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**A COMPARATIVE STUDY OF PHYSIOLOGICAL VARIABLE AMONG  
INTER COLLEGIATE LEVEL HANDBALL AND BASKETBALL PLAYERS**

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**Abstract**

The purpose of this research was to comparative study of physiological variable among intercollegiate level handball and basketball players. It was a comparative research method used. The selected total subjects of 20 boys' handball and basketball players were selected as sample by using simple random sampling technique from Loknete Vyankatrao Hiray Arts, Science & Commerce College, Panchvati Nashik. They were handball (n=10) and basketball (n=10). For this study physiological variable was used and heart rate, systolic blood pressure, diastolic blood pressure and vital capacity test was conducted on both the sports players obtained data was analyzed by using Independent sample t-test. Result shows that data collected was analyzed by using Independent t-test to compare the physiological capacity among the handball and basketball players. Researcher concludes that there was no significant difference found in Heart Rate, Systolic & Diastolic blood pressure and vital capacity among the handball and basketball players.

**Keyword:** Physiological Variable, Intercollegiate Handball and Basketball Players.

**Introduction**

Fitness is the term which is widely used in the present day health conscious society. The people have realized the importance of fitness in day to day routines and also in achieving sports excellence. The latest scientific evidence also edict the fact that for internal or physiological soundness is necessary. It is also a high concern for a coach to develop various health & skills related fitness of players. Physiological fitness refers to the capacity of an athlete to meet the varied performance demands of their sport without reducing the athlete to a fatigued state. Physiological fitness variable play a vital role in almost every games and sports. Study of human Physiology is defined by dictionaries as the science of the normal functions and phenomena of living things. Involuntary, such as pulse rate, hemoglobin; blood pressure and vital capacity.

**Material and Method**

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The purpose of this research was to comparative study of physiological variable among intercollegiate level handball and basketball players. Present research whole population a total number of 20 boys' handball and basketball players were selected as sample by using simple random sampling technique from Loknete Vyankatrao Hiray Arts, Science & Commerce College Panchvati, Nashik. They were handball (n=10) & basketball (n=10). For this study physiological variable was used and heart rate, systolic blood pressure, diastolic blood pressure and vital capacity tests used for collected data. After data collection, data of handball and basketball players, by using independent sample 't' test for analysis and interpretation were drawn. The level of significance was kept at 0.05 to test the hypothesis.

**Table no. 1, Selection of variable Table**

Test	Tools	Unit
<b>Physiological Variable</b>		
Heart Rate	Stethoscope/stopwatch	Minute
Systolic blood pressure	Sphygmomanometer	High/Low
Diastolic blood pressure	Sphygmomanometer	High/Low
Vital Capacity	Peak flow meter	Lit/Minute

#### **Procedure of the study**

Present research whole population a total number of 20 boys' handball and basketball players were selected as sample by using simple random sampling technique from Loknete Vyankatrao Hiray Arts, Science & Commerce College, Panchvati Nashik. They were handball (n=10) & basketball (n=10). For this study physiological variable was used and heart rate, systolic blood pressure, diastolic blood pressure and vital capacity tests used for collected data. After data collection, data of handball and basketball players, by using independent sample 't' test for analysis and interpretation were drawn. The level of significance was kept at 0.05 to test the hypothesis.

#### **Result of the study**

The purpose of the study to find out the comparison of handball and basketball players among intercollegiate level tournament participated.

**Table no. 2  
Descriptive Statistics of Handball and Basketball Players**

Test	Players	No	Mean	SD
Heart Rate	Handball	10	79.9	9.4
	Basketball	10	82.6	12.2
Systolic Blood Pressure	Handball	10	107.3	11.6
	Basketball	10	102.2	11.9
Diastolic Blood Pressure	Handball	10	65.4	13.5
	Basketball	10	61.8	10.4
Vital Capacity	Handball	10	462.0	73.1
	Basketball	10	448.0	115.1

**Table no. 3**  
**Comparison between Handball and Basketball players**  
**using Independent sample Test**

Levene's Test for Equality of Variances		t-test for Equality of Means					
Test	Variance	F	Sig.	t	Df	Sig. (2-tailed)	Mean Diff.
Heart Rate	Equal variances assumed	0.58	0.47	0.76	18	0.44	2.65
	Equal variances not assumed			0.76	15.71	0.44	2.65
Systolic Blood Pressure	Equal variances assumed	0.12	0.77	0.57	18	0.56	2.15
	Equal variances not assumed			0.57	17.98	0.56	2.15
Diastolic Blood Pressure	Equal variances assumed	0.38	0.55	0.66	18	0.50	2.55
	Equal variances not assumed			0.66	15.63	0.50	2.55
Vital Capacity	Equal variances assumed	1.85	0.19	0.42	18	0.67	13.0
	Equal variances not assumed			0.42	15.18	0.67	13.0

### Discussion

The present study shows that there was no significance difference between handball & basketball players which are similar to the study by Kala (1999) who found that Kabaddi players were significantly better than the Kho-Kho players in physiological variables such as PEF (Peak Expiratory Flow Rate) but Kho-Kho player were significantly better than the Kabaddi players in pulse rate. Researcher concluded that there was no significant difference found in heart rate, systolic blood pressure, diastolic blood pressure and vital capacity variables of handball and basketball players. Hence the research hypothesis is rejected and null hypothesis is accepted.

**Conclusion:** On the basis of the result obtained in the study the researcher made the conclusion that there was no significant difference exists between heart rate, systolic blood pressure, diastolic blood pressure and vital capacity variables of handball and basketball players.

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