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Relationship of attacking ability of volleyball players with height and fitness variables

Dr. Sorabh Trikha
Assistant Professor, Bhagwan Parshu Ram College, Kurukshetra, Haryana, India

Abstract
Volleyball is a long duration game, which has required lots of strength, speed, power, endurance and wonderful skill combinations. Only one volleyball skill has been select named attacking skill and also found the relationship with some other factors of physical fitness. Height is the only anthropometric variable. we conducted four tests named 30 meters flying (speed), vertical jump test(leg power), medicine ball throw(arm and shoulder strength) and Shuttle run test(agility). For statically treatment we used karl pearson´s (product moment method) coefficient of correlation.

Keywords: attacking skill, height, speed, leg strength, arm & shoulder strength and agility

Introduction

Volleyball is a long duration game, which has required lots of strength, speed, power, endurance and wonderful skill combinations. All the components work together to achieve high level skill. In volleyball we used attack, defense, setter and other major skills which are key task of volleyball. Attacking is the major skill in volleyball. In volleyball, attacker is the most valuable player who must be tall and has strength, endurance and speed abilities. In the beginning stage of volleyball talent selection, coaches must go through the height factor because height is a dominating factor in this game like attacking, blocking etc. Other physical fitness components like strength, speed, endurance etc. plays a vital role to improve the different skills like attacking, blocking, serving and others. In this study we choose attacking skill and found the relationship with some other factors of physical fitness. S. Singh, J. Singh& H. Singh, (2002) studied on the relationship of body height and body weight with selected physical fitness variables in untrained female children of 10 to 14 year age groups, with body height and weight, standing board jumps, thirty meters sprint, medicine ball put, six into ten meters shuttle run. Standing vertical jump and eight hundred meters run test were used to assess to the fitness level.

Methodology

In this study we choose the sports training center of volleyball (Kurukshetra) because there are 17 volleyball trainees in this center. We measured height with the help of anthropometric rod in centimeters. For other physical fitness components, we conducted four tests named 30 meters flying (speed), vertical jump test(leg power), medicine ball throw(arm and shoulder strength) and Shuttle run test(agility). Volleyball attacking test was conducted to know the skill level of volleyball players. For statically treatment we used karl pearson´s (product moment method) coefficient of correlation.

Result

Table 1: Correlations of Height and Physical Fitness to Attacking Skill Efficiency of Volleyball Players (N=17)

Sr. No.	Variables correlated with Volleyball Attacking Skill test	Mean	SD	Co-efficient of correlation 'r'
	Attacking skill test	4.8235	1.18508	
1	Height	188.06	6.5237	.681**
2	30 mts flying dash	4.0153	.45350	-.656**
3	Vertical jump	63.1176	10.14817	.636**
4	Medicine ball throw	6.0206	1.18190	.627**
5	Shuttle run	14.8247	.91557	-.455

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

The main skill of this paper is attacking skill and the mean score is 4.823.Height is the major variable in the game of volleyball. Mean score of height is 188.06. The correlation of coefficient between attacking skill and height is. 681 which shows moderate relationship between these two. Table also presents the different mean scores and their relationship with other physical fitness components. The mean score of 30 meters dash is 4.0153 and coefficient of correlation with the attacking skill is. 681 which was significant at0.01 and 0.05 level of confidence.

With vertical jump, we found moderate correlation between vertical jump and attacking skill. The mean score and coefficient of correlation are 63.117 & -.636, it seems a moderate relationship.

Arm and shoulder strength plays a major role in attacking situation, we found 6.020 mean score in medicine ball throw test and we also observed the moderate coefficient of correlation between these two with the coefficient score of. 627.

Last correlation between attacking skill and shuttle run found moderate. Mean and coefficient of correlation are 14.824 &. 455. It means both the variables negatively correlated with each other.

Conclusion

As we are aware that height is a dominating factor in this game and results also showed the bonding of height and attacking skills. Speed of these players are better, if we talk about the leg power, which is appropriate in the initial stage also having good connection with attacking skill. Power of arm and shoulder is moderate with the attacking skill that is beneficiary for the trainees. But if we compare the result with agility, we will find it less satisfactory because in attacking skill we approach towards the net and hit the ball in the air, so agility is not much desirable in attacking skill.

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