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A Comparative Study of Selected Physical Variables of Male Spikers and Center Blockers in Volleyball

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Abstract

In modern era volleyball is considered as a power game which requires optimum fitness. Most of the world striving to find out the key factors of performance. For the scholar put some efforts in the same direction. The purpose of the present study was to compare selected physical variables between spikers and center blockers of inter-varsity level male volleyball player from Gwalior (M.P.). The Inter-varsity level 20 players were selected for the study out of which 10 were spikers and 10 were center blockers and the age ranged between 18 to 25 years. The physical variables i.e. flexibility, agility and explosive strength were taken. Flexibility was measured by the well's sit and reach test, agility was measured by using 10x4 m. shuttle run and explosive strength was measured by using Sargent Jump test. To determine the mean differences between the male spikers and center blockers independent 't' test was applied at 0.05 level of significance. Results indicated that the spikers are better in agility compared to center blockers. As they have to cover the greater area for the defense as well as spike in front zone as well as in back zone. There was no significant difference in other physical variables i.e., explosive strength and flexibility of spikers and center blockers.

Keywords: Flexibility, Agility, Explosive strength, Spiker, Center Blocker.

Introduction

The modern game of volleyball put a great deal of emphasis on the development of the fundamental skill, because of the fact that in this game a players is required to play in all the position during the game, due to obligation of the rule concern with rotation. At one time player become spiker, the next movement a blocker, attack builder, a server, deep defender, and so on. There for a wide variety of techniques have been evolved there own and different requirements. As a consequence a player is expected to work on a wide running program designed to improve his strength, agility, reaction time, flexibility, power etc. Today all over the world, physical educators and coaches are facing their greatest challenges in handling problems in scientific way i.e., to give their sportsmen proper and progressive guidelines based on scientific approach which lead to desired results. Sciences have been recognized that physical variables one of the best means of underlying sportsman's performance and of helping in producing better performance. To the physical educators, coach and sports man an understanding of physical character and the physiology of exercise to becoming increasingly important when everyone's understanding grows the trial error methods and application of guessing becomes less than adequate in preparing high level sportsmen for competition.

Flexibility is an essential part of life even to a common man. It is possible with a higher degree of flexibility that even a common man can prevent a possible injury resulting from a fall while performing his daily work. Successful sporting performance at elite levels of competition often depends heavily on the explosive leg power of the athletes involved. In many individual sports and many team sports also require high levels of explosive power, such as Basketball, Volleyball, Netball and the Rugby and Football codes for success at elite levels of competition. Agility in volleyball requires quick and sometimes awkward movements as you adjust your body position to the ball during play.

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Methodology

The purpose of the present study was to compare selected physical variables between spikers and center blockers of inter-varsity level male volleyball player from Gwalior (M.P.). The Inter-varsity level 20 players were selected for the study out of which 10 were spikers and 10 were center blockers and the age ranged between 18 to 25 years. The physical variables i.e. flexibility, agility and explosive strength were taken. Flexibility was measured by the well's sit and reach test, agility was measured by using 10x4 m. shuttle run and

explosive strength was measured by using Sargent Jump test. To determine the mean differences between the male spikers and center blockers independent 't' test was applied at 0.05 level of significance.

Table I. Descriptive Table for Physical Variables of Spikers and Center Blockers

Physical Variables	Groups	Mean	Std. Deviation
Flexibility	**Spiker**	35.80	5.09
	Center blocker	35.30	6.99
Agility	**Spiker**	8.94	.20
	Center blocker	9.68	.43
Explosive strength	**Spiker**	.59	.09
	Center blocker	.64	.05

Table I reveals that the mean and standard deviation of physical variables that is flexibility, agility and explosive strength for the spikers and Center blockers were 35.80 ±5.09, 8.94±0.20, 0.59±0.09 and 35.30±6.99, 9.68±0.43, 0.64±0.05 respectively.

Figure I. Graphical representation of descriptive statistics of flexibility (in cm.) of spikers and center blockers

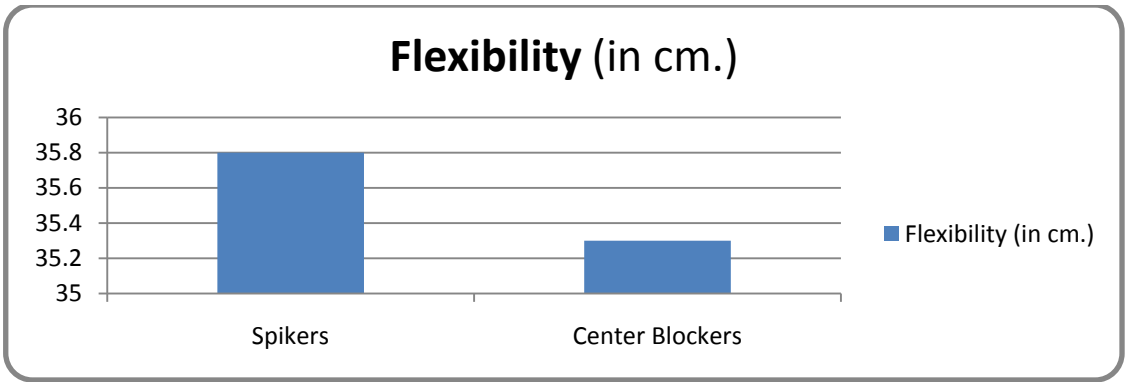

Figure II. Graphical representation of descriptive statistics of agility of spikers and center blockers

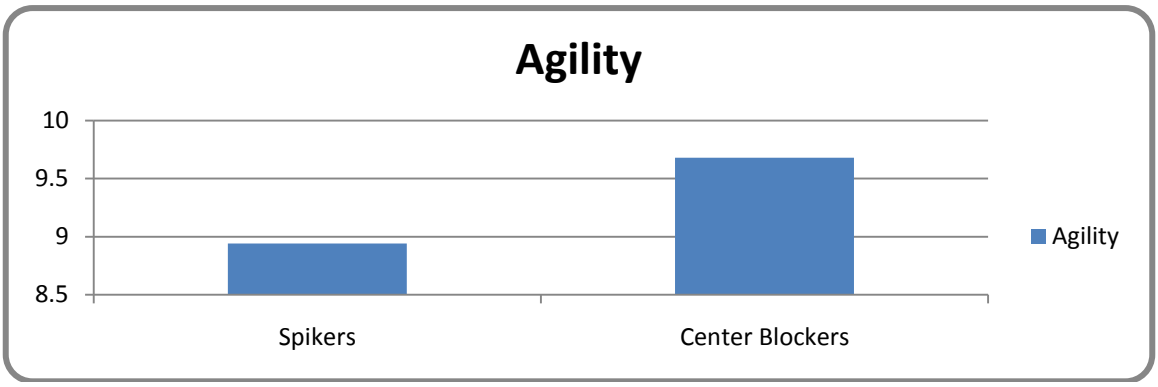

Figure III. Graphical representation of descriptive statistics of explosive strength (in meters) of spikers and center blockers

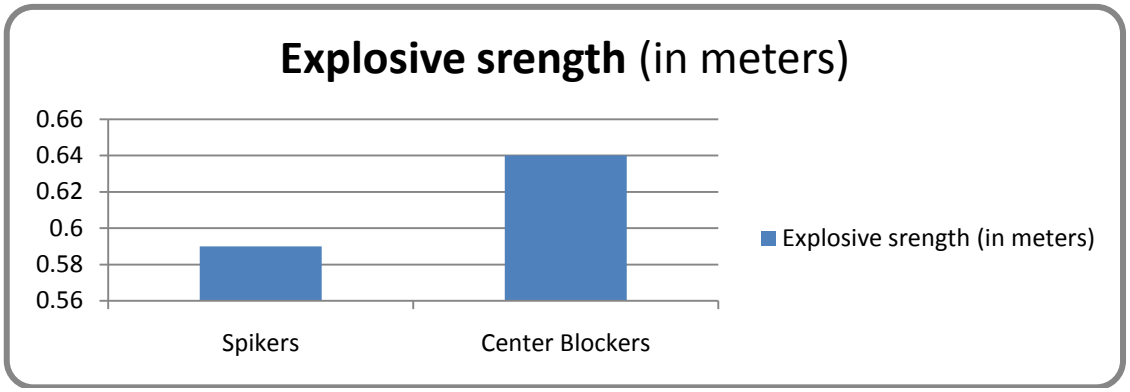

Table II. The Comparison of Mean Difference of Physical Variables Among Spikers and Center Blockers

Physical Variables	Mean Difference	DF	T Value	Sig.
Flexibility	.50	18	.183	.857
Agility	.737	18	4.794	.000
Explosive strength	.055	18	1.685	.109

*Significant at .05 level 't' .05 (18)= 2.10

Table II shown that there is significance difference between spiker and center blockers in agility as the obtained't' value (4.494) exceed the table value (2.10) with 18 degree of freedom at .05 level of significance. Whereas the 't' ratio obtained in flexibility and explosive strength were not found to be significant at .05 level of significance. As the calculated values were less than tabulated value.

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Discussion on Findings

It is revealed from findings that there were no significant difference between selected physical variables of the spikers and center blockers except agility. It is showed that the spikers have better agility than center blockers as the spiker have to cover greater distance during play the match. They have to hit the ball sometimes in greater variation i.e. from zone no. 4 to zone no. 2 and vice versa. As well as they have to do defense in the back zone of the court as the same time they have to prepare themselves for the attack which is required lot of back and sideward running. As well as the center blockers are very tall and they have to play in front zone only. So they are not able to move quickly for defense as there center of gravity is also higher than spiker. Other variables not showed the significant deference as the requirement of flexibility and explosive strength in spikers as well as in blockers may be same.

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