

# STUDY ON THE EFFICIENCY OF THE GAME ACTIONS OF THE ROMANIAN NATIONAL TEAM AT THE WOMEN WORLD HANDBALL CHAMPIONSHIP GERMANY 2017

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**Abstract:** The aim of this study is to analyze the efficiency of the game actions in attack and defense of the Romanian team. The teams played between 6 and 9 games (places 1-8 - 9 games, places 9-16 - 6 games, places 17-24 - 7 games), in total there were 88 games for the establishment of the final hierarchy. The middle position in the final ranking is confirmed by team efficiency and there is a difference comparing to the previous edition when Romanian team finished in 3rd place. In terms of efficiency indicators, there is observed in the first part of the ranking teams that they performed consistently, but teams ranked in last positions barely manage to perform in one or two of those indicators.

**Keywords:** handball, women's, world championship, analysis.

## Introduction

Since 1957 World Championships are organized for indoor handball, with no rhythmicity for the next 20 years; for the period 1978-1990, it is organized every 4 years and since 1993 every 2 years.

The XXIII<sup>rd</sup> edition of the Women World Handball Championship was hosted by Germany, attended by 24 teams divided into 4 groups of 6 teams. The competition system was mixed, included a group phase involving 24 teams, followed by the knockout stage where the first 4 ranked of each group qualified. The eliminated teams after the group stage played in the President Cup to conclude the final ranking of the tournament.

The Romanian team that participated in the World Championship was made up of 17 players: 2 goalkeepers, 4 wings, 5 backcourt players, 3 center back, 3 pivots. The average age of the team was 26.4 years (minimum-18 years, maximum-35 years) and the experience in international games at the national team is given by an average of 44 games, but there are players who did not perform at all or very little in the national team and others who gathered over 200 selections, maximum-218. In terms of somatic parameters, the average height was 1.78m (minimum-1.65, maximum-1.92), while in terms of weight, it ranged

between 58 and 82 kg, with an average of 70 kg.

In group A the following teams took part: Romania, Paraguay, Slovenia, Spain, Angola, France. The results of the national team in the group games were:

Romania - Paraguay 29-17

Romania - Slovenia 31-28

Romania - Spain 19-17

Romania - Angola 27-24

Romania - France 17-26

In Group A, Romania achieved 4 wins and 1 defeat, finishing in 1st place, which allowed the qualification to the next stage of the competition.

The result of the knockout phase were:

Last 16: Romania – Czech Republic 27-28

At the end of the competition Romania was ranked in 10th place.

## Material-method

Carrying out the analysis of the evolution of the Romanian national team in the matches at the World Championship, there were used statistical and mathematical methods, and as support statistical data (from the website of the competition organizers and of the International Handball Federation) [1, 2].

The aim of the study is to analyze the evolution of the national team at the World Championship and to determine the causes that led to the 10th place in the final ranking.

### Results and discussions

The analysis of participation in the World Championship was conducted as follows: knockout stage and overall Romania's national team games.

In the group stage (5 games) the Romanian team obtained 4 wins and 1 defeat, the goal average situation being 123-112.

In last 16, knockout stage, Romanian team lost by 1 goal against Czech Republic, and after these results, finished competition in 10th place.

As a guide in carrying out the analysis, the data provided were taken of the special literature regarding the efficiency [3]:

- overall efficiency of the team in attack - 60%
- backcourt - 40-45%
- wings - 55-60%
- the central area of the line of 6 m - 60-65%
- fastbreaks - 70-75%
- 7 m shots - 75-80%
- attacks without shots - 15-20%.
- goalkeepers - 35-40%.

Reporting efficiency standards of the national team outlined above, it is noticed that the effectiveness of the attack was 63% and 8 out of 51 attacks did not lead to throw (15,7%), in the last stage of the 16 teams. As it can be seen, in 5 indicators the attack efficiency is within or at a higher level regarding the recommendations of the special literature (Tables 1 and 2), and for other 3 being below.

Table 1. Attack efficiency in the knockout stage

Team actions	Goals	Saves	Missed	Post	Blocked	Total	Efficiency
6m Shots	2	3	0	0	0	5	40%
Wing Shots	2	2	0	0	0	4	50%
9m Shots	12	3	4	2	0	21	57%
7m Shots	6	1	0	1	0	8	75%
Fast Breaks	1	0	0	0	0	1	100%
Totals	27	9	4	3	0	43	63%
Attacks without shot						8	15,7%
Totals	27	9	4	3	0	51	53%

Goalkeepers' averages efficiency was 20% (Ta-

ble 2). This is one of the consequences of the results in knockout stage, and also it did not meet the minimal requirements.

Table 2. Goalkeepers efficiency in the knockout stage

Goalkeepers	Total Shots		6m Shots		Wing Shots		9m Shots		7m Shots		Fast Breaks		Break throughs	
	S/S	%	S/S	%	S/S	%	S/S	%	S/S	%	S/S	%	S/S	%
Totals	7/35	20	1/4	25	0/7	0	4/13	31	1/6	17	0/2	0	1/3	33

The overall situation in this World Championship for Romanian team looks like this: 4 wins, 2 defeats, goal average was 150-140.

When we compare the Romanian team efficiency to the benchmark for 4 indicators (wing shots, 9m shots, 7m shots and fastbreak), the requirements were achieved, but for another 3 indicators (6m shots, goalkeepers efficiency and attack efficiency), the values were under recommendations (Tables 3 and 4).

Table 3. Attack efficiency in all games

Team actions	Goals	Saves	Missed	Post	Blocked	Total	Efficiency
6m Shots	30	15	3	2	1	51	59%
Wing Shots	20	0	11	0	2	33	61%
9m Shots	51	34	17	8	8	118	43%
7m Shots	19	2	0	1	0	22	86%
Fast Breaks	18	2	2	1	1	24	75%
Totals	160	66	22	15	10	263	57%
Attacks without shot						41	13,5%
Totals	160	66	22	15	10	304	49%

Table 4. Goalkeepers efficiency in the group phase

Goalkeepers	Total Shots		6m Shots		Wing Shots		9m Shots		7m Shots		Fast Breaks		Break throughs	
	S/S	%	S/S	%	S/S	%	S/S	%	S/S	%	S/S	%	S/S	%
Totals	65/205	32	7/33	21	15/45	33	28/68	41	5/25	20	3/17	18	7/17	41

By comparing the Romanian team efficiency (10th place) with those of the first 8 ranked and with all the participating teams, we get the following data (Table 5).

Table 5. Efficiency of the Romanian team compared to the top 8 teams and to all participating teams

	Places 1-8	Romania 10th place	All participating teams
Efficiency of attacks with shots (%)	59%	57%	56,88%
Goalkeepers' efficiency (%)	32,63%	32%	30,17%

It is noted that Romania's team efficiency, in percentage, is below the first 8 ranked and this is available for attack and goalkeepers efficiency. Comparing with all the participating teams, the attacks' efficiency is close to this value, but for goalkeepers' efficiency the results is much better (Figure 1).

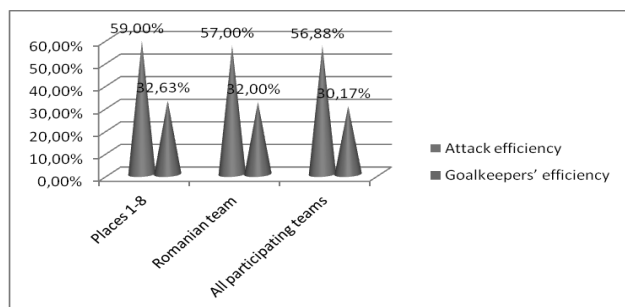


Fig. 1. Efficiency of Romanian team versus the first 8 ranked teams and all participating teams

The middle position in the final ranking is confirmed by the team's efficiency and there is a difference comparing to the previous edition when Romanian team finished in 3rd place [4, 5].

### Conclusions

The combined efficiency of attack and defense led to these results, although there was a very good start in the competition with 4 wins in row, but after this, there were 2 defeats and that was decisive for the final ranking.

The goal average was positive (150 to 140), but in 6 games that meant an average of 25 goals per game, lower than the previous edition when over 30 goals per game were scored [4].

In achieving sport performance, the efficiency is essential, depending on the experience and concentration capacity of handball players in the important moments of the game [6].

There are differences between the winners and the losing teams in term of efficiency in different game situations, but the results are quite close, and these facts can determine the victory in a game [7].

In terms of efficiency indicators, there is observed in the first part of the ranking teams that they performed consistently, but teams ranked in last positions barely manage to perform in one or two of those indicators.

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