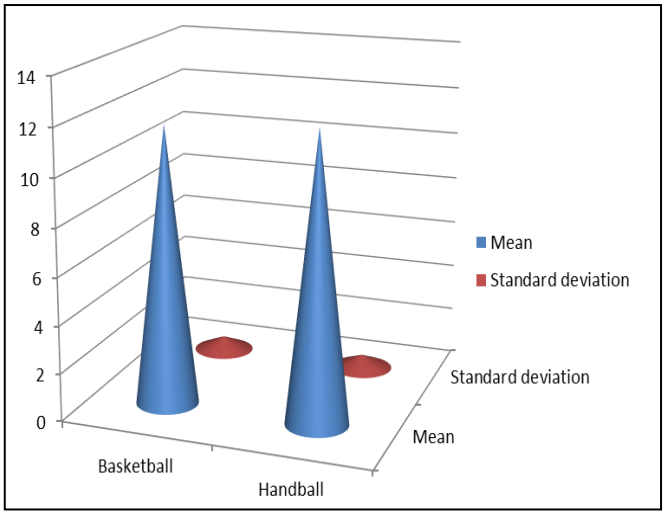
Table 2: Descriptive Statistics of Selected Variables For Basketball and Handball Players

Variable	Mean		Standard Deviation		T value
	Basketball	Handball	Basketball	Handball	
Speed in sec.	7.53	6.70	0.39	.33	8.84*
Agility in sec.	11.73	12.1	.58	.56	2.05*
cardiovascular	1670.9	2037.9	72.82	89.67	17.47*
muscular strength	33.4	38.5	3.18	3.01	6.38*



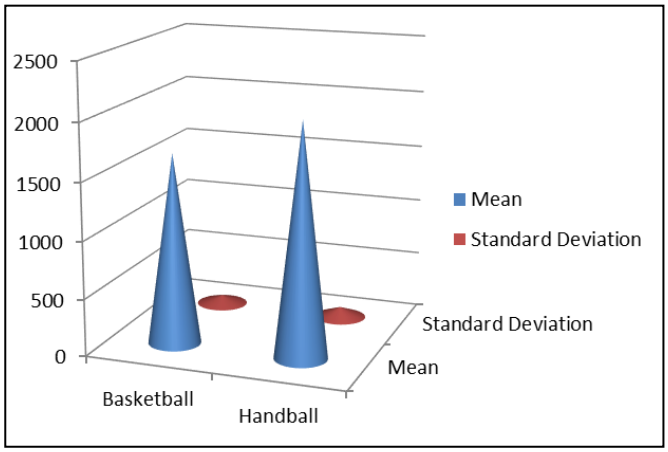
Graph 1: Speed

Graph- 1 shows that the mean of the speed of basketball and handball Players is 7.53 and 6.70 respectively. Whereas standard deviation of the speed of basketball and handball Players is 0.39 and 0.33 respectively, 't' value is 8.84. The result reveals a statistically significant difference in speed between basketball and handball players. Handball players were found better in speed as compare to basketball players.



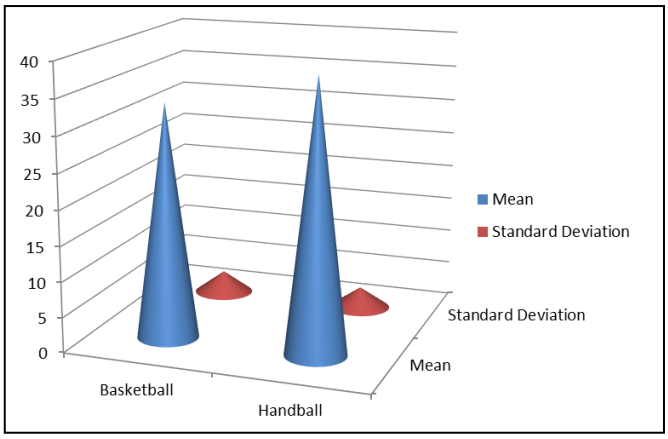
Graph 2: Agility

Graph- 2 shows that the mean of the agility of basketball and handball Players is 11.73 and 12.1 respectively. Whereas standard deviation of the speed of basketball and handball Players is 0.58 and 0.56 respectively, 't' value is 2.05. The result reveals a statistically significant difference in agility between Basketball and Handball players. Basketball players were found better in agility as compare to handball players.



Graph 3: cardiovascular endurance

Graph-3 shows that the mean of the cardio-vascular endurance of basketball and handball Players is 17.86 and 20.63 respectively. Whereas standard deviation of the cardio-vascular endurance of basketball and handball Players is 3.41 and 1.88 respectively,'t' value is 3.89. The result reveals a statistically significant difference in cardio-vascular endurance between basketball and handball players. Handball players were found better in cardio-vascular endurance as compare to basketball players.



Graph 4: Muscular strength

Graph-4 shows that the mean of the muscular strength of basketball and handball Players is 33.4 and 38.5 respectively. Whereas standard deviation of the basketball and handball Players is 3.18 and 3.01 respectively, 't' value is 6.38. The result reveals a statistically significant difference in muscular strength between basketball and handball players. Handball players were found better in muscular strength as compare to basketball players.

Conclusion

The investigator analyzed the collected data as per the purpose of study. The statistical analysis of physical fitness components of basketball and handball players shows that Handball players found better in the components such as Speed, cardiovascular endurance, and muscular strength, whereas basketball players found better in agility. These differences may be due to nature of game and anthropometrical structures of players. Moreover different games demand different level of physical fitness.

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