

PHYSIOLOGICAL PROFILES OF MALE BASKETBALL PLAYERS

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Abstract: The purpose of the study was to construct the physiological profiles of (Vital capacity, breath holding capacity, resting heart rate, Vo2 max, peak flow rate and percentage of fat) of M.P. State Male basketball players. The study was restricted to 20 M.P. State Male Basketball players. The age of the subject ranges from 14 to 19 Years. For estimating of profiles the tests were employed. Vital capacity was measured in liters and milliliters, Breath holding capacity was measured in seconds resting heart rate was recorded in beats per minute Vo2 max was recorded in liters per minute and percentage of fact recorded nearest to 10 millimeters. Playing ability of male Basketball players was assessed by a panel of three judges during game situation. The final score was average of these scores. All the physiological tests were administered individually to all the twenty players and descriptive statistics were employed. To find out the relationship of physiological variables with playing ability of make basketball players product moment correlation was completed to level of significance was set at 05. The results revealed that there were significant relationship between playing ability in basketball to vital capacity ($r=.728$) Breath holding capacity ($r=.605$), Resting heart rate ($r=-.61$), Vo2 Max ($r=.450$) peak flow rate ($r=.705$). There was significant relationship between playing ability in Basketball and percentage of Fact ($r=.045$).

Key Words: Basketball, Physiology, Vital capacity, Heart rate, Vo2 Max.

1. INTRODUCTION:

The world of game and sports has crossed many milestones as a result of different achievements in general and their application in the field of sports in particular. Scientific investigation into performance of sportsmen has been playing an increasingly important role to attain excellence of performance in different sports. Now the sports man have been able to give outstanding performance because of involvement of new scientifically substantiated training methods means execution of sports exercise such as sports technique of sports exercise such as sports technique and tactics, improvement of sports gear and equipment as well as other component and conditions of the system of sports training.

The professionals must be aware of the latest and highly sophisticated tools that can facilitate the measurement of various. Physiological and morphological characteristics and for different sports events should be given proper extensive training over a prolonged period.

Physiological variables may be defined as those variables which are directly linked with various physiological systems such as heart rate, blood pressure, vital capacity, fat percentage respiratory rate and hemoglobin physiological variables such as cardiovascular efficiency, percentage of fat, reaction time vital capacity and other should be taken into consideration while selecting basketball players cardio respiratory endurance denoted capacity of individual to work effectively with the held of oxygen which is collected, transported and utilized by lungs, blood and muscles respectively.

Physiological system is highly adapted to exercise. Each task has a major physiological component and fitness for the task requires effective functioning of appropriated system involvement in systematic training brings about desirable changes in physiological ability which enhances the athletes performance. Basketball is very popular in the country, but very little scientific work has been done in the field, especially physiological profiles of male basketball players. Research work is very important for the advancement of the game through which we can educate the coaches, physical education teachers and players regarding the role played by physiological variables in achieving high performance efficiency.

1.1 Statement of problem:-

The primary purpose of the study was to construct the physiological profiles of male Basketball players and the secondary purpose was to evaluate the relationship of physiological variables to performance in Basketball.

2. RESEARCH PROCEDURE:

Selection of subjects:- To conduct the study, twenty male Basketball players from M.P.State were selected as subjects. The age of the subject ranged from 14 to 19 Years.

2.1 SELECTION OF VARIABLES:

On the basis of literature available pertaining to physiological variables of basketball players. opinion of coaches, teachers as well as personal experiences, the following physiological variables were selected for the purpose of the present study:-

- 1- Vital Capacity.
- 2- Breath holding Capacity.
- 3- Peak flow rate.
- 4- Vo2 Max
- 5- Resting Heart Rate
- 6- Percentage of Fat

2.2 Subject Reliability:

The test retest coefficient of correlation also established the reliability of subjects because the same tester used the same subjects under the similar condition. The reliability coefficients are presented in table No. 1

Table No.1

S.No.	Breath Holding Capacity	Correlation Coefficient 'r'
1	Vo2 Max	.98
2	Vital Capacity	.92
3	Peak Flow rate	.89
4	Resting heart rate	.98
5	Resting heart rate	.95
6	Percentage of Fat	.91

3. ANALYSIS OF DATA:

The analysis of data collected on twenty male basketball Players, who took part in the national level championship from M.P.State.

To analyze data, descriptive statistics was used. to examine the relationship of physiological variables with performance of Basketball playing ability, Pearson's Product Correlation moment was used. The level of significance was set at, .05, which was considered as adequate for the purpose of the study.

Table -2

Mean of Physiological Variable and Playing Ability of Male Basketball Players.

S.No.	Variables	Mean
1	Vital Capacity	2445
2	Breath Holding Capacity	43.27
3	Peak Flow Rate	445
4	Vo2 Max	44.17
5	Resting Heart Rate	66.8
6	Percentage of Fat	20.4
7	Playing Ability	7.1

THE RELATIONSHIP OF PHYSIOLOGICAL VARIABLES:

The relationship between independent variables vital capacity, Breath holding capacity, hosting heart rate, Vo2 max, Peak flow rate and percentage to fat to playing ability of Basketball Players was computed by pearson's product moment correlation have been presented in Table- 3

Table-3

Relationship of Physiological Variables to Playing ability in Basketball

S.No.	Physiological Variable	Correlation coefficients
1	Vital Capacity and Playing ability	.728*
2	Breath holding capacity and playing	.605*

3	Peak Flow Rate and Playing ability	.705*
4	Vo2 Max and Playing ability	.405*
5	Resting heart rate and playing ability	.61*
6	Percentage of fat and playing ability	.045

N= 20 Significant at .05 level of confidence

r.05 (18) = .444

Table -3 revved that there were significant correlation between playing ability in Basketball and Vital Capacity (r=.728) breath holding capacity (r=.605), peak flow rate (r=.705), Vo2 max (r=.450), resting heart (r=.61), There were in Significant relationship between playing ability in Basketball and percentage of fat (r=.045). This correlation Value was insignificant because this value was lower than the correlation value of (.44) received for significant.

5. CONCLUSION:

On the basis of the findings of the study the following conclusions were drawn:-

Vital capacity Breath holding capacity, Resting heart rate Vo2 max and peak flow rate indicated significant correlation with playing ability in Basketball players.

- Percentage of fat indicated no significant correlation with playing ability in Basketball players.

6. RECOMMENDATIONS:

In the light of results obtained from the present study the following recommendations can be made.

It is recommended that coaches and physical educationists must take into consideration the physiological variables such as vital capacity, Breath holding capacity, Vo2 Max, Peak flow rate and resting heart rate while selecting Basketball players.

- Similar studies may be conducted on Female Basketball Players.
- Similar studies may be conducted on Basketball players.
- Similar studies may be conducted with different levels of Basketball Players.

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