DIFFERENCES IN THE SUCCESS OF THE ATTACK BETWEEN OUTSIDE AND OPPOSITE HITTERS IN HIGH LEVEL MEN’S VOLLEYBALL

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Introduction
Terminal actions are those game actions that may represent the end of a point. Several studies have concluded that the most definitive action is the attack. Concerning the player role, the specialization in high level volleyball has led to classify players into different types depending on their functions, being the most requested when it comes to the attack the opposite hitter followed by the outside hitters or receivers. The objective of this study was to determine the success of the three most frequent attackers for their team in top-level men’s volleyball, according to their location on-court in the moment of performing attacks.

Methods
2925 attacks (n = 2925) which meant the end of the point were registered from 23 matches of the 2010 Men’s World Championship, differentiating between the player role (1st receiver, 2nd receiver and opposite, the three most frequent attackers in any high-level volleyball team. The 1st receiver is the player who starts closer to the setter in the initial formation, whereas the 2nd receiver starts near the opposite), the location on the court when the attack took place (front court and back court) and the result of the attack (positive (#) and negative (=)).

Results
The Chi-square test presented significant results (p<0.000) for the variables. The effect of the association showed a Cramer’s V = 0.152. The adjusted residual analysis showed higher values than expected for the opposite between the back-court location and the attack= and for the front-court location and the attack#. Furthermore, a decision tree analysis was performed, setting the result of the attack as the dependent variable and the player role and the location on the court as independent variables. The model split the sample into two groups: opposite and 1st and 2nd receiver. The receivers presented a probability of success of 72.5% in their attacks, whereas for the opposite it was 55.1%. In addition, the likelihood of success of the opposite when performing definitive attacks was 48.4% from the back court and 62% from the front court.
Discussion
The opposite player is the most frequent attacker, agreeing with previous studies. However, our results disagree with prior conclusions, which found the opposite as the most successful player in terms of quantity, but our analysis showed higher efficacy for both the 1st and 2nd receiver. Besides, the lack of significant differences between the efficacy of the attack from front and back court by the receivers places them as strong attackers.

Conclusions
There is no statistical difference in the attack probability between the front and back court location for the receivers. All tests performed indicate an increasing relevance of the outside hitters from the back court, which contrasts with the traditional model in male volleyball of using the opposite as an specialist in back-court attack rather than any of the receivers.

References

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