A COMPARATIVE STUDY OF PHYSIOLOGICAL COMPONENTS OF SOCCER AND HOCKEY PLAYERS OF DR. RAM MANOHAR LOHIA AVADH UNIVERSITY FAIZABAD OF UTTAR PRADESH

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Abstract:

The main objectives of the study were to investigate the Physiological Components of Soccer and Hockey Players of Dr. Ram Manohar Lohia Avadh University Faizabad of Uttar Pradesh State. The study was conducted only Inter Collegiate Male Players age groups between (19-25) i.e. Soccer and Hockey. 32 Players were selected on the basis of Simple Random Sampling method. i.e. Soccer (16) and Hockey (16). This study was also restricted to the following variables of Physiological Components i.e.: Vital Capacity, Pulse Rate, Breath Holding Capacity, and Blood Pressure etc. for the purpose of statistical analysis 't' test was applied the collection of data. The significant was set at 0.05 level of confidence and the degree of freedom was30. On the basis of result following conclusion were drawn: - There were no significant difference between two groups i.e. Soccer and Hockey Players in Vital Capacity, Pulse Rate, Breath Holding Capacity, and Blood Pressure.

Introduction:

Physiology is the study of how various biological components work independently and together to enable organisms, from animals to microbes, to function. This scientific discipline covers a wide variety of functions from the cellular and subcellular level to the interaction of organ systems that keep more complex biological machines, like humans, running.

Physiological studies are aimed at answering many questions. For instance, physiologists investigate why plants grow or bacteria divide, how food is processed in various organisms, and how thought processes occur in the brain (a branch of this discipline known as neurophysiology). It is often physiology-related investigations that uncover the origins of diseases.

Human (or mammalian) physiology is the oldest branch of this science dating back to at least 420 B.C. and the time of Hippocrates, the father of medicine. Modern physiology first

appeared in the seventeenth century when scientific methods of observation and experimentation were used to study blood movement, or circulation, in the body. In 1929, American physiologist W. B. Cannon coined the term homeostasis to describe one of the most basic concerns of physiology: how the varied components of living things adjust to maintain a constant internal environment conducive to optimal functioning.

Objectives of the study:

The Following were the main objectives of the study:-

I. To find out the Physiological Components Comparison of Soccer and Hockey Players Dr. Ram Manohar Lohia Avadh University Faizabad of Uttar Pradesh State.
II. To Compare the Effectiveness of Vital Capacity, Breath-holding Capacity, Pulse Rate and Blood Pressure of Soccer and Hockey Players.

Hypothesis of the Study:

It was hypothesized that there may be a significant difference among the Physiological Components of Soccer and Hockey Players of Dr. Ram Manohar Lohia Avadh University Faizabad of Uttar Pradesh State.

Sampling Method:

The Sample comprised of 32 Inter Collegiate Players studying in Dr. Ram Manohar Lohia Avadh University Faizabad of Uttar Pradesh State, which were selected through Simple Random Sampling Method for the study i.e. 16 Soccer and 16 Hockey Players.

Tools for data collection:

The following were the main tools for data collection as under:-

- ✓ **Vital Capacity** : Measured in Unit of liter.
  Equipment : Wet-Spiro meter
- ✓ **Pulse Rate** : Measured in Beats per minute with finger tips on radial artery.
  Equipment : Stopwatch
- ✓ **Systolic B.P.** : Measured in mm/hg by using Sphygmomanometer and Stethoscope.
- ✓ **Diastolic B.P.** : Measured in mm/hg by using Sphygmomanometer and Stethoscope.
- ✓ **Breath Holding Capacity** : Measured in Seconds by using Stop Watch.

This study was also restricted to the following variables of Physiological Components i.e.: **Vital Capacity, Pulse Rate, Breath Holding Capacity, and Blood Pressure** etc. for the purpose of statistical analysis 't' test was applied the collection of data. The significant was set at 0.05 level of confidence and the degree of freedom was30.

Statistical Analysis of the Data:

Table No-I

Table showing the Pulse Rate of Soccer and Hockey Players of Dr. Ram Manohar Lohia Avadh University Faizabad of Uttar Pradesh State

Group	Subjects	Mean	S.D.	S.E.	M.D.	't'	df	l.S.	't' Value
Soccer	16	66.00	5.63	1.05	1.56	0.04*	14	0.05	2.145
Hockey	16	64.44	4.80						
N	(32)								

It was observed from Table No-I that there was no significant difference in Pulse Rate of Soccer and Hockey Players because calculated't' value was less than tabulated 't' value of confidence for 14 degree of freedom i.e. 2.145.

Table No-II

Table showing the Breath Holding Capacity of Soccer and Hockey Players of Dr. Ram Manohar Lohia Avadh University Faizabad of Uttar Pradesh State

Group	Subjects	Mean	S.D.	S.E.	M.D.	't'	df	l.S.	't' Value
Soccer	16	51.75	3.51	1.09	0.19	0.17*	14	0.05	2.145
Hockey	16	51.94	2.57						
N	(32)								

It was observed from Table No-II that there was no significant difference in Breath Holding Capacity of Soccer and Hockey Players because calculated 't' value was less than tabulated 't' value at 0.05 level of confidence for 14 degree of freedom i.e.=2.145.

Table No-III

Table showing the Vital Capacity of Soccer and Hockey Players of Dr. Ram Manohar Lohia Avadh University Faizabad of Uttar Pradesh State

Group	Subjects	Mean	S.D.	S.E.	M.D.	't'	df	l.S.	't' Value
Soccer	16	3674.88	565.83	193.90	15.50	0.08*	14	0.05	2.145
Hockey	16	3659.38	530.48						
N	(32)								

It was observed from Table No-III that there was no significant difference in Vital Capacity of Soccer and Hockey Players because calculated 't' value was less than tabulated 't' value at 0.05 level of confidence for 14 degree of freedom i.e.=2.145.

Table No-IV

Table showing the Diastolic Blood Pressure of Soccer and Hockey Players of Dr. Ram Manohar Lohia Avadh University Faizabad of Uttar Pradesh State

Group	Subjects	Mean	S.D.	S.E.	M.D.	't'	df	l.S.	't' Value
Soccer	16	80.00	4.62	1.54	1.38	0.90*	14	0.05	2.145
Hockey	16	81.38	4.05						
N	(32)								

It was observed from Table No-IV that there was no significant difference in Diastolic Blood Pressure of Soccer and Hockey Players because calculated 't' value was less than tabulated 't' value at 0.05 level of confidence for 14 degree of freedom i.e.=2.145.

Table No-V

Table showing the Systolic Blood Pressure of Soccer and Hockey Players of Dr. Ram Manohar Lohia Avadh University Faizabad of Uttar Pradesh State

Group	Subjects	Mean	S.D.	S.E.	M.D.	't'	df	l.S.	't' Value
Soccer	16	80.00	4.62	1.54	1.38	0.90*	14	0.05	2.145
Hockey	16	81.38	4.05						
N	(32)								

It was observed from Table No-IV that there was no significant difference in Diastolic Blood Pressure of Soccer and Hockey Players because calculated 't' value was less than tabulated 't' value at 0.05 level of confidence for 14 degree of freedom i.e.=2.145.

Testing of Hypothesis:

There were no significant difference among the Physiological Components of Soccer and Hockey Players of Dr. Ram Manohar Lohia Avadh University Faizabad of Uttar Pradesh State, thus in this case hypothesis was rejected.

Conclusions:

On the basis of statistical analysis following conclusions were drawn:-

- There were no significant difference among the Pulse-rate of Soccer and Hockey Players.
- There were no significant difference among the Breath Holding Capacity of Soccer and Hockey Players.
- There were no significant difference among the Vital Capacity of Soccer and Hockey Players.
- There were no significant difference among the Diastolic Capacity of Soccer and Hockey Players.
- There were no significant difference among the Breath Systolic Capacity of Soccer and Hockey Players

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