Research Paper Physical Education

Relationship of Selected Physiological Variables With Playing Ability Among National Level Volleyball Players

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ABSTRACT

The Purpose of the study was to find out the relationship of selected physiological variables with playing ability among national Level Volleyball Players. For this purpose Forty five(N=45) Boys Volleyball players, who had participated the mini National tournament in 2013-2014 seasons, were selected as subjects. Among the physiological parameters only Resting Pulse Rate and Respiratory Rate were selected as criterion variables. Resting pulse rate and Respiratory Rate were assessed through Manuel methods. Volleyball playing ability was assessed through subjective rating by three experts during the mini national Volleyball tournaments and the average was taken as criterion score. Person's product moment correlation (zero order) was used as a statistical tool to find out the result and it revealed that the physiological variables of resting pulse rate and respiratory rate were having significant relationship with Volleyball performance.

KEYWORDS : Volleyball, Resting pulse rate, Respiratory rate

Introduction

Sports form an inspirable part of the system of physical education. 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 development among children 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**.**

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.

Volleyball is a complex game of simple skills. It has also shown in recent years that there is a trend that volleyball payers adopt the technique, tactics and physical performance. Volleyball Game requires comprehensive ability including physical, technical, mental and tactical abilities. Among them physical abilities of players exert marked effects on the skills of the players themselves and the tactics of the team. The skills like higher attack, powerful

jumping-serve, attack from the back row and aggressive blocking are now widely used by volleyball players. All these bring forward greater demand for specific physical fitness and physique of volleyball players. In volleyball, technical and tactical skills, anthropometric characteristics and individual physical performance capacities are most important factors that contribute to the success of a team in competitions ***(Hakkinen, 1993).***

Different sports have distinct physical and physiological characteristics which contribute to the success of sports persons, in that particular sports discipline. The measurement of player's physiological characteristics has high lightened position specific attributes. The physiological efficiency of various organs is helpful in doing the activity with vigor and more enthusiasm. More and more training is helpful to be stronger physiological efficiency. The most important muscle that adapts to training is the heart. During exercise, it pumps blood containing oxygen, fluids and nutrients to the active muscles. Blood flow then drains the metabolic waste products away. The more blood pumped, the more oxygen is available to the exercising muscles. More and more the muscles train, they're better able to extract and use the oxygen to produce more work. The heart adapts to aerobic exercise over time so it can pump more blood per stroke. Physiological efficiency of various organs plays a vital role in the performance Volleyball ***(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) men Volleyball players during the year 2013-2014 were selected as subjects during the mini national Volleyball tournaments in 2013-2014 sessions. The physiological variables such Resting Pulse Rate and Respiratory Rate were selected as criterion variables. Resting pulse rate and Respiratory Rate were assessed through Manuel methods.

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 Physiological variables with Volleyball playing ability

Sl No	Variables	Co-efficient of Correlation
1	Resting Pulse Rate and Playing Ability	0.51*
2	Respiratory Rate and Playing Ability	0.34*

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

Table 1– 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 = 0.51). The other physiological variables of respiratory rate is 0.34 and also significant relationship with Volleyball playing ability.

The Pearson's coefficient of correlation values of Resting Pulse Rate and Playing ability of Volleyball players and Respiratory Rate and Playing ability of Volleyball players were graphically presented in Fig.1 & 2.

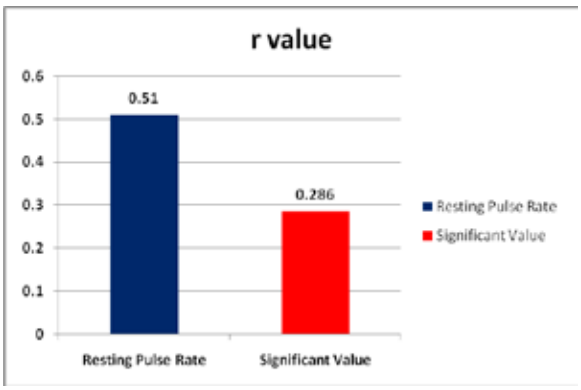

Figure: 1 Pearson's Product Moment Correlation values between the Resting Pulse Rate and Playing Ability of Volleyball Players.

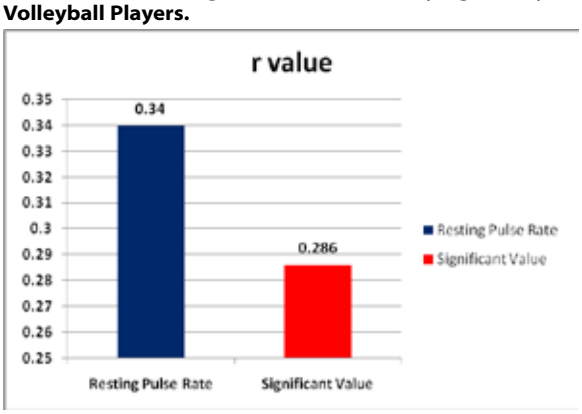

Figure: 2 Pearson's Product Moment Correlation values between the Respiratory Rate and Playing Ability of Volleyball Players.

CONCLUSION

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

In the selected physiological variables resting pulse rate and respiratory rate having significant relationship with Volleyball playing ability.

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