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Study on correlation between selected physiological variables and playing ability of Badminton players

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Abstract

The main purpose of this study was to find out the Co-relation between selected Physiological parameters and playing ability of Badminton players. For this study 10 male and 10 female Badminton players were selected as subject from Degree College of Physical Education (DCPE), Amravati through purposive sampling method. The age of the subjects was ranged from 18 to 25 years. The selected Physiological variables were Vital capacity and BMI .Vital capacity was measured through Peak flow meter and for BMI height and weight were measured by Stadiometer and weighing machine. The Miller Wall Valley test was administered to check the Playing ability of Badminton Players. The scores were recorded according to the units of the particular test. The data pertaining to each of the selected Physiological variables i.e. Vital capacity and BMI was examined statistically by Pearson's product moment Co-efficient of Correlation. The findings indicate that the vital capacity of Male ($r = 0.021$) and Female ($r = 0.257$) does not significantly correlate with Playing ability. Also BMI of Male ($r = -0.057$) and Female ($r = -0.106$) do not correlate significantly with Playing ability of Badminton Players. Since the calculated r -values are less than tabulated r - value (0.576) at 0.05 level of significance. Hence no any correlation exists between vital capacity and BMI with playing ability. It is concluded from study that vital capacity of shuttlers will not affect their performance; it may be because the test Miller Wall Valley is of duration just 30sec which does not require much lung functioning .Also it is concluded from study that negative correlation exist between BMI and playing ability of shuttlers which may be because for better performance agile and less fat free mass body is needed which may be found in a players having less BMI.The concluded concept may help a coach and players to increase performanġ.

Keywords: Physiological variables, Vital capacity, BMI, Stadiometer, Badminton

Introduction

Badminton occupies a significant place among sports .It is a game of masterful skills, deception, anticipation and concentration .It is an energetic game giving enjoyment and pleasure to a players. The quality of its utilization value is directly proportional to the level of performance and skill. This means greater the level of fitness, greater will be the ability of person to attain higher levels of performance.

It is well known fact that the physical and physiological variables should be woven together to enhance performance at world level.Even though certain physical and physiological variables have been discussed and reviewed in their relationship to performance in Badminton,it still remain to be established scientifically. So therefore scholar interested to undertake with a view to make generalizations in regard to physiological variables as predictors of playing ability of Badminton players.The problem is stated as "Study on Correlation Between Selected Physiological Variables And Playing Ability of Badminton Players."

The main purpose of this study was to find out the Co-relation between selected Physiological parameter and playing ability of Badminton players.

The researcher expect some significant contribution to shuttlers from this study in Badminton. The research will establish a scientific basis to the game of Badminton. Scientific background of the game will help the Badminton fellows in taking quantum leaps towards professionalism of the sport.

- The study will motivate the players and coaches to achieve better performance.
- The result of the study will be helpful to know about what actual co- relation between physiological and performance of the players.

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On the basis of literatures, discussion with the experts and personal experience it was hypothesized that there might be significant Co-relation between selected Physiological parameter and playing ability of Badminton players.

Methodology

For this study 10 male and 10 female Badminton players were selected as subjects from Degree College of Physical Education (DCPE), Amravati through purposive sampling method. The age of the subjects was ranged from 18 to 25 years.

The selected Physiological variables were Vital capacity and BMI .Vital capacity was measured through Peak flow meter and for BMI height and weight were measured by Stadiometer and weighing machine. The Miller Wall Valley test was administered to check the Playing ability of

Badminton Players. The scores were recorded according to the units of the particular test.

Results

The data pertaining to each of the selected Physiological variables i.e. Vital capacity and BMI was examined statistically by Pearson's product moment Co-efficient of Correlation. The findings indicate that the vital capacity of Male ($r = 0.021$) and Female ($r = 0.257$) does not significantly correlate with Playing ability. Also BMI of Male ($r = -0.057$) and Female ($r = -0.106$) do not correlate significantly with Playing ability of Badminton Players. Since the calculated r - values are less than tabulated r - value (0.576) at 0.05 level of significance. Hence no any co-relation exists between vital capacity and BMI with playing ability.

Table 1: Relationship of Vital Capacity and Body Mass Index with Performance of Male Badminton Players

S. No.	Variables Correlated	Co-efficient of Correlation (r)
1.	Vital Capacity and Performance of Male Badminton Players	0.021 [@]
2.	Body Mass Index and Performance of Male Badminton Players	-0.057 [@]

* Significant at .05 level Tabulated $r = 0.576$ @Not significant at .05 level

Table 2: Relationship of Vital Capacity and Body Mass Index with Performance of Female Badminton Players

S. No.	Variables Correlated	Co-efficient of Correlation (r)
1.	Vital Capacity and Performance of Female Badminton Players	0.257 [@]
2.	Body Mass Index and Performance of Female Badminton Players	-0.106 [@]

* Significant at .05 level Tabulated $r = 0.576$

@Not significant at .05 level

Conclusion

It is concluded from study that vital capacity of shutters will not affect their performance; it may be because the test Miller Wall Valley is of duration just 30sec which does not require much lung functioning. Also it is concluded from study that negative correlation exist between BMI and playing ability of shutters which may be because for better performance Agile and less Fat Free Mass Body is needed which may be found in a players having less BMI. The concluded concept may help a coach and players to increase performance.

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