

ABSTRACT

Objectives of the study was to find the relationship between selected physiological parameters and motor fitness predictors of handball performance. For that a sample of 20 students of handball was selected from Ludhania district of punjab. Philips JCR- For motor fitness, Vital capacity Blood Pressure, Pulse Rate and Cornish Handball Test: (skill test) were the criterion of measures. Results shows direct relationship between physiological parameters with handball performance whereas moderate relationship was found between motor fitness components with sports performance.

KEYWORDS: Physiological parameter, Motor fitness.

INTRODUCTION

Every human being has a fundamental right to access to physical activities and sports which are essential for the full development of his personality. The freedom to develop physical, intellectual and moral power through physical education and sports must be guaranteed both within the educational system and in other aspects of social life.

Desirable traits of character are developed through sports, such as sportsmanship, discipline, observance of the rules of the games, self-control and a spirit of fair-play. Team plying encourages co-operation, leadership, fellowship and team spirits, participation in sports, individually or as member of a team help in preparation for life. The athletes prepared for a contest by training and conditioning just as we prepare ourselves for a profession or a trade. Actually sports means such activities where the pattern of movements does not change as in athletics where a runner goes on running in some body movements.

OBJECTIVES OF THE STUDY

1. To find out the some selected physiological parameters of Handball performance.
2. To find out the motor fitness predictors of handball performance.
3. To find out the significant difference in motor fitness components of handball performance.
4. To compare the significant difference in some selected physiological parameters with handball performance.

Hypothesis :

It was hypothesized that there will be moderate correlation in Physiological and motor fitness predictors of handball performance.

Scopes of the study :**Delimitations :**

- 1) The study was delimited to compare handball performance with physiological and motor fitness components only.
- 2) The study was conducted on the male subjects only.
- 3) The age group of selected subject were ranging from 18 to 25 years.
- 4) Philips J.C.R. and Cornish handball test was selected to assess the motor fitness level of handball performance .

- 5) Stethoscope and Dry spirometer was used to measure vital capacity, blood pressure of the selected subjects.

Limitations :

- 1) Environmental factors were not under the control of researcher.
- 2) Training schedule of the players was not under the control of researcher.
- 3) No motivational techniques were used to collect the data which may affect the result.
- 4) Dietary habits of players were not under the control of researcher.

Source of data :

The source of the data was college level players of Handball from Ludhania City of Punjab.

Sampling Procedure :

The subject was selected by using simple random sampling method. The researcher selected 20 subjects from Handball game from selected college of Ludhania city.

Methodology :

Selection of Test:-

A) Philips JCR- For motor fitness :

- 1) Vertical jump
- 2) Chinning (Pull- ups)
- 3) Shuttle run

B) Physiological Parameters :

- 1) Dry-spirometer - Vital capacity
- 2) Sphygmomanometer - Blood Pressure.
- 3) Stethoscope -Pulse Rate

C) Cornish Handball Test: (skill test)

Statistical analysis:

Table I

Table showing the Correlation of Vertical Jump Test with pulse rate, vital capacity , Systolic and Diastolic Blood pressure of Handball Players.

Variables	Coefficient	relationship	'r'Table
Pulse rate	0.56*	Moderate	0.312
Vital capacity	0.80*	High to very High	
Systolic B.P.	0.011@	Negligible	
Diastolic B.P.	0.15@	Negligible	

@ = insignificant * =significant
38 df at 0.05 level of significant

Table I show that significant difference was not found in relation of Vertical Jump with pulse rate, systolic and diastolic blood pressure. Because calculated value of 'r' 0.56, 0.011 and 0.15 were less than table value of 'r' i.e. is 0.312 at 38 degree of freedom at 0.05 level of significance .where as significant difference was found in vital capacity with physiological parameters of handball players. which means vital capacity have significant relationship with vertical jump test.

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It was further also revealed from the above table that obtained value of correlation for pulse rate with Vertical Jump was found moderate were as correlation of Vertical Jump with systolic and diastolic blood pressure was found negligible i.e. 0.011 and 0.15 respectively. Were as correlation Vertical jump with vital capacity was found 0.80 with is high to very high.

It can also be revealed form the table that moderate and high correlation with Vertical Jump also indicate the value of physiological parameter in Handball performance.

Table II

Table showing the Correlation of Chinning of Test with pulse rate, vital capacity , Systolic and Diastolic blood pressure of Handball Players.

Variables	Coefficient	relationship	'r'Table
Pulse rate	0.73*	Substantial	0.312
Vital capacity	0.92*	High to very High	
Systolic B.P.	0.005@	Negligible	
Diastolic B.P.	0.55*	Moderate	

@ = insignificant * =significant
38 df at 0.05 level of significant

Table II shown that significant difference was found in pulse rate, vital capacity, and diastolic blood pressure in relation of chinning up test of handball players .where as insignificant difference was found in systolic blood pressure in relation to chinning up test .because calculated 'r' value 0.005 was less than the table value of 'r' i.e 0.312 at 38df at 0.05 level of significance .

It can also be seen that obtained value of correlation for pulse rate with chinning up was found substantial were as correlation of chinning up with systolic and diastolic blood pressure was 0.005 and 0.55 respectively was negligible and moderate. Were as correlation of chinning up with vital capacity was found 0.92 which is very high to very high .

It can also be revealed from the table that substantial and high to very high correlation of pulse rate and vital capacity with chinning up also indicated the value of physiological parameter in increasing Handball performance.

Table III

Table showing that Correlation of Shuttle Run Test with pulse rate, vital capacity, Systolic and Diastolic blood pressure of Handball Players.

Variables	Coefficient	relationship	'r'Table
Pulse rate	0.16@	Negligible	0.312
Vital capacity	0.09@	Negligible	
Systolic B.P.	0.59*	Moderate	
Diastolic B.P.	0.89*	High to very High	

@ = insignificant * =significant

38 df at 0.05 level of significant

Table III show that significant difference was not found in relation of shuttle run with pulse rate and vital capacity because calculated value of 'r' i.e. 0.16 and 0.09 were less than table value of 'r' i.e. 0.312 at 38 degree of freedom at 0.05 level significant were as significant difference was found in relation of shuttle run with systolic and diastolic blood pressure because calculated 'r' is grater than table value of 'r' i.e. 0.312 at degree of freedom at 0.05 level significant.

It was also found that obtained value of correlation for pulse rate with shuttle run was found negligible were as correlation of shuttle run with systolic and diastolic blood pressure was found 0.59 and 0.89 which show moderated correlation with systolic blood pressure and high to very high correlation with diastolic blood pressure respectively were as correlation of shuttle run with vital capacity was found 0.09 which is negligible.

It can also be revealed from the table that moderate and high to very high correlation of blood pressure with shuttle run also indicates the value of physiological parameters in handball performance.

Table IV

Table showing the Correlation of Handball performance Test with Physiological and Motor Fitness.

Variables	Coefficient	relationship	'r'Table
Vertical Jump	0.41*	Moderate	0.312
Chinning up	0.34*	Low	
Shuttle Run	0.20@	Low	
Pulse Rate	0.005@	Negligible	
Vital Capacity	0.30@	Low	
Systolic B.P.	0.54*	Moderate	
Diastolic B.P.	0.60*	Moderate	

@ = insignificant * =significant
38 df at 0.05 level of significant

Table IV shown that insignificant difference was found in relation of Handball performance with shuttle run, pulse rate, vital capacity because calculated value of 'r' 0.20, 0.005 and 0.30 were less than table value of 'r' i.e. 0.312. Where as significant difference was found in relation of Handball performance with vertical Jump, Chinning up, Systolic blood pressure and Diastolic blood pressure because calculated value of 'r' 0.41, 0.34, 0.54 and 0.60 were grater than table value of 'r' i.e. 0.312 at 38 degree of freedom at 0.05 level of significant.

Above table also show that obtained value of correlation for chin up 0.34, shuttle run 0.20 and vital capacity 0.30 with Handball performance. Which mean low correlation was found in chin up, shuttle run and vital capacity with Handball performance. Where as correlation of Handball performance with pulse rate and diastolic blood pressure was found 0.05 and 0.6 respectively which means that negligible correlation was found in pulse rate was found 0.05 which means that negligible correlation was found in pulse rate with handball players .where as correlation of vertical jump, chinning up, systolic and diastolic blood pressure was found 0.41, 0.34, 0.54 and 0.60 respectively. which means that moderate correlation was found in vertical jump, low in chinning up and moderate systolic and diastolic blood pressure with handball performance test.

DISCUSSION ON FINDINGS

The finding of this study shows that there was moderate and high correlation among physiology and motor fitness predictors of Handball players.

As a difference in physiological, motor fitness and Handball performance with 38 degree of freedom at 0.05 level of significance

Findings shows that correlation for pulse rate and vital capacity with vertical Jump was 0.56 and 0.80 which means high to very high relation was found. Whereas correlation for systolic and diastolic blood pressure with vertical jump was 0.011 and 0.15 which mean negligible relation was found.

It was also found that high to very high and negligible correlation with vertical jump also indicates the value of physiological parameter in Handball players.

Finding shows that correlation for pulse rate, vital capacity and diastolic blood pressure with chinning up test was 0.73, 0.92 and 0.55 which means substantial, high to very high and moderate relation was found. Where as table shown that correlation for systolic blood pressure with chinning up test was 0.005 which means negligible correlation was found. It can also be revealed from the table II that high to very high and moderated correlation with chinning up also indicates the values of physiological parameters in Handball players.

Finding shows that correlation for pulse rate and vital capacity which shuttle run was 0.16 and 0.09 respectively which shows negligible correlation. Where as table shows that correlation for systolic and diastolic blood pressure with shuttle run was 0.59 and 0.89 respectively which shows moderate and high to very high correlation. It can also be revealed from the table III that moderate and high to very high correlation with shuttle run also indicate the value of physiological parameters in sports performance.

Finding shows that correlation for Handball performance with vertical jump, chin up systolic blood pressure and diastolic blood pressure was 0.41, 0.34, 0.54 and 0.60 respectively which shows moderate and low correlation in motor fitness and physiological parameters. Where as correlation for Handball performance with shuttle run, pulse rate and vital capacity was 0.20, 0.005 and 0.30 respectively which shown low and negligible correlation in physiological and motor fitness.

It was also found that moderate and low correlation with Handball performance also indicate the values of physiological and motor fitness predictors.

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