

A Relationship study of selected Anthropometric Measurements and Physical Fitness Variables with Volleyball Playing Ability

Kavita Sharma,

Associate Professor, Daulat Ram College, University of Delhi, Delhi, India

Abstract

The study aimed to find out the relationship of selected anthropometric measurements and selected physical fitness variables with volleyball playing ability. The players with minimum inter collegiate level participation from Delhi University in Volleyball age ranging between 18-22 years were selected to act as subject for the study. AAHPER Fitness Test and Brady Volleyball Playing Ability Test were used for the collection of the data. i.e., in Anthropometric Measurements, Body Height was measured by stadiometer and the score was measured in cm., Arm Length were measured by steel tape and scores was recorded in inches, Leg length was measured by steel tape and scores was recorded in inches. For selected Physical Fitness Variables, Pull ups was used to measure arm and shoulder strength, One point for each correct pull up, Shuttle run was used to measured agility and the scores was recorded in second, Standing Broad Jump was used to measure explosive strength and the score was recorded in feet and inches, for Playing Ability, Brady Volleyball Test for playing ability was used. To find out the relationship between selected anthropometric measurements and selected physical fitness variables with volleyball playing ability of the players, the Pearson's product moment correlation was used.

KEYWORDS: Anthropometric measurements, AAHPER Fitness Test, Brady Volleyball Playing Ability Test

Introduction

Physical Education, sports and physical fitness are interrelated terms. One of the significant aim of every physical education and sports programme is to develop physical fitness meant merely muscular strength. This concept of fitness has also undergone a change, now a new concept of "Total fitness means that state which characteristic the degree which the person is able to function.

In the field of Physical Education one of the objective of testing and measuring is to place a proper person in to a proper activity and thus to avoid misfit as far as possible consequently to decide what factors are needed for an activity in the purpose of the activity analysis, where as to decide factors are present in the individual in the purpose of personal analysis. Thus there is an attempt to find same type of relationship.

Anthropometry is the oldest type of body measurement used dating back to the beginning of recorded history. The concepts of the ideal proportion varied of time.

In United States Anthropometry measurement was the first type of measurement to be used, generally in Physical Education. On the theory that exercise should be prescribed to affect muscle size emphasis was placed upon body symmetry and proportion.

Anthropometry simple stated consists of making external measurements to human body. These measurements may be either objective or subjective. Commonly used is associating Physical Performance with body build.

Physical fitness is very desirable quality to possess. However physical fitness can be defined many ways and several components of physical fitness have been identified. The following question needs to be asked "fitness for what?". Does the student desire physical fitness that will contribute to general health or does he or she want physical fitness that will ensure outstanding performance in some particular sports.

The qualities that make up both health related physical fitness and performance are largely the same. However some of the qualities may need to be developed to a greater extent in performance related physical fitness.

Basket ball was first introduced in India about 91 year ago by American workers. The honor of pioneering and popularizing the game since the year 1920 goes to the Y.M.C.A. College of physical education, Madras.

Basket ball is surely one of the few most popular sports in the world and the game where the aim of all the players in court is one goal- "to score". It inspires, enthuses and entertains millions of people around this fascinating game has improve to the most removable interesting indoor as well as outdoor game of modern time.

Among the various popular recognized and high games of today volleyball is one. It is also now widely accepted that volleyball is the game which contain various complex open skills, techniques and situations, hence it required high level of physical power as well as a good knowledge of the fundamental skills.

Objective of the Study

The main objective of the study was to find out the relationship of selected anthropometric measurements and selected physical fitness variables with volleyball playing ability.

Hypothesis of the study

It was hypothesized that there would be a significant relationship between the selected anthropometrical and physical fitness variables with the volleyball playing ability scores.

Methodology

The players who participated in inter collegiate Volleyball tournament in Delhi University whose age between 18-22 years were selected. AAHPER Fitness Test and Brady Volleyball Playing Ability Test used for the collection of the data. i.e., in Anthropometric Measurements, Body Height was measured by stadiometer and the score was measured in cm. Arm Length were measured by steel tape and scores was recorded in inches, Leg length was measured by steel tape and scores was recorded in inches. For selected Physical Fitness Variables, Pull ups was used to measure arm and shoulder strength, One point for each correct pull up, Shuttle run was used to measure agility and the scores was recorded in second, Standing Broad Jump was used to measure explosive strength and the score was recorded in feet and inches, for Playing Ability Brady Volleyball Test ability was used. To find out the relationship between selected anthropometric measurements and selected physical fitness variables with volleyball playing ability of the players, the product moment method to find the co-efficient of co-relation was applied.

Table 1: Pearson's Product Moment Correlation between Playing Ability to Different Anthropometric Measurements and Physical Fitness Components

S. No	Variables	'r'
1.	Body Height and Playing Ability	0.828*
2.	Arm Length and Playing Ability	0.648*
3.	Leg Length and Playing Ability	0.672*
4.	Pull-Ups and Playing Ability	0.874*
5.	Shuttle Run and Playing Ability	0.769*
6.	Standing Broad Jump and Playing Ability	0.856*

***Significant at 0.05 Tabulated $r_{(28)} = 0.361$**

The results pertaining to the relationship between selected anthropometric measurements and selected physical fitness variables with volleyball playing ability of volleyball players shows that, co-efficient of co-relation between body height and playing ability is 0.82, co-efficient of co-relation between Arm length and playing ability is 0.648, leg length and playing ability is 0.672, Pull-ups and playing ability is 0.874, Shuttle run and playing ability is 0.769 and finally standing broad jump and playing ability is 0.856

Conclusions

From the finding of the study of may be concluded that:-

- 1) Body height, Arm length and leg length were the most significant independent measurements for playing ability in volleyball players.
- 2) Pull-ups, shuttle run and standing broad jump, were the most significant independent items for playing ability in volleyball players.
- 3) A combination of the significant independent variables, such as body height, Arm length, Leg length, Pull-ups, Shuttle run, and standing broad was found most valid and reliable for predicting performance in playing ability in volleyball players .

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