Abstract

The research aims to outline the preferences for the offensive part of the game for the wing players who participated in the last edition of Women’s European Championship, by analyzing the shooting situations that these players have been involved in. As a result of the statistical analysis and research methods used, it could be detected that wing players preferred the throws from the wing’s angle, both left and right wing having more than 40% of their goals scored from this position. The following preferred action was the fast break. Both wing players scored more than 24% of their goals after in kind of actions. For the rest of the situations in which a wing player have been surprised the predilections varies from one side of the court to another and the present research points also these issues.

Keywords: handball, wings, predilections, preferences

JEL classification: I210, I290, I190

1. Introduction

The handball game is a sport with a high popularity, due to its dominant characteristics: the speed of the actions, spectacular throws, the big number of goals scored per game, or intense duels between opponents. To be able to score a goal, the players from a team have to find an optimal throwing position, using changing of direction with or without the ball, in individual or collective actions. A handball team has 7 players placed in different positions. Each position has it’s own characteristics. Anthropometrical measurements, individual technique or shooting situations differs from the goalkeeper to back, wing or line player.

The specialists have made researches in the field previously. Villa et al. (2011) observed anthropometrical characteristics by field’s playing positions, Buchheit et al. (2009) has noted the cardiopulmonary response of the players, for each position. Numerous researchers, outlining the differences between the positions in a handball team, have drawn up statistical analyses also: Pollany (2008), Taborsky (2008), Aagaard (2007).

The present research aims to analyze a single position from the handball field, the wing, highlighting the technical differences from one individual to another, and from the left wing to the right wing.

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2. Research methodology

2.1. Methods

The statistics were obtained from the official website of the competition, which comprises tabulated actions taken by each player, the shooting positions, scoring efficiency or positions occupied.

After separating the wing actions from the rest of the team’s actions, I have pointed the predilections and preferences of the wing players using the standard deviation and the coefficient of variability in which I could observe the presence of the extreme values in the distributions, which led to the use of boxplot graphical analysis, elaborated by Tukey (1977) and quoted by Popa (2008).

The wing player was surprised in 6 different positions when shooting. To note the ratio between the total number of goals and each of the 6 actions, I have used a pie chart. The radar chart has been used for pointing the differences between preferences of left and right wing and the column chart has been used for showing the scoring efficiency.

2.2. Subjects

27 left wings and 31 right wings attended the senior European Championship, held in Hungary and Croatia at the end of 2014, representing the 16 nations qualified for this tournament. The 58 players have aged between 19 and 34 years old (M=25.5, SD= 3.4) and height between 164cm and 179cm (M=171, SD=0.04).

3. Results and discussions

The 58 players specialized on the wing position scored during the competition a total number of 713 goals, 335 by left wing and 378 by right wing. Converting to percentage, this numbers means that 30% of goals were scored together by the two wings, from the total number of goals counted the entire tournament.

Figure 1 (LW) and figure 2 (RW) Mean and the extreme values of the goals scored by each player in total and in the 4 favorite positions of shooting.
Figure 1 Value obtained by left wing  Figure 2 Value obtained by right wing

Legend: LW - left wing, marked with red color; RW - right wing, marked with blue color; W - goals scored from the wing’s angle; FB - fast break; 6m - goals scored from the 6m line, 7m - penalties.

As shown in Figure 1, the differences between the 27 left wings are pretty big. Looking at the Total column, it can be easily seen that the minimum number of goals scored by one of the left wings was 2, while the maximum number of goals scored was 22, succeeded by Aniko Kovacsivz, for the Hungarian national team. The median value is 22 and the quartile has upper and lower limits of 7, respectively 18.

Figure 2 refers to right wings. Here it can be noticed that maximum value was 46 and the minimum value was 1. The median was 6, and the limits of quartile were 4 and 15.

Carmen Martin from the team of Spain registered the maximum value from all the right wings. The huge difference between this player and the rest of the wings can be explained by the fact that Martin was designated to execute the penalty throws. Without these, she scored 21 goals, which is very close to the maximum value of the left wing.

Looking at the other columns of the chart, interesting details can be remarked. Each wing scored from the wing’s angle and after a fast break, but when it came to the other shooting positions, the number of goals and especially the number of players who scored from those positions has significantly decreased. For each column, maximum, minimum, median and quartile values are shown.

Figure 3 (LW) and figure 4 (RW): Distribution of goals scored by left and right wing from 5 positions.
In the upper figures can be seen that both wings had as first preference the throws from the field’s corner, resulted from the tactical combinations used in the 4th phase of the offence. More than 42% of the total number of goals was scored from this position. In the top of the preferences we could notice also the fast breaks. 27.5%, respectively 23.7% from the total number of goals was scored after one of this kind of actions.
The differences between preferences of the left wing and right wing can be easily observed in the figure above. Besides wing’s angle throws and fast breaks, the other 4 positions have a decreased number of goals scored. For example, for penalties an almost 4 times smaller number of goals were scored, compared to the goals from the field’s corner. The number of goals scored as the second line player (6m) is 5% bigger for left wing than the right wing. Again the left wing has a bigger number of goals scored from a breakthrough action, while the right wing’s goals from penalties have a higher value. Regarding the 9m throws, both wings have a very low number of actions and their efficiency is poor. This demonstrates that the EHF Euro wing didn’t prefer the long distance shoots.

![Figure 6](image)

**Figure 6  Scoring efficiency for left and right wing**

Figure 6 points the efficiency differences between the two wings. It can be seen that the best scoring’s percentage for left wing was registered in the penalty actions (78.8%), while the right wing’s most safe shots were the breakthroughs. Also for the fast breaks, the efficiency was high for both wings. A very poor scoring’s percentage was registered in the long distance throws.

The left wing scored 60.6% from the total number of shoots, and the right wing 64.4%.

4. Conclusions

The players specialized on the wing position who participated at the last European Championship have scored an average of 30% of the total number of goals registered in the tournament. Both wings have preferred the field’s corner throws,
met in the 4th phase of the attack, from which they have scored almost half of their goals.

Handball is a very dynamic sports game, with very high-speed actions and this is evidenced by the number of goals scored in this competition as a result of a fast phase as fast breaks is. The values for fast break goals were 23.7% and 27.5%. The predilection of wing’s transformation as the second line player was bigger for the left wing, comparing to the right wing. None of the wings excelled in the long distance throws, the number of goals and the efficiency being very poor in this case.

Spain and Denmark had the best right, respectively left wing. Carmen Martin and Maria Fisker were nominated in the All Star Team of the tournament, according to the specialists’ opinion.

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REFERENCES

1. Aagaard, K. (2007), 7th Women Euro- Trend Analysis, EHF Web Periodicals, articol preluat de pe pagina online a Federației Europene de Handbal;
3. Pollany, W. (2008), MKD- Qualitative Trend Analysis, EHF Web Periodicals, articol preluat de pe pagina online a Federației Europene de Handbal;
4. Popa, M. (2008), Statistică pentru psihologie, Teorie și aplicații SPSS, Ediția a II-a, Editura Polirom, București;
5. Taborsky, F. (2008), Cumulative Indicators of Team Playing Performance in Handball, EHF Web Periodicals, articol preluat de pe pagina online a Federației Europene de Handbal;