

Impact Of Hand-Eye Coordination And Shoulder Strength On Volleyball Serving Ability

S Sakthivel^{1*}, Dr. K.Vaithyanathan²

¹**PhD Research Scholar, Department of Physical Education and Sports Sciences, SRM Institute of Science and Technology, College of Science and Humanities, Kattankulathur, Chengalpattu, Tamilnadu, India.*

²*Research Supervisor, Department of Physical Education and Sports Sciences, SRM Institute of Science and Technology, College of Science and Humanities, Kattankulathur, Chengalpattu, Tamilnadu, India.*

***Corresponding Author:** S Sakthivel

**PhD Research Scholar, Department of Physical Education and Sports Sciences, SRM Institute of Science and Technology, College of Science and Humanities, Kattankulathur, Chengalpattu, Tamilnadu, India.*

Abstract

The study was designed to find out the impact of hand-eye coordination and shoulder strength on volleyball serving ability. To achieve the purpose of the study, thirty men volleyball players were selected from Tamil Nadu Physical Education and Sports University, Chennai at random and their age ranged between 18 and 25 years. The investigator selected shoulder strength and hand eye coordination which had direct influence on the performance of volleyball players. Obtained data were subjected to statistical treatment using Pearson product moment correlation to find out whether the shoulder strength and hand eye correlation had any influence on volleyball serving ability of college men volleyball players. In all cases, the level of significance fixed was 0.05 as it was appropriate one. It was concluded that there was a significant relationship between volleyball serving ability and shoulder strength and hand eye coordination among college men volleyball players.

INTRODUCTION

Volleyball or simply is a sport where two teams face off on a field separated by a central network, trying to pass the ball over the net to the opposite field soil. The ball can be touched or driven with clean shots, but cannot be stopped, restrained, detained or escorted each team has a limited number of touches to return the ball to the opponent usually hits the ball with hands and arms, but also with any other body part one of the most unique characteristics is that the volleyball players have to be rotating their positions as they earn points, we can mention volleyball 10 types of school such as volleyball, that of competition, also and highly competitive beach volleyball last mentioned (Portillo and Mazerosky, 2009).

Serving is an essential skill of volleyball, and one of the simpler yet very effective serves is the standing float serve. The goal of the serve is to make the ball “float” or wobble in the air as it crosses the net to distract and confuse the opponent. It may be difficult to master, but with enough practice it can be an ace every time.

A service in which the player strikes the ball below the waist instead of tossing it up and striking it with an overhand throwing motion. Underhand services is considered very easy to receive and are rarely

employed in high-level competition (Portillo and Mazerosky, 2009).

Strength is defined as the ability to exert force against a resistance (Barrow and Mc. Gee, 1979).

Hand-eye coordination is the coordinated control of eye movement with hand movement, and the processing of visual input to guide reaching and grasping along with the use of proprioception of the hands to guide the eyes (Johansson et al. 2001).

Jose Afonso, et al. (2012) investigated the perceptual cognitive processes underpinning skilled performance in volleyball: evidence from eye-movements and verbal reports of thinking involving an in situ representative task. Highly skilled players generated more condition concepts with higher level of sophistication than their skilled counterparts. Findings highlight the value of using representative task designs to capture performance in situation.

Tamara Karalic, et al. (2012) determined the factorial structures of motor abilities of precision for male volleyball players. It is concluded that within the structures of technical-tactical elements operates particular type of precision in volleyball that can be defined as factors of precision in the

technique of adding a ball with fingers, forearm pass technique (“bump”) and spike technique.

Hussain, et al. (2011) investigated the relationship between anthropometrical and kinematical variables of spike jump of intercollegiate level male volleyball players. The statistical analysis revealed no significant relationship between variables of spike jump performance of intercollegiate level male volleyball players.

Costa, et al. (2010) investigated the relationship between the type, time and effect of the attack in high level female junior’s volleyball. It was found that the most recurrent effect of attack was the point, with the slower attack happening with the highest frequency, as well as powerful attacks. The slower game favored the continuity of the game and the potent attack emerged from the need to overlap the opponent defensive system.

METHODOLOGY

The study was designed to find out the impact of hand-eye coordination and shoulder strength on volleyball serving ability. To achieve the purpose of the study, thirty men volleyball players were selected from Tamil Nadu Physical Education and Sports University, Chennai at random and their age ranged between 18 and 25 years. The investigator selected shoulder strength and hand eye coordination which had direct influence on the performance of volleyball players. Obtained data were subjected to statistical treatment using Pearson product moment correlation to find out whether the shoulder strength and hand eye correlation had any influence on volleyball serving ability of college men volleyball players. In all cases, the level of significance fixed was 0.05 as it was appropriate one.

RESULTS

TABLE I: SHOWING NUMBER OF SUBJECTS, MEAN AND STANDARD DEVIATION OF SHOULDER STRENGTH, AND HAND EYE COORDINATION AND VOLLEYBALL SERVING ABILITY AMONG COLLEGE MEN VOLLEYBALL PLAYERS

S. No	Variables	No of subjects	Mean	Standard deviation
1	Shoulder strength	30	28.26	5.19
2	Hand-eye coordination	30	24.77	3.11
3	Volleyball serving ability	30	18.9	4.32

Table shows that the mean values of shoulder strength was 28.26 with standard deviation ± 5.19 . The mean value of hand eye coordination was 24.77 with standard deviation ± 3.11 . The mean value of volleyball serving ability was 18.9 standard deviation ± 4.32 .

TABLE II: SHOWING PEARSON PRODUCT MOMENT CORRELATION VALUES BETWEEN SHOULDER STRENGTH AND VOLLEYBALL SERVING ABILITY AND HAND EYE COORDINATION AND VOLLEYBALL SERVING ABILITY

S. No	Variables VS volleyball serving Ability	No of subjects	Obtained ‘r’	Required ‘r’
1	Shoulder strength	30	0.48*	0.355
2	Hand eye coordination	30	0.56*	0.355

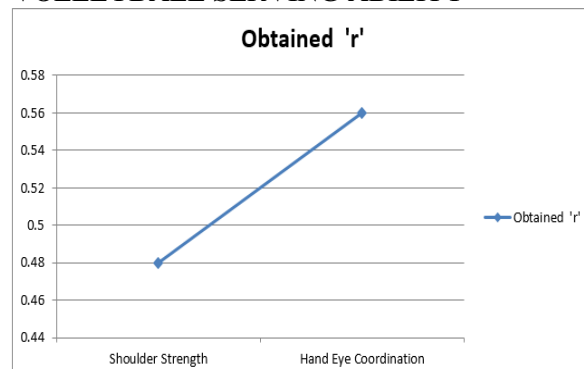
*significant at 0.05 level of confidence. Table value 0.355 with the df (N-1) = 29.

The results presented in table showed that there was significant relationship between volleyball serving ability and shoulder strength in the ‘r’ value of 0.48 was greater than the table ‘r’ value 0.355. There was significant relationship between volleyball serving ability and shoulder strength in the ‘r’ value of 0.56 was greater than the table ‘r’ value 0.355.

The results of the study showed in the table that there was a significant impact between the volleyball serving ability with hand eye coordination.

The results of the study showed in the table that there was a significant impact between the volleyball serving ability with shoulder strength.

FIGURE I: SHOWING THE OBTAINED ‘R’ VALUE OF SHOULDER STRENGTH WITH HAND EYE COORDINATION AND VOLLEYBALL SERVING ABILITY



CONCLUSIONS

It was concluded that there was a significant relationship between volleyball serving ability and shoulder strength and hand eye coordination among college men volleyball players.

REFERENCE

- [1]. Jose Afonso; Julio Gargganto; Allistair Mcrobert; Andrew M.Williams and Isabel Mesquita (2012), "The perceptual cognitive process underpinning skilled performance in volleyball: Evidence from Eye-Movements and Verbal Reports of Thinking Involving an in Situ Representative Task", journal of sports science and medicine, ISSN: 13032968 Volume,-11, Issue-2, pages 339-345.
- [2]. Tamara karalic, Nenad Marelic and Aleksandra Vujmilovic (2012), "Structure of Isolated Precision Factors of the Male volleyball Players", Sports Logia, ISSN: 19866089, Volume-8, Issue-1, pages-69-77.
- [3]. Hussain, Ikram; mohammad, Arif; Khan, Asim (2011), "A novice-expert comparison of (intra-limb) coordination sou serving the volleyball serve ", Human movement science, Volume 16, Issue 5, pages 653-676.
- [4]. Costa G.C; I. Mesquita; P. J. Greco; N. N. Ferreria; J. C. Moraes (2010), "Ralationship between the type, time and effect in high level female junior's volleyball", European journal of human movement, ISSN: 02140071, Volume-24, pages 121-132.