IDENTIFICATION OF DIFFERENCES OF PRELIMINARY GROUPS OF THE 2020 WORLD HANDBALL CHAMPIONSHIP

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Abstract

The research was conducted with the purpose to identify differences in the efficiency of shooting of the national teams of the preliminary group of the 2020 World Handball Championship. In total, twelve teams were analysed: Montenegro, Serbia, Northern Macedonia, Ucraine, Latvia, Netherlands, Bosnia and Herzegovina, France, Denmark, Russia, Switzerland and Poland, which left the tournament after the preliminary phase and played three games. The analysed variables were: Shots of the positional attack (total number of shots, total successful shots, percentage of shots), Shots with a player more (total number of shots, total successful shots, percentage of shots), Shots with a player less (total number of shots, total successful shots, percentage of shots), Shots from nine meters (total number of shots, total successful shots, percentage of shots). The aim of this research was the identification of differences in the efficiency of shooting in the national teams of the preliminary group of the 2020 World Handball Championship.

INTRODUCTION

Modern handball is an integral system of rapid transformations of defense, attack, transition, rapid realization of attack, which ultimately aims to achieve a goal or prevent the opponent in the realization of a goal. A large amount of data on teams and players individually, can be registered and later analyzed during a handball match: number of successful or unsuccessful shots at the goal, technical errors, goals scored, duration of attack, time spent in defense, number of counter-attacks, realization of counter attacks, analysis of goalkeepers and much more. Parameters for assessing situational success, which were collected at major handball competitions, proved to be the correct method of registration, (official statistics of the International Handball Federation - IHF or official statistics of the European Handball Federation - EHF) both for individual matches and the entire competition (Czerwinski, 2000). In this way, objective indicators of the condition, ie efficiency of players and teams are obtained, and based on the indicators, the coach and the professional staff can assess the merits of each player 's contribution to successful and unsuccessful team operations in the attack or defense phase (Vuleta et al., 2003, 2004., 2005, 2009, Rogulj et al. 2005, Gruić et al., 2006, Smajlagić and Vuleta V., 2007, Perkovac et al. 2009).

METHODS

Collecting data

Data was collected from the official web-site of the European Handball Federation (EHF) statistics.

Sample of variables

Twelve variables were used in this research. The variables were used to evaluate the situational activity during attack: Total number of shots of the positional attack ŠUT_PN_UK, Total number of successful shots of the positional attack ŠUT_PN_US, Percentage of shots of the positional attack ŠUT_PN_%, Total number of shots with a player more ŠUT_IGV_UK, Total number of successful shots with a player more ŠUT_IGV_US, Percentage of shots with a player more ŠUT_IGV_%, Total number of shots with a player less ŠUT_IGM_UK, Total number of successful shots with a player less ŠUT_IGM_US, Percentage of shots with a player less ŠUT_IGM_%, Total number of shots from nine meters ŠUT_9M_UK, Total number of successful shots from nine meters ŠUT_9M_US and Percentage of shots from nine meters ŠUT_9M_%.

Sample of participants

There were twelve National teams that finished their tournement after the preliminary play-offs at the World championship. From the group „A" Montenegro and Serbia, from the group „B" Northern Macedonia and Ukraine, from the

group „C" Latvia and Netherlands, from the group „D" Bosnia and Herzegovina and France, from the group „E" Denmark and Russia and from the group „F" Switzerland and Poland.

Statistical analysis

The frequencies of successful shooting and percentage shots were calculated in this study. It needs to be pointed out that the frequencies of successful and total shooting were listed separately, and the percentage of the total efficiency of shots at the goal was calculated as well.

RESULTS AND DISCUSSION

Situational efficiency of attack in total – successful – percentage in this study is based on twelve variables, presented as shooting frequencies.

Table 1. Summed up indicators Shots of the position attack

	ŠUT_PN_UK	ŠUT_PN_US	ŠUT_PN_%
MONTENEGRO	136	64	47%
SERBIA	133	66	50%
NORTHERN MACEDONIJA	141	66	47%
UKRAINE	133	65	49%
LATVIA	148	71	48%
THE NETHERLANDS	142	71	50%
BOSNIA AND HERZEGOVINA	142	70	49%
FRANCE	138	65	47%
DENMARK	148	77	52%
RUSSIA	143	62	43%
SWITZERLAND	140	65	46%
POLAND	140	65	46%

Table 2. Summed up indicators for variable Shots with player more

	ŠUT_IGV_UK	ŠUT_IGV_US	ŠUT_IGV_%
MONTENEGRO	12	8	67%
SERBIA	28	14	50%
NORTHERN MACEDONIJA	30	15	50%
UKRAINE	12	8	67%
LATVIA	15	11	73%
THE NETHERLANDS	14	7	50%
BOSNIA AND HERZEGOVINA	17	9	53%
FRANCE	11	7	64%
DENMARK	19	10	53%
RUSSIA	15	7	47%
SWITZERLAND	21	12	57%
POLAND	20	7	35%

Table 1 shows summed up indicators for variable Shots of the positional attack. National team of Montenegro in total had 136 shots of the positional attack or 45 shots per game. They had 21 successful shots. National team of Serbia in total had 133 shots of the positional attack or 44 shots per game. They had 22 successful shots. National team of Northern Macedonia in total had 141 shots of the positional attack or 47 shots per game. They had 22 successful

shots. National team of Ukraine in total had 133 shots of the positional attack or 44 shots per game. They had 22 successful shots. National team of Latvia in total had 148 shots of the positional attack or 49 shots per game. They had 24 successful shots. National team of the Netherlands in total had 142 shots of the positional attack or 47 shots per game. They had 24 successful shots. National team of Bosnia and Herzegovina in total had 142 shots of the positional attack or 47 shots per game. They had 23 successful shots. National team of France in total had 138 shots of the positional attack or 46 shots per game. They had 22 successful shots. National team of Denmark in total had 148 shots of the positional attack or 49 shots per game. They had 26 successful shots. National team of Russia in total had 143 shots of the positional attack or 48 shots per game. They had 21 successful shots. National teams of Switzerland and Poland in total had 140 shots of the positional attack or 47 shots per game. They had 22 successful shots.

Analysis of the percentage shows that most national teams had an approximate percentage of realization from the positional attack, except for the Russian national team, which had a low percentage compared to other national teams.

Table 2 shows summed up indicators for variable shots with a player more. National team of France in total had 11 shots with a player more or 4 shots per game. They had 8 successful shots. National teams of Montenegro and Ukraine in total had 12 shots with a player more or 4 shots per game. They had 8 successful shots. National team of the Netherland in total had 14 shots with a player more or 5 shots per game. They had 7 successful shots. National teams of a Latvia and Russia in total had 15 shots with a player more or 5 shots per game. National team of Latvia in total had 11 successful shots and national team of Russia had 7 successful shots. National team of Bosnia and Herzegovina in total had 17 shots with a player more or 6 shots per game. They had 9 successful shots. National team of Denmark in total had 19 shots with a player more or 6 shots per game. They had 10 successful shots. National team of Poland in total had 20 shots with a player more or 7 shots per game. They had 7 successful shots. National team of Switzerland in total had 21 shots with a player more or 7 shots per game. They had 12 successful shots. National team of Serbia in total had 28 shots with a player more or 9 shots per game. They had 14 successful shots. National team of Northern Macedonia in total had 30 shots with a player more or 10 shots per game. They had 15 successful shots.

Analysis of the percentage shows that the highest percentage in the realization of a shot with a player more was achieved by the national team of Latvia, 73%, and the lowest by the national team of Poland, 35%.

Table 3. Summed up indicators for variable shots with player less

	ŠUT_IGM_UK	ŠUT_IGM_US	ŠUT_IGM_%
MONTENEGRO	18	8	44%
SERBIA	9	3	33%
NORTHERN MACEDONIJA	11	4	36%
UKRAINE	15	8	53%
LATVIA	13	5	38%
THE NETHERLANDS	20	12	60%
BOSNIA AND HERZEGOVINA	9	3	33%
FRANCE	15	4	27%
DENMARK	8	3	38%
RUSSIA	8	3	38%
SWITZERLAND	11	4	36%
POLAND	10	4	40%

Table 3 shows summed up indicators for the variable shots with a player less. National teams of Denmark and Russia in total had 8 shots with a player less or 3 shots per game. They had 3 successful shots. National teams of Serbia and Bosnia and Herzegovina in total had 9 shots with a player less or 3 shots per game. They had 3 successful shots. National team of Poland in total had 10 shots with a player less or 3 shots per game. They had 4 successful shots. National teams of Northern Macedonia and Switzerland in total had 11 shots with a player less or 4 shots per game. They had 4 successful shots. National team of

Latvia in total had 13 shots with a player less or 4 shots per game. They had 5 successful shots. National teams of France and Ukraine in total had 15 shots with a player less or 5 shots per game. National team of Ukraine had 8 successful shots and national team of France had 4 successful shots. National team of Montenegro in total had 18 shots with a player less or 6 shots per game. They had 8 successful shots. National team of the Netherlands in total had 20 shots with a player less or 7 shots per game. They had 12 successful shots.
Analysis of this percentage shows that the highest efficiency was achieved by the national team of the Netherlands, or 60% , and the least by the national team of France, or 27%.

Table 4. Summed up indicators for variable shots from nine meters

	ŠUT_9M_UK	ŠUT_9M_US	ŠUT_9M_%
MONTENEGRO	59	25	42%
SERBIA	41	21	51%
NORTHERN MACEDONIJA	48	22	46%
UKRAINE	45	20	44%
LATVIA	57	35	61%
THE NETHERLANDS	35	15	43%
BOSNIA AND HERZEGOVINA	71	33	65%
FRANCE	45	14	31%
DENMARK	33	15	45%
RUSSIA	41	15	37%
SWITZERLAND	53	22	42%
POLAND	48	23	48%

Table 4 shows summed up indicators for variable shots from nine meters. National team of Bosnia and Herzegovina in total had 71 shots from nine meters or 24 shots per game. They had 33 successful shots. National team of Montenegro in total had 59 shots from nine meters or 20 shots per game. They had 25 successful shots. National team of Latvia in total had 57 shots from nine meters or 19 shots per game. They had 35 successful shots. National team of Switzerland in total had 53 shots from nine meters or 18 shots per game. They had 22 successful shots. National teams of Northern Macedonia and Poland in total had 48 shots from nine meters or 16 shots per game. National team of Northern Macedonia had 22 successful shots and national team of Poland had 23 successful shots.
National teams of Ukraine and France in total had 45 shots from nine meters or 15 shots per game. National team of Ukraine had 20 successful shots and national team of France had 14 successful shots. National teams of Serbia and Russia in total had 41 shots from nine meters or 14 shots per game. National team of Serbia had 21 successful shots and national team of the Russia had 15 successful shots. National team of the Netherlands in total had 35 shots from nine meters or 12 shots per game. They had 15 successful shots.
National team of Denmark in total had 33 shots from nine meters or 11 shots per game. They had 15 successful shots.
Analysis of this percentage shows that the highest efficiency was achieved by the national team of Bosnia and Herzegovina, or 65% and the lowest was achieved by the national team of France, or 31%.

CONCLUSION

The aim of this paper is to identify the effectiveness of national team shooting after the preliminary play-offs at the 2020 World Handball Championship. Based on the discussion, it can be concluded that in the variable shooting from a positional attack, the majority of national teams had an approximate percentage, while the Russian national team had the lowest percentage. The highest percentage in the realization of a shot with a player more was the highest in the national team of Latvia, and the lowest in the national team of Poland. In the variable shots with a player less, the national team of the Netherlands had the highest percentage in the realization of the shot, and the national team of France had the lowest. Also in the variable shooting from nine meters, the national team of France had the lowest

percentage of success, while the national team of Bosnia and Herzegovina had the highest percentage of success of all teams of the preliminary group analysed. The analysis of the parameters of the situational efficiency of national teams and players individually represents the real state of one national team or individual. Such analyses enable coaches and professional staff to direct their training plans and programs for the next competitions in the easiest way, all with the aim of achieving the best possible results.

REFERENCES

1. Bajgorić, S. (2016). Valorizacija i nivoi razlika situaciono – motoričkih sposobnosti i situacione efikasnosti ekipa na Svjetskom prvenstvu u rukometu za juniore 2013. godine. Doktorska disertacija. Fakultet za tjelesni odgoj i sport. Tuzla
2. Czerwinski, J. (2000). Statistical analysis and remarks on the game character based on the European Championship in Croatia. EHF Periodical, 2, 5-11.
3. Perkovac, G., Vuleta, D. ml., Vuleta, V. Analiza pokazatelja situacijske efikasnosti hrvatske muške rukometne reprezentacije na 20. Svjetskom prvenstvu u Njemačkoj. Zbornik radova 18. ljetne škole kineziologa Hrvatske, Poreč 2009.
4. Smajlagić, I., V. Vuleta (2007). Analiza nekih pokazatelja situacijske efikasnosti Hrvatske rukometne reprezentacije na Svjetskom prvenstvu 2003. u Portugalu. Zbornik radova 16. ljetne škole kineziologa Republike Hrvatske, „Antropološke, metodičke, metodološke i stručne pretpostavke rada u područjima edukacije, sporta, sportske rekreacije i kineziterapije“, Poreč, 19. do 23. lipnja 2007.
5. Vuleta, D., D. Milanović i H. Sertić (2003). Relations among variables of shooting for a goal and outcomes of the 2000 Men,s European Handball Championship Matches. Kinesiology, 35 (2),168-183

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