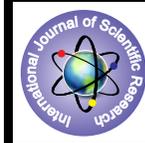# Relationship of Selected Physical, Physiological and Anthropometric Variables With Playing Ability Karnataka State Women Volleyball Players

Physical Education

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ABSTRACT   *The aim of the study was to determine the relationship of selected physical, physiological and anthropometric variables with playing ability among Karnataka state women Volleyball players. For this purpose forty five (N=45) women Volleyball players, who had participated the intercollegiate tournament in Karnataka state during the year 2015-2016 were selected as subjects. Speed, agility, resting pulse rate, respiratory rate, height and weight were selected as independent variables for this study. And Volleyball playing ability was selected as dependent variable. Person's product moment correlation (zero order) was used as a statistical tool to find out the result and it revealed that the physical fitness variables of speed, agility, physiological variables of resting pulse rate, respiratory rate and anthropometrics variables of height, weight, were having significant relationship with Volleyball performance.*

Introduction

Sports are universal appeal has led to sport gaining recognition as a simple, low cost and effective medium for achieving key developmental goals. Sport form is an inspirable part of the system of physical education. Physical education offers opportunities in competitive situations for physical, social, emotional and moral developments. Sports and Games are the best ways to earn social recognition and acquire a status in the modern society. Sports and

games in the modern era occupy a very prominent and important place in the life of people and also in every sphere of life. Sport consists of physical activity carried out with a purpose for competition, for self-enjoyment, to attain excellence, for the development of a skill, or more often, some combination of these. Sports differ in their dependence upon a set of individuals or team skills, as well as in the ways in which they have their participants compete. As fitness and sports go hand in glove there is a need to develop the ability in an

individual to play the game with good skill and perform consistently well (Gualdi and Zaccagni 2001).

Volleyball is played by millions of people around the world. In many countries, it has been ranked as top-level competitive sports. It is a fascinating game, which everybody will accept. It is a well-known fact that volleyball is a thrilling game. It is one of the recreational games with in a small area. It is a game where not only the hands are engaged in receiving and spiking the ball, but the whole body and mind are engaged in this game. Volleyball is probably the leading ball game in the world as far as action and accuracy are concerned. Regarding the result of this game anything may happen at any time (Duquet and Carter, 1996).

Anthropometric properties of athletes represent important prerequisite for successful presence at the same sport, effecting athlete's performance and are necessary in order to gain excellent performance of sports skills. The term motor ability is used synonymously with general athletic ability. There are many factors that contribute to successful performance in athletic skill. In most of the advanced and developed countries, the awareness for motor learning and skill developed among volleyball players is very much scientific and prolonged

which perhaps helped them to level of general fitness with

motor abilities like power, speed, agility, balance, reaction time etc. are essential qualities required to be developed in the players**.**

The Sports Skill is a unit. When it combines with other units into a pattern along with certain rules, the result is a sport or athletic game. These motor patterns have their fundamental skills or racial skills viz, running, walking, hanging etc. Efficient performance in these motor patterns depends on the underlying basic factors of movement such as strength, speed, power, agility, hand-eye-foot-eye-coordination, balance etc. When these fundamental skills are combined into various patterns and sequences along with the underlying basic elements, sports skills result. These are unique and specific for each game or physical activity *(Jeyaraj & Gopinathan, 2014).*

Playing abilities or specific skills are very important aspect in every game and sports and play a vital role in the performance of individual. Skill is often defined as "knowledge or expertise, but in physical education it is the ability to perform certain activities or movements with control and consistency, to bring about a desired results." It takes a long time to acquire a skill because it involves a high level co-ordination and control. The game of volleyball comprises manifold of quick actions and reactions such as arm pass, fore arm pass, blocking, smashing and defending in the playing situation.

METHODOLOGY

Forty-five (N=45) women Volleyball players who have participated intercollegiate tournament in Karnataka state during the year 2015-2016 were selected as subjects. Among various physical, physiological and anthropometric variables, Speed, agility, resting pulse rate, respiratory rate, height and weight only selected as independent variables. Volleyball playing ability was selected as dependent variable. Speed was assessed by 50 mts. Run test, agility was assessed by shuttle run, resting pulse rate was measured through Radial Pulse method, respiratory rate was measured trough Manuel Method, height was measured through Stadiometre and weight was measured through Weighing Machine. The dependent variable was playing ability which was assessed through subjective rating by three experts. The average of three experts was the individual criterion score.

Person's products moments correlation (zero order) was

used to find out the relationship of selected anthropometrics and physical fitness variable with Basketball performance. The level of significance was set at 0.05. SPSS package was used for statistical analysis.

RESULTS & DISCUSSION
Table-1
Coefficients of Physical Fitness variables with Volleyball playing ability

Sl No	Variables	Co-efficient of Correlation
1	Speed and Playing Ability	0.37*
2	Agility and Playing Ability	0.79*

*Significant at .05 level (r 0.05 (43) =0.286)

Table 1– had shown the relationship of selected physical fitness variables with Volleyball playing ability. All the obtained correlation values were above the table value of 0.286. In this analysis speed and agility were significant relationship with playing ability. Among the physical fitness variables agility was found the highest relationship with Volleyball playing ability (r = 0.79). The other physical fitness variables of speed is 0.37 and also significant relationship with Volleyball playing ability.

Table-2
Coefficients of Physiological   variables with Volleyball playing ability

Sl No	Variables	Co-efficient of Correlation
1	Resting Pulse Rate and Playing Ability	0.73*
2	Respiratory Rate and Playing Ability	0.56*

* Significant at .05 level (r 0.05 (43) =.286)

Table 2– had shown the relationship of selected physiological variables with Volleyball playing ability. All the obtained correlation values were above the table value of 0.286. In this analysis all the selected variables were significant relationship with playing ability. Among the physiological variables resting pulse rate was found the highest relationship with Volleyball playing ability (r = 0.73). The other physiological variables of respiratory rate is 0.56 and also significant relationship with Volleyball playing ability.

Table-3
Coefficients of Anthropometric variables with Volleyball playing ability

Sl No	Variables	Co-efficient of Correlation
1	Height and Playing Ability	0.53*
2	Weight and Playing Ability	0.39*

* Significant at .05 level (r 0.05 (43) =.286)

Table 3– had shown the relationship of selected anthropometric variables with Volleyball playing ability. All the obtained correlation values were above the table value of 0.286. In this analysis all the selected variables were significant relationship with playing ability. Among the anthropometric variables height was found the highest relationship with Volleyball playing ability (r = 0.53). The other anthropometric variable of weight is 0.39 and also significant rela-

tionship with Volleyball playing ability.

CONCLUSION
From the above results and discussions the following conclusions were drawn

1. The selected physical fitness variables of speed and agility having significant relationship with Volleyball playing ability.
2. In the selected physiological variables resting pulse rate and respiratory rate   also having significant relationship with Volleyball playing ability.
3. In the selected anthropometric variables height and weight   also having significant relationship with Volleyball playing ability.

REFERENCES
1. Duquet, W. & Carter, J.E.L. (1996), *Kinathropometry and exercise physiology laboratory manual.* (eds. Eston R, Reilly T), pp. 35-50. London: E&FN Spon.
2. Gualdi-Russo E, Zaccagni L. (2001), Somatotype, role and performance in elite volleyball players, *J Sports Med Phys Fitness*, 41(2):256-62.
3. Jeyaraj. N and P. Gopinathan(2014), relationship of selected anthropometric And physiological variables to Kabaddi Playing ability, *Academic Sports Scholar*, 3:6, June.