



Observational analysis of handball shot in the counterattack phase of the national teams finalists in 2015 Qatar world handball cup

Análisis observacional del lanzamiento de balonmano en la fase de contraataque de las selecciones finalistas del mundial de Qatar 2015

Victoria Ruiz Sánchez⁽¹⁾, Manuel Gómez-López⁽¹⁾ and José L. Herrera Cuadrado⁽³⁾

⁽¹⁾Health, Physical Activity and Education Research Group (SAFE-E0B5-04), University of Murcia, Spain

⁽²⁾Faculty of Sport Sciences, University of Murcia, Spain

⁽³⁾Sport Club URCI, Almería, Spain

ABSTRACT: This study aims to analyze the effectiveness of handball shots in counterattack phase on high performance teams. For this, 10 matches played by the two World Cup finalists in 2015 Qatar (Qatar and France) were analyzed. The analysis was performed using an observational methodology, where different parameters related to the shot in handball were evaluated: Shot Model (type), distance, position / angle and phase within the counterattack (cycle match). The descriptive analysis of the results shows that there is a high effectiveness of shots carried out in the counterattack phase. Teams tend to make a greater number of shots during the counterattacks of the first part of the game. As for the characteristics of the shot during this phase, we must notice that takes place in the 1st wave, suspension shot, within short distance of the goal and especially from central areas of the field. These results have been discussed with similar studies.

Key words: Handball, shot, counterattack, national teams.

RESUMEN: Este estudio tiene como objetivo analizar la efectividad de los lanzamientos de balonmano en la fase de contraataque en el alto rendimiento. Para ello se analizaron 10 partidos disputados por las dos selecciones finalistas del Mundial de Qatar en el año 2015 (Qatar y Francia). El análisis se realizó mediante una metodología observacional, donde se evaluaron diferentes parámetros relacionados con el lanzamiento en balonmano: modelo del lanzamiento (tipo), la distancia, la posición/ángulo y la fase dentro del contraataque (ciclo del juego). El análisis descriptivo de los resultados muestra que existe una alta efectividad de los lanzamientos que se realizan en la fase de contraataque. Los equipos tienden a realizar un mayor número de lanzamientos durante los contraataques de la primera parte del partido. En cuanto a las características del lanzamiento durante esta fase, hay que resaltar que se realiza en la 1ª oleada, en suspensión, a poca distancia de la portería y sobre todo desde zonas centrales del campo. Estos resultados se han discutido con estudios similares.

Palabras clave: Lanzamiento, balonmano, contraataque, selecciones.

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Correspondence to:
mgomezlop@um.es



Introduction

Performance analysis in team sports is a complex and subject to many variables task. According to Silva Sanchez, Garganta and Anguera (2005) the method most commonly used to study the actual game action is direct observation. The use of systematic observation by coaches with an official or particular record will improve team performance (Garcia Ibañez, Feu, Cañadas and Parejo, 2008), helping technicians to make corrections and predict trends in game actions of teams (Krusinskiene and Skarbalius, 2002).

In the evolution of the game in high level competitions in handball, it's found a progressive increase in the frequency of use of the counterattack and the percentage of goals from counterattack from the decade of the nineties (Roman, 1999, 2007a and 2007b). The importance of this phase of the game has been increasing over the years in international competitions (Gonzalez, 2012), becoming the most effective way of attacking as it facilitates finish off with a shot on goal and the rate of effectiveness is greater (Hernandez et al., 2010).

From a thorough review of the concept of counterattack of different authors, Gonzalez (2012) defines it as that phase of the attack that develops with high speed and speed of execution, anticipating the defensive organization of the opposing team, whose main objective is to obtain goal and ending with the loss of the ball (shooting, attacking failure or defensive success) or with the transition to organized attack. Remember that in the cycle of playing the attack is divided into four phases: direct counterattack (first wave), extended counterattack (second wave), organization of the attack (third wave or maintained/sustained counterattack) and organized attack (Anton, 1990, 2000).

According to Gonzalez and Martinez (2009), three waves or phases of counterattack can be considered: first wave, characterized by being a very rapid transition that runs through a clear pass to an advance player or by progressing in dribbling after an interception (usually one or two players specialists participating); second wave, which is produced by the incorporation of a greater number of players and third wave, which is assumed equal numbers trying to exploit the defensive disorganization as a result of the rapid withdrawal of the opposing team's defense.

Authors like Krusinskiene and Skarbalius (2002) argue that the effectiveness of a team is determined by the counterattack efficiency, efficiency in defense and in the number of attacks. Studies confirm the tendency to use the counterattack as a fundamental tool to achieve good results (Torres and Crespo, 2010). The counterattack has a key for an effective game value (Anton, 1990; Krusinskiene and Skarbalius, 2002; Rogulj, Srhoj and Srhoj, 2004). It has been shown that the best teams use more and better counterattack than the worst, because the best develops much more aggressive defenses that end up forcing turnovers and uncomfortable shots, which facilitates counterattacks (Rogulj, Srhoj and Srhoj, 2004; Gruic, Vuleta and Milanovic, 2006).

This phase of the game has been specially analyzed from the perspective of the effectiveness of the shooting (Gonzalez, 2012). The shot in handball, has been the subject of observation and analysis from different perspectives (Avila, 2001). This technical gesture has a number of variables that influence the performance of this action game (Blasco, 2012). Comparison of game situations and the results of the shots allows to analyze the performance of a team in a more optimal and complete way (White, 2012). So studies show that winning teams have higher efficacy values in counterattack shots and from 6 meters than losers (Garcia et al, 2008;. Saez, Roldan and Feu, 2009). High levels of efficiency to counterattack represent the good performance of a team (Blasco, 2012; Krusinskiene and Skarbalius, 2002). The data indicate that there is a slight tendency that relates the victory with most goals of counterattack (Hernández et al., 2010).

From everything mentioned so far, the study objectives were, on one hand, determine the effectiveness in handball during the counterattack phase that had players of the finalists Teams in World Cup Qatar 2015 and, on the other hand, finding the shot properties in order to consider them later in practice and improve the game in official competitions.



Material and Method

We used a descriptive methodology based on observation when analyzing the behavior of shooting in handball. It has been quantified information under a process of analysis and evaluation by viewing the prerecorded handball matches. It has carried out registration of data following the guidelines established by Anguera & Hernández (2013) and Anguera & Hernández-Mendo (2014). To this objective, it has been developed an observation form, a valid and reliable system, which has allowed the study to collect data on the model used by Avila (2001) and Blanco (2012). This model is based on the establishment of a series of patterns to analyze the different characteristics of handball shooting regarding effectiveness, where each parameter evaluates some conditions of the sport. The categorization of the parameters that have been discussed with the visualitation of handball matches, aims to represent the most reliable in collection of data.

Participants

The sample was composed by the total number of shots seen in 10 games (11 analyzes) who played two World Cup finalists in Qatar 2015 (France and Qatar). The matches and their results are shown in Table 1. We analyzed 8 of the 9 games played by the selection of Qatar and 3 of the 9 who played France. The other matches that are not analyzed was because they were not televised. The World Handball Cup was held in Qatar between January 15 and February 1, 2015.

Table 1

Analyzed matches and results

Analyzed Match	Result	Phase Analyzed
Qatar vs Brazil	28 - 23	1st phase
Qatar vs Slovenia	31 - 29	1st phase
Qatar vs Spain	25 - 28	1st phase
Qatar vs Belarus	26 - 22	1st phase
France vs Sweden	27 - 25	1st phase
Qatar vs Austria	29 - 27	Round of 1/8 Final
Qatar vs Germany	26 - 24	Quarterfinals
Qatar vs Poland	31 - 29	Semifinals
France vs Spain	26 - 22	Semifinals
Qatar vs France	22 - 25	Final

Instruments

Analyzed variables:

The system of categories of the study includes four dimensions of the shooting situation:

- Model or shooting type: feet on the ground or suspended, feet in the air.
Position / angle from which it is shot: central area of the court or wide angle, lateral area or reduced angle, or exterior area or a minimum angle.
- Distance to target from which is shot: within the area, between 6-9 meters and more than 9 meters.
- Phases analyzed of counterattacks: 1st wave or direct counterattack, or 2nd wave or extended counterattack.



Procedure

Both matches of the early stages and the end of the world cup were used. A random sample selection was not performed since all matches are not retransmitted, there has been analyzed more matches of the selection of Qatar than France. The 10 games were downloaded and viewed from the web <http://www.hand-ball.org/?lang=es>. The observation was made using video recorded matches. The computer used for visualization of the matches is a Toshiba Satellite Skullcandy, and the program that has been used: Windows Media Player. The process of methodological analysis has been made by viewing matches by the observer and simultaneously filled in the form of observation. All matches have been observed twice, on different days, with the aim of obtaining the correct data. Also, following previous works/studies, the observer could stop the video image of the game at any time and repeats that it seems necessary. Only one team was analyzed in each of the matches and an observation was conducted daily. In addition, the observer provided a five-minute break for every fifteen working, in order to thus avoid bias tiredness and fatigue.

The collection of data was performed using a form of observation consists of three sections: first, a header for general data such as the date of the observation phase of the competition, teams, results and observed team, on the other, including the different categories defined above, and finally another section devoted to relevant issues that may affect the observation.

Data Analysis

The data obtained through the observation sheet/form were subsequently incorporated into a spreadsheet.

Results

In the ten matches analyzed 38 shots were recorded during the counterattack, of which 84.21% were successfully completed, showing high effectiveness. There is noted that during the early parts of the matches shots have been almost twice that in the second period (Table 2).

Table 2

Frequency distribution of shots in games. Shot Effectiveness

	Goal		Failures N			Total N	
	N	%	Goalkeeper	Out	Total N-%		
1st period	21	84	3	1	4	16	25
2nd period	11	84.62	2	0	2	15.38	13
Extra time	0		0	0	0	0	0
Total (N)	32	84.21	5	1	6	15.79	38

Table 3 shows the results of analysis of different categories of the study. It is seen as almost all the shots in the phase of the counterattack are made in 1st wave, jump shot, within a few distance of the goal and more than half of them are shooting from the central area of the field (Figure 1).

Discussion

Regarding to the first objective of the study, the results show that there is a high effectiveness in shootings during the counterattack, coinciding with other studies such as that conducted by Hernandez et al. (2010) in which 181 counterattack shots analyzed of which 120 finished with a goal.

The results indicate that the average number of shots per game in counterattack is nearly 4 and 3 goals per game average, which amounts to be the half of what was found by Hernandez et al.



(2010) when analyzing 11 of the 12 matches of a team of Women's Honor Division during the 2008/2009 season.

Table 3

Frecuency and distribution of the shots in matches by type, distance, angle and phases of the counterattack. Shot effectiveness.

	Goal (N)	Goal (%)	Error (N)	Error (%)	Total (N)
Type					
Jump Shot	30	83,33	6	16,67	36
No jump shot	2	100	0	0	2
Distance					
Area	24	80	6	20	30
6-9 metros	8	100	0	0	8
> 9 metros	0	0	0	0	0
Ángle					
Central	19	90,48	2	9,52	21
Lateral	11	73,33	4	26,67	15
Exterior	2	100	0	0	2
Phases					
1st wave	31	83,78	6	16,22	37
2nd wave	1	100	0	0	1

As for the different categories analyzed, and before we begin discussing the results, it should be noted that studies conducted by Avila (2001) and Blanco (2012) aimed observational analysis shoot in handball, so differ from this study in the cycle phase game analyzed.

The results show that almost all of the shots are carried out in suspension (jump shots), which coincides with the statement made by White (2012) in the study conducted with the Spanish category promises in the European Youth Olympic Festival, held in 2009. Emphasize that this embodiment has favored a higher rate of effectiveness, the result of the advantage is achieved with the jump.

With respect to the position, the results show that most releases are made from the central region followed by the sides since the shooting from outside areas are almost nonexistent. These results coincide with those found by Avila (2001) and contradict those found by White (2012) as most releases occur from side positions on the field. Even should be noted that the lowest level of effectiveness (49.29%) was found in the shooting from the central area.

On the other hand, with respect to the distance from which the release occurs on the counterattack, the results show that most of them are made on the same area with less than 6 meters from the goal, thereby fulfilling the principle of seeking maximum depth for launch. These data also contradict those reported by White (2012) and Avila (2001), which show that the vast majority of the pitches are between 6 and 9 meters (60.71% and 50% respectively). Also it should be noted in the study that the most effective is in the pitches that are between 6-9 meters.



As for the phase of the counter, noting that almost all of the releases made after performing a first wave involving two to three players max (Torres and Crespo, 2010).

Highlight the existence of categories with minimal appearance: launches in support after a second wave, from outdoor areas and more than 9 meters from the goal.

Finally, commenting that studies by Avila (2001) and White (2012) showed a high positive correlation between the final assessment of the launch and the opposition and distance goal. This comes to mean that these variables influence the effectiveness of the release,

so that training of these parameters should be considered in the game.

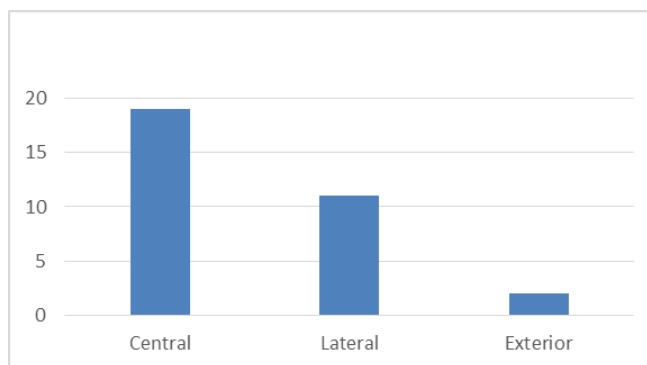


Figure 1. Sum of goals from counterattack down the field areas.

Conclusions

The conclusions that are drawn by interpreting the results obtained in this study allow us to establish the following statements about the research:

1. There is a high effectiveness in performing launches counterattacks players of the finalists.
2. Almost all releases are produced in suspensión.
3. From the middle of the field the largest number of releases is done, although we found the most effective from the outside areas.
4. Most of the pitches are made from a distance of less than 6 meters.
5. Almost all launches counterattack took place after a 1st wave.

From these results and conclusions can be established with respect to practical applications launch in handball.

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