

99 - LIBERO'S FUNCTION ON THE SERVICE RECEPTION AND DEFENSE DURING THE MATCHES OF THE FEMALE VOLLEYBALL SUPERLEAGUE 2009/2010.

MARLON MENEZES DE ARRUDA⁽¹⁾
 ANDERSON HENRIQUE SOUZA DE ALMEIDA⁽¹⁾
 SARAH ABRAHÃO GOMES DOS SANTOS⁽¹⁾
 PAULO JEFFERSON PONTES DE CATRO⁽¹⁾
 GILMÁRIO RICARTE BATISTA⁽¹⁾

GEPAFES⁽¹⁾, Universidade Federal de Pernambuco, Recife - PE, Brasil.
 marlonmda@yahoo.com.br

INTRODUCTION

A game's analysis and observation may allow to identify regularities on its events logic, providing orientation for the adequation of the competition's training and tactical actions (GARGANTA, 2001; MOUTINHO et al., 2003). Currently, some performance indicatives, as effectiveness, efficiency and error are oftenly used as strategical forms to improve the performance of athletes or whole teams in the competitions or trainings. However, to obtain these performance indicatives, specific variables of the actions and the established relationships among the players on the different moments of the game must be analyzed (MAIA; MESQUITA, 2006).

The constant process of collective sports technical and tactical evolution is calling the researchers great attention in the scientific environment. All because it became crucial the importance of observing and analyzing the quality of the performed fundamentals in different situations during the game. According to Contreras and Ortega (2000), to analyze a situation, you must previously observe it. To Moraes, Mesquita e Costa (2006) the game analysis is a knowledge production field that characterizes itself by a scientific rigorous process. Besides, the investigative process that refers to the game analysis has prioritized the use of observation as a method (ANGUERA et al., 2000).

The collective sports have been the target of constant evolution in its rules modifications, resulting in alterations on the game plan. The volleyball is one of the sports that most had modifications in the past years, characterizing itself mainly by the athletes specialization (setter, opposite, central, edge), and by the emergence of the libero player. This player is specialized in the service reception and defense, and according to João et al. (2006) this position emerged to overcome the central players defense deficiencies in the defensive zone. However, the functions attributed to the libero restrict their performance during the game.

The information about the libero's performance and behavior profile are still very little, even though this position has such great highlight in a team's service reception and defense system (JOÃO et al., 2006). Truly, the empirical observation of the libero's specialized function incremento on reception and defense have been provoquing changes in the game's action dynamique, both to the players intervention on the functional space and their effect. Therefore, the objective of this study was to identify the effectiveness, efficiency and error of the libero's service reception and defense.

PROCEDURES AND DATA COLLECTION

For planning and organizing the data collection, the Female volleyball superleague 2009/2010 competition schedule was previously observed, especifically the stage that was going to happen in Recife. Then, we made contact with the local team's representative to ask for the guest teams training times. The first contact with the representative and each team's libero happened before the beginning of practice, which was a day before the game. At this moment, the objective, risks and benefits of the research were clarified and right after that, a free and clarified consent form was given to them to elucidate even more the procedures and ethical care of this study.

The data collection was made through video footage. Two video cameras were used and precisely posicionated, one behind one team's back line and the other on the opposite side (other team's back line). After that, the videos were analyzed by just one evaluator, previuly trained to minimize the errors.

METHODOLOGY

758 actions of service reception were analyzed, where 203 were made by the libero and 555 by the other players. 1008 actions of defense were analyzed, where 278 were performed by the libero and 730 by the other players. The sample was took from 11 teams, accounting 44 sets, belonging to 8 teams participating of the Female volleyball superleague 2009/2010 during the games in Recife-PE.

We used performance indicatives to account effectiveness, efficiency and error to the actions of service reception and defense when they were made by the libero player. The criteria used as a categorizing tool for these actions effects were based on a scale ranging from 0 to 3 scores, adapted from Coleman (2002).

For the service reception, the scale was distributed like the following: 0= the service reception is made by the libero and results in point for the opponent team (the ball falls straight on the floor or touches the libero without play continuity); 1= the service reception is performed by the libero and results in a dead ball to the opponent team (1- the ball is passed on the first action; 2- the ball is passed on the 2nd or 3rd trial); 2= the service reception is performed by the libero, that allows the setter more options of play variation.

For the defense: 0= the defense is performed by the libero and results in point to the opponent team (the ball falls straight on the floor or touches the libero without play continuity); 1= The defense is performed by the libero in a dead ball for the opponent team (the ball is passed on the first Trial); 2= the defense is performed by the libero and results in a dead ball to the opponent team (the ball is passed on the 2nd or 3rd trial); 3= the defense is performed by the libero and allows the setter to perform any play option.

The following equations were used to identify the effectiveness, efficiency and error:

Equation 1:effectiveness=(number of perfect actions/total number of actions) X 100

Equation 2:error=(number of error actions/total number of actions) X 100

Equation 3:efficiency= {(3xvariable3)+(2xvariable2)+(1xvariable1)-number of error actions}/3 X total number of

actions))x100

STATISTICS

The descriptive statistics used in this study was mean, standart deviation and the distribution of percentual frequency. Student's t test was used to evaluate the possible significant differences among the variables. The significance level established was $p < 0,05$.

RESULTS

The data related to the frequency distributions of the libero and other athletes actions on service reception and defense can be seen on Table 1.

The results of the effectiveness, efficiency and error concerning the service reception and defense of the liberos participating of the Female volleyball superleague 2009/2010 can be seen on Table 2. The results showed that there are significant differences between defense ($p < 0,05$) and reception ($p < 0,05$) actions performed by the libero's specific position players during the matches of the Female volleyball superleague 2009/2010.

TABLE 1- Distribution of the libero and other athletes actions on service reception and defense in the matches performed in Recife during the Female volleyball superleague 2009/2010.

		Service Reception	Defense
Libero	Action frequency	203	278
	% actions	26,78	26,50
Other athletes	Action frequency	555	730
	% actions	73,22	73,50

TABLE 2- Effectiveness, efficiency and error distribution values of service reception and defense actions in the matches performed in Recife during the Female volleyball superleague 2009/2010.

Variables		Mean \pm SD	T	P
Effectiveness	Defense	41,29 \pm 14,74	-3,094	0,006
	Reception	57,78 \pm 9,74		
Efficiency	Defense	45,76 \pm 14,80	-5,746	0,000
	Reception	78,48 \pm 11,72		
Error	Defense	17,42 \pm 8,53	5,699	0,000

DISCUSSION

The results evaluation of the effectiveness, efficiency and error will be of great importance for the libero's function establishment in the volleyball's teams offensive and defensive systems. This study's results revealed that the libero's participation on the service reception actions corresponds to 26,78%, whereas the other players act with percentual values of 73,22%. These values may be partly explained, considering the libero's intervention and knowing that the teams use a service reception system with three players. Therefore, even being a priority expert, we observed that the teams choose to serve out of this player's ray of action. To João (2006), there is a significant association among the groups (libero and other receptors) and the solution's effect, revealing the libero as a positive contributor for the solution's effect. However, it is not clear in which measure the service reception's functional specialization is a player's performance distinguishing factor (MAIA; MESQUITA, 2006).

According to Hippolyte (1997), the modern art of attack results of a specialization on the process of the service reception, possibly providing to the attack appropriate and successful situations. So, when we analyze the effectiveness, efficiency and error values service reception wise, we observed that the effectiveness values were below 60% of positive actions that may allow the setter all the play variation's options, whereas the efficiency generated mean values of 78,48% \pm 11,72 actions that resulted in a variable sum that includes the hits and misses. The reception's error percentage may be considered satisfactory values when observed action values below 5%.

When we analyze the libero's defense values, we observed that more than 40% of the performed actions may result in counterattack actions that allows the setter several play options. These values may justify the importance of this function's speciality on the volleyball defense system.

Comparing the reception and defense actions to analyze the performance's effectiveness, efficiency and error, we observed that in all the actions, the libero was more productive on the service reception than on the defense, despite the lesser number of receptions than the defense actions. The differences found can be partly explained, because the combination between the attack and defense, and the service and reception can be differentiated by the distance in which the ball's action and speed is executed.

CONCLUSION

This present investigation showed the great importance of the libero's acting on reception and defense elements related to the effectiveness, efficiency and error performance, inferring that the majority of their actions are positive and indispensable for the attack offensiveness increment. This way, it is inevitable this player's contribution for structuring the game's defensive actions, mainly in the service reception when compared with defense. Therefore, the libero's intervention improves significantly a volleyball team's performance.

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Marlon Menezes de Arruda
Rua Emiliano Braga, 1019, apto 207, Bloco A - Iputinga, Recife, Brasil. CEP: 50670380
marlonmda@yahoo.com.br

LIBERO'S FUNCTION ON THE SERVICE RECEPTION AND DEFENSE DURING THE MATCHES OF THE FEMALE VOLLEYBALL SUPERLEAGUE 2009/2010.

ABSTRACT

The objective of this scientific investigation was to identify the effectiveness, the efficiency and the error of the libero player on the service reception and defense. 11 matches were filmed and then analyzed, accounting 44 sets, belonging to 8 teams that were participating of the 2009/2010 volleyball superleague in games that occurred in Recife-PE. 758 actions of service reception were analyzed, where 203 were performed by the libero and 555 by the other players, and 1008 defense actions, where 278 were performed by the libero and 730 by the other players. As performance indicators, we used the effectiveness, the efficiency and the error of the actions of service reception and defense executed by the libero, which were distributed in scales that ranged from 0 to 3 scores. The descriptive statistics used were the mean, standard deviation and frequency percentage distribution. To evaluate the differences among the variables we used Student's t test with a significance level of $p < 0,05$. The results showed that 41,29% of the defense actions and 57,28% of the reception actions were considered effective, 45,76% and 78,48%, respectively, were considered efficient and 17,42% of the defenses and 1,94% of the receptions were performed with error. This investigation showed the great importance of the libero player's performance on the reception and defense related to the effectiveness, efficiency and error, showing that most of their service reception actions are more efficient and effective when compared with their defense actions.

KEY WORDS: Volleyball. Libero player. Reception. Defense.

LA FONCTION DU LIBÉRO EN LA RÉCEPTION DU SERVICE ET DÉFENSE PENDANT LES MATCHS DE LA SUPER LIGUE FÉMININE DE VOLLEY-BALL 2009/2010.

RÉSUMÉ

L'objectif de cette enquête scientifique fut identifier l'efficacité et l'erreur de la réception de service et de défense du joueur libéro. On a filmé et en suite on a analysé onze matchs, tout ça vient à comptabiliser 44 sets appartenant à huit équipes participantes de la Super Ligue 2009/2010 de volley-ball, en matchs qui ont eu lieu dans la ville du Recife-PE. On a analysé 758 actions de réception de service, il étant 203 effectuées par le libéro et 555 par les autres joueurs, et 1008 actions de défense, entre elles 278 effectuées par le libéro et 730 par les autres joueurs. Comme indicateurs de performance on a utilisé l'efficacité et l'erreur par les actions de réception de service et de défense réalisées par le libéro, les quelles se distribuaient en échelles qui variaient de 0 à 3 résultats. La statistique descriptive fut utilisée à travers la moyenne écart-type et distribution de fréquence en pourcentage. Dans l'évaluation des différences entre les variantes fut utilisé le test t Student, avec un niveau de signification de $p < 0,05$. Les résultats ont montré que 41,29% des actions de défense et 57,28% des actions de réception sont considérées efficaces; 45,76% et 78,48% respectivement s'encadrent comme des efficaces et 17,42% des défenses et 1,94% des réceptions ont été échouées. La présente enquête a révélé la grande importance de l'activité du joueur libéro dans les fondements de la réception et de la défense par rapport à la performance de l'efficacité et l'erreur. En outre, ceci montre que la majorité de ses actions en réception et en service sont plus efficaces et efficaces, lors que comparées aux actions de défense.

MOTS-CLÉF: Volley-ball. Joueur libéro. Réception. Défense.

LA FUNCIÓN DEL LIBÉRO EN LA RECEPCIÓN DEL SAQUE Y DEFENSA DURANTE LOS PARTIDOS DE LA SUPERLIGA FEMININO DEL VOLEIBOL 2009/2010.

RESUMEN

El objetivo de esa investigación científica fue identificar la eficacia, eficiencia y error de la recepción del saque y de la defensa del jugador líbero. Han sido filmadas, y enseguida analizadas, once partidos, contabilizando 44 sets, pertenecientes a ocho equipos participantes de la Superliga 2009/2010 de voleibol en juegos realizados en la ciudad de Recife - PE. Se ha analizado 758 acciones de recepción del saque, siendo 203 efectuadas por el líbero y 555 por los otros jugadores, y 1008 acciones de defensa, siendo 278 por el líbero y 730 por los demás jugadores. Como indicadores de actuación se ha utilizado la eficacia, eficiencia y error para las acciones de recepción del saque y de defensa realizadas por el líbero, las cuales se distribuían en escalas de variaban entre 0 y 3 scores. La estadística descriptiva ha sido utilizada a través de la media, desvío patrón y distribución de frecuencia porcentual. En la evaluación de las diferencias entre variables ha sido utilizado el teste t de Student, con el nivel de significancia de $p < 0,05$. Los resultados mostraron que 41,29% de las acciones de defensa y 57,28% de las acciones de recepción son consideradas eficaces, 45,76% y 78,48%, respectivamente, se encuadran como eficientes y 17,42% de las defensas y 1,94% de las recepciones han sido equivocadas. La presente investigación reveló la gran importancia de la actuación del jugador líbero en los fundamentos recepción y defensa en relación a la actuación de la eficacia, eficiencia y el error, señalando que la mayoría de sus acciones de recepción del saque son más eficaces y eficientes cuando comparadas con las acciones de defensa.

PALABRAS CLAVE: Voleibol. Jugador líbero. Recepción. Defensa.

A FUNÇÃO DO LÍBERO NA RECEPÇÃO DE SAQUE E DEFESA DURANTE AS PARTIDAS DA SUPERLIGA FEMININA DE VOLEIBOL 2009/2010.**RESUMO**

O objetivo dessa investigação científica foi identificar a eficácia, eficiência e erro da recepção do saque e da defesa do jogador líbero. Foram filmadas, e em seguida analisadas, onze partidas, contabilizando 44 sets, pertencentes a oito equipes participantes da Superliga 2009/2010 de Voleibol em jogos realizados na cidade do Recife – PE. Analisou-se 758 ações de recepção do saque, sendo 203 efetuadas pelo líbero e 555 pelos outros jogadores, e 1008 ações de defesa, sendo 278 pelo líbero e 730 pelos demais jogadores. Como indicadores de performance utilizou-se a eficácia, eficiência e erro para as ações de recepção do saque e de defesa realizadas pelo líbero, as quais se distribuíam em escalas que variavam de 0 a 3 escores. A estatística descritiva foi utilizada através da média, desvio padrão e distribuição de frequência percentual. Na avaliação das diferenças entre as variáveis foi utilizado o teste t de Student, com nível de significância de $p < 0,05$. Os resultados mostraram que 41,29% das ações de defesa e 57,28% das ações de recepção são consideradas eficazes, 45,76% e 78,48%, respectivamente, se enquadram como eficientes e 17,42% das defesas e 1,94% das recepções foram erradas. A presente investigação revelou a grande importância da atuação do jogador líbero nos fundamentos recepção e defesa em relação à performance da eficácia, eficiência e erro, mostrando que a maioria das suas ações de recepção do saque são mais eficazes e eficientes quando comparadas com as ações de defesa.

PALAVRAS-CHAVE: Voleibol. Jogador líbero. Recepção. Defesa.