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Relationship between Selected Structural and Functional Ability of Volleyball Female players of Bilaspur

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Abstract

The purpose of the present study was found out the relationship between selected structural and functional ability of volleyball female players. Thirty (30) subjects were selected randomly from different colleges of the Institute of Professional Studies, bilaspur, (C.G.). All the subjects were state level players who have participated in various state level Volleyball competitions. The age group of the subjects ranged between 18 to 25 years. The test use in this study for the collection of data volleyball playing ability Modified Brady Wall Valley Test were selected because they were found to be most reliable and have been used very often in the area of physical education and sports. Under this test following criteria were measured standing height, weight, Arm Ratio, Speed, Strength, Endurance and playing ability of the subjects. The data pertaining to standing height, weight, for arm and Upper Arm Ratio and Strength was collected in the indoor stadium of Institute of Professional Studies, bilaspur (C.G.). To find out the relationship of selected structural and functional variables to the Volleyball playing ability single Shot research design was applied. To find out the relationship of selected structural and functional variable, the Karl Pearson product moment Correlation was use to test the level of significant was set at 0.05. Within the limitations of the present study it is concluded that there is no significance relationship exist between two structural variables i.e. Weight and for Upper Arm ratio with Volleyball playing ability.There is no significant relationship between two functional variables strength and Endurance.

Keywords: Structural, functional abilities and volleyball

1. Introduction

The physical activity is an inherent trait of human being. It develops its own in a natural way. It becomes all the way imperative to identity the nature and the degree of this natural talent and nature modify and refine it to get the cherished outcome. The children perform a lot of activities such as running Jumping, Throwing, Catching, Kicking, Striking etc. these activities are known as natural or universal skills because they seem common to all the people all over the globe irrespective of geographical, regional, national or racial barriers. These natural abilities ultimately develop into more and more complex and specific sports' skills. The acquisition, modification and perfection of these skills due to the increased capabilities of the individual that come with grow and development. The extent or the degree of these natural traits differs from person.

These skills combine together and develop into complex forms of highly specific movement obtained through rigorous and strenuous practice and special training. They lay foundations for the fundamental skills and the ultimate complex sports technique. Modern sports are the outcome of long and concerted efforts through improvement, modification and refinement of this simplest form over the ages.

Competitions are a product of modern times. It is a challenges which motivate, stimulates and inspire the individual to run faster, jump higher and through farther and to strive to do better than before and to exhibit greater strength, endurance and skill to dominate others. In the modern world of sports, the competition attach greater significant to winning as the philosophy of participation in the field of games and sports has undergone a notable change.

Sally Tester and Charles Franzein are of the opinion that power and strength of leg muscles. Abdominal and back muscles and muscles of the arm and shoulder griddle play vital role in the performance of the Volleyball players.

Besides strength and power, quickness combined with ability and flexibility is the main components of specific fitness required in Volleyball. The development of these components should be related to the specific conditions of the game as they play an important role in with energy and alertness without under fatigue and still enjoy leisure time pursuits and to meet the unpredicted Emergencies.

Physical fitness is defined as a set of ability to carry out achieving significant results in various techniques of offence and defense. Physical fitness is the capacity of an individual to do work effectively with joy and pleasure. After the work is over, he still has sufficient capacity to do more work without any exertion. Moreover; his recovery is faster and quicker. Physical fitness is ability to perform daily task physical ability (Rao, 2010)

It is more than the possession of endurance, agility, speed and strength. The person who remains energetic, enthusiastic and cheerful in doing his work is said to be physically fit. Thus it is physical workout ability of an individual. The level of physical fitness varies from to person. It depends upon the nature of work, size, shape, structure, age, sex and adaptability of an individual. Different games require different levels of physical fitness depending upon the type of activity, event, game and sports. Physical fitness requires efficient motor mechanism (movement of body), efficient organic mechanism (physiological functioning) and efficient mental functioning (psychological set-up).A fit individual possesses all these. Physical fitness is the ability of a person's body to meet the demands placed upon it by his work, by his way of life and by the necessity to meet emergency situations. Fitness is one of the basic elements which are essential for better performance. The players must needs be in top physical condition. Physical fitness is considered as the fitness of the body, but in the modern concept physical fitness means fitness of both body and mind. **(Kundra, S., Deepmala, & Dogra, M., 2013)**.

2. Methodology

2.1 Selection of Subjects

Thirty (30) subjects were selected randomly from different colleges of the Institute of Professional Studies, bilaspur, (C.G.). All the subjects were state level players who have participated in various state level Volleyball competitions. The age group of the subjects ranged between 18 to 25 years.

2.3 Selection of Selection of variables:

a) Standing Height
b) Weight
c) Arm Ratio
d) Speed
e) Strength
f) Endurance

2.4 Criterion Measures:

The test use in this study for the collection of data volleyball playing ability Modified Brady Wall Valley test were selected because they were found to be most reliable and have been used very often in the professional of physical education and sports.

2.5 Statistical procedure:

For the present, the relationship between structural and functional ability of Volleyball players, Karl Pearson's product moment correlation method was used.

3. Results

Table 1: Descriptive analysis of structural variable of Female Volleyball Players.

S.N.	*Descriptive Analysis*	*Height*	*Weight*	*Arm Ratio*
1	Mean	156	58	1.02
2	Standard Deviation	6.05	2.11	0.11
3	Minimum	150	43	1.01
4	Maximum	168	62	1.42
5	Range	18	19	.41

Table 1: indicate that descriptive analysis of height of female Volleyball players where mean, standers deviation, minimum, maximum and range, the values are 156, 6.05, 150, 168 and 18.00 respectively. Above table also indicate descriptive analysis of weight for female Volleyball players where mean, standard deviation, minimum, maximum, range and values of weight factors are 58, 2.11, 43, 62 and 19 respectively. Above table also indicate descriptive analysis of force arm and upper Arm Ratio for female Volleyball players where mean, standard deviation, minimum, maximum, range 1.02, 0.11, 1.01, 1.42, and 0.41 respectively.

Table 2: Descriptive analysis of functional variable of female Volleyball Players

S.N.	*Descriptive Analysis*	*Speed*	*Strength*	*Endurance*
1	Mean	8.02	6.21	2.40
2	Standard Deviation	1.01	2.11	1.05
3	Minimum	7.01	3	1.30
4	Maximum	9.45	11	2.55
5	Range	2.44	8	1.25

Table 2 indicate descriptive analysis of Speed (50 meter Dash) of female Volleyball players where mean, standers deviation, minimum, maximum and range, the values are 8.02, 1.01, 7.01, 9.45 and 2.44respectively.

Above table indicate descriptive analysis of Strength (Pull Ups) of female Volleyball players where mean, standers deviation, minimum, maximum and range, the values are 6.21, 2.11, 3.00, 13.00 and 8.00 respectively.

Above table indicate descriptive analysis of Endurance (600 meter) of female Volleyball players where mean, standers deviation, minimum, maximum and range, the values are 2.40, 1.05, 1.30, 2.55 and 1.25 respectively.

Table 3: Relationship of structural variables to playing ability to female Volleyball Players

S.N.	Variables	Correlation Coefficient
1	Height and playing Ability	**0.42***
2	Weight and playing Ability	**0.18**
3	Fore and upper arm Ratio and playing Ability	**-0.13**

Significant at 0.05 level of significance r 0.05r (28) =0.36

According to table 3 significance relationship between height and playing ability (r=-0.42) and no significant relationship between weight and playing ability (r=0.18), Arm ratio and playing ability (r=-0.13).

Table 4: Relationship of functional variables to playing ability to female Volleyball Players.

S.N.	Variables	Correlation Coefficient
1.	Speed and playing Ability	**0.41***
2.	Strength and playing Ability	**0.23**
3.	Endurance and playing Ability	**0.29**

Significant at 0.05 level of significance r 0.05r (28) =0.36

According to table 4 significance relationship between Speed and playing ability (r=-0.41*) and no significant relationship between strength and playing ability (r=0.23) and Endurance playing ability (r=-0.31).

4. Discussion

The present study is found that there is no significance relationship exist between two structural variables i.e. Weight and fore and Upper Arm ratio with Volleyball playing ability. There may be so many reasons for it but one of the main reason for it is variation in body structure of selected subjects. In the case of height there is significant relationship

exist with Volleyball playing ability as we all know that height is one of the key factor for a good Volleyball player. It is found significantly correlated with Volleyball playing ability.

In the case of Speed there is significant relationship exist with Volleyball playing ability but no significant relationship between two functional variables strength and Endurance.

5. Conclusions

1. Only one structural variable i.e. height found significantly correlated with volleyball playing ability where as remaining structural variables was not found significantly correlated with Volleyball playing ability.
2. Only one functional variable i.e. Speed found significantly correlated with volleyball playing ability where as remaining functional variables was not found significantly correlated with Volleyball playing ability.

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