

# Differences between winning and losing teams from World water polo championship for women

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Original scientific paper

## Abstract

The aim of this study is to determine the difference between winning and lost in the water polo team for the women from the World Water Polo Championships in Shanghai, China the 2011th year. Sample of respondents represents the analysis of winning and losing team of 45 matches of the World Water Polo Championships for women. The sample of variables is based on certain segments of the water polo game for women in stages of attack and defense, and those are: GS - goals scored, AAG - Attempt to achieve goals; A - Action shot; C - Centre shot; X - Extra player shot, 5 m - Penalty, 5 m1-Penalty Attempt, TF - Turnover foul and SP - Sprint. The results of Chi square test show a statistically significant difference  $p < .000$  in the analyzed segments of Waterpolo matches. The biggest differences between winning and losing teams is sprint - counter with the achievement of a goal which says that the winning team had a good defense tactics and rapid swimmers which are able to achieve goals. A lost teams were making a great offense causing penalties where it was more successful winning team and the game was based on the midfielder.

Generally one can come to the conclusion that the winning teams based there tactics on counter strike because they had a better swimmers and by better swimming therefore defensive team made offenses causing the penalty where the winning team had a better success and the game was based on the center because the center is organizer of the game

Key words: **Water polo, Women, Winners, Lost**

## Introduction

Water polo as a sport for women has a long historical development, however in 1979 the International Swimming Federation, for the first time organize the World Cup for Women, 1985. year and since 1985 year to there were organized the European Championship which gives additional impulse in developing water polo sport for women. On the proposal of FINA, which supported the international Olympic committee for women's water polo becomes a promotional sport for the Olympic Games in Atlanta in 1996, and for the Olympic Games in Sydney 2000 year of women's water polo becomes officially included in Olympics. Also, the World Water Polo Championships for women are held every two years, on which are also happening constant transformation of rules of the game which points to the need for analysis of water polo match in which it comes to winning, losing and unsolved matches Escalante et al., (2011) point to changes in the rules during the period 2005 to 2009 in which FINA introduced new rules aimed at improving the water polo game for the women the most significant changes is to increase the time interval from seven to eight minutes duration of the quarter, the intervals between periods, Minimum distance a penalty shoot is 5 feet and length of and reasons for exclusion player made a foul. Because

## Sažetak

Cilj ovog rada jeste utvrđivanje razlika između pobjedničkih i izgubljenih ekipa u vaterpolu za žene sa Svjetskog prvenstva u vaterpolu Šangaj, Kina 2011. godine. Uzorak ispitanika predstavlja analiza pobjedničkih i izgubljenih ekipa od 45 utakmica Svjetskog prvenstva u vaterpolu za žene. Uzorak varijabli je baziran na određenim segmentima vaterpolo igre za žene u fazama napada i odbrane i onu su: GS - postignuti golovi; AAG - pokušaja da se da go; A - gol iz akcije; C - centar dao gol; X - sidraš dao gol; 5 m - penal; 5 m1- pokušaj iz penala koji je golman odbranio ili igrač fulio; TF - foul u kontranapadu SP - sprint - kontra sa postignutim golom. Rezultati Hi kvadrat testa pokazuju sa postoje statistički značajne razlike  $p = .000$  u analiziranim segmentima vaterpolo utakmice. Najviše razlika između pobjedničke i izgubljene ekipe je sprint - kontra sa postignutim golom što govori da je pobjednička ekipa imala dobru taktiku odbrane i brze plivačice koji su uspjeli da postignu golove. Izgubljene ekipe su pravile veliki prekršaja što je prouzrokovalo penale gdje je bila uspješnija pobjednička ekipa i igra se zasnivala na igračima centra. Generalno može se doći do zaključka da su pobjedničke ekipe zasnivala taktiku na kontranapadu jer su imali bolje plivačice samim boljim plivanjem odbrambena ekipa je pravila prekršaje što je prouzrokovalo penale gdje je pobjednička ekipa imala bolji uspjeh i igra se zasnivala na centrima jer je centar i organizator igre.

Ključne riječi: **Vaterpolo, žene, pobjednice, izgubljeni**

of all the above there is a need for feedback information from the contests that will cvantificate technical and tactical indicators (Lozovina, Pavicic & Lozovina, 2004; Platanou, 2004).. Feedback from the competition can be used in the positive transformation of performance athlete in order to achieve the effective results of on competitions that information be collected in an objective, valid and consistent manner and based on analysis and evaluation of key elements of the coach and the player opens up new possibilities to improve water polo game. Studies that determined the requirements for women's water polo the game (Polglaze et al., 2008) indicate a highly intensive repeating activity of players because of the specificity of these activities in the water and the opposing player. Lupo et al., (2010) analyzed water polo matches between the Euro League and Italian League and Italian Series A1 Series B during the competition season 2005 / 6 for the men in the technical and tactical indicators, the results of the analysis of multivariate variance indicate significant results between the duration of the counter-attack on the number of players who are directly involved in the action and the types of shots on goal. The results indicate that the level of competition has revelation impact on the above segments of water polo games. Lupo et al., (2011) analyze the technical and tactical walks of 12 matches for women's water polo National Athletic Collegiate Associatin (NCAA)

in the three segments of the counter attack on the strength of the game and the outcome of the result of the match on the lost teams and the winning teams. The results between winning team and lost were establish between duration of action, the number of players, girdles, exclusion and penalty shots and shots from outside the area 5 meters. Winning teams have shown a better ability to perform the action with a more rapid action with effective girdles ie, passing and shooting towards the goal. Enomoto et al., (2001) analyze the matches from the World Championship for Women 2001. The following segments of water polo game: attack, shots, the results of shooting, foul, mistakes with the ball, the error without the ball and attack. The results showed that highly ranked teams in the attack have a frequent shots with only minor errors in relation to the lower ranked teams in the attack, highly ranked teams had more individual fouls and goalkeepers had more ineffective defense, but lower ranked teams.

The aim of this study is to determine differences between winning and lost in the water polo team for the women from the World Water Polo Championships in Šangaj, China the 2011th year.

## Methods

### Sample of the examines

Sample of subjects analysis is winning the lost teams of 45 matches from the official website of the World Water Polo Championships for women held in Shanghai, China the 2011th year 18-30 July.

### Sample of variables

The sample of variables is based on certain segments of the of water polo game for women in stages of attack and defense, and those are: GS - goals scored, AAG - Attempt to achieve goals; A - Action shot; C - Centre shot; X - Extra player shot, 5 m - Penalty, 5 m1- Penalty Attempt, TF - Turnover foul and SP - Sprint.

### Data processing methods

For all the analyzed variables for women of water polo game will calculate the frequency and percentage values, and to determine the frequency differences between winning and the lost teams will use a Chi-Square test on statistical significance level of 5%

## Results and Discussion

Table 1 and Figure 1 shows the results of the differences between frequency of winning and the teams who lost in a water polo match at the world championship in Tokyo in 2011. The results H square test (Chi-square = 227) clearly shows a statistically significant difference  $p < .000$  in the analyzed segments of the water polo match. Analyzing the individual variables it can be seen the total achieved 907 (14.6%) of the goals that 603 (17.8%) winners and 304 (10.7%) lost teams. A lost teams tried to reach the goal in 1130 (39.4%), and the winning teams tried in 1339 (39.5%) attempts, a total of 2469 (39.6%) attempts to score. The winning player scored a goal out of action 208 (6.1%) attempts, a player lost 104 (3.7%) attempts, the total 312 (5.0%). Central player of lost team scored 29 goals (1.0%), and the winning 100 (2.9%), the total 129 (2.1%). Anchors and the winning

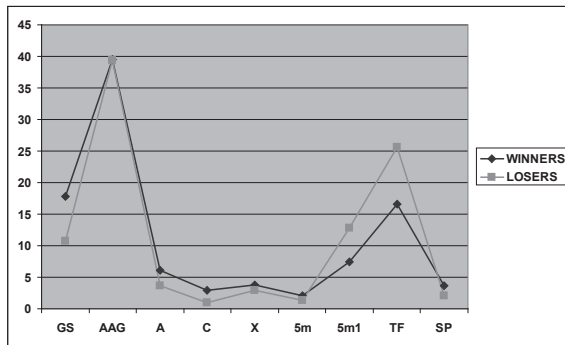
teams achieved 128 (3.8%) goals, lost Team Scores 83 (2.9%) the total 211 (3.4%) goals. Total penalty achieved, 112 (1.8%) of which achieved by the winning player 71 (2.1%), and the loss given 41 (1.4%) goals from penalties. Attempt at scoring from penalty which goalkeeper defended or missed Total 617 (9.9%), defense or failure of the player that lost did not achieve the goal 365 (12.8%), and the winning player 252 (7.4%). Foul in the counter attack has made the winning player 562 (16.6%) and lost 728 (25.6%) Total 1290 (20.7%). Sprint with counter attack and achieved goal were a total of 182 (2.9%) of which the winning player had 123 (3.6%), and the player lost 59 (2.1%).

The biggest differences between winning and lost teams is sprint - counter with the achievement of a goal which says that the winning team had a good defense there tactics and rapid swimmers which are able to achieve goals (Hayley and Associates 2010). in the research results indicate that swimming with the ball reduces the speed of swimming in the women's water polo, but the accuracy remains unchanged. A lost teams have played so-called rougher tougher defense and rules offenses, where the awarding penalties and the winning team was on target with a penalty shoot-which is probably a lot of influence on the game. During the game and setting up more tactics being played on the central players so that the center of winning teams had been more successful in the scoring of the lost teams. It must be said that the goalie winning player was more successful in defense of what can be concluded from defended penalty (Francisco and Associates, 2009). The study the analysis found that there are significant statistical differences in the thirty-six parameters values that are attacking and defending in the female category and forty-six men between winning teams and lost. If the results of this study compare with those of studies in Argudo (2000), Argudo & Lloret (1998a, b) and Argudo and Lloret (1999), which is the subject of the analysis focused on the tactical assessment of the European water polo championship in 1997, it is clear that between winner and lost, in the women's water polo, are on the level of statistical significance, 05 in favor of the winning team.

Table 1. The results the winning and losing team in water polo for women.

VAR. Engleski	WINNING	LOST	TOTAL
GS goals scored	603 17,8%	304 10,7%	907 14,6%
AAG - Attempt to achieve goals	1339 39,5%	1130 39,4%	2469 39,6%
A – Action shot	208 6,1%	104 3,7%	312 5,0%
C – Centre shot	100 2,9%	29 1%	129 2,1%
X – Extra player shot	128 3,8%	83 2,9%	211 3,4%
5 m - Penalty	71 2,1%	41 1,4%	112 1,8%
5 m1- Penalty Attempt	252 7,4%	365 12,8%	617 9,9%
TF – Turnover foul	562 16,6%	728 25,6%	1290 20,7%
SP - Sprint	123 3,6%	59 2,1%	182 2,9%
<b>TOTAL</b>	<b>3386 55,5%</b>	<b>2843 44,5%</b>	<b>6229 100%</b>
Chi-square = 227; Degrees of freedom = 8; Probability = 0.000			

Figure 1. The results the winning and losing team in water polo for women.



## Conclusion

The results of this study indicate that the winning teams had the highest mobile tactic of the defense player from the lost and that the winning team had the better goalies when it comes to the women's water polo championship. Water polo players attacks were based on a central player, as well as shots on goal proving goals scored by the center. You can reach the conclusion that the winning teams motor function was better prepared and faster swimmers because he was given plenty of goals from counter attacks and lost teams have made several breaches in the counter attack which was a larger number of penalties and better success winning team in the penalty shoot-out. As it was expected, the pace of the game was on the winning team as well as improved tending on the ground as shown from results. Unfortunately, in Bosnia and Herzegovina there is no women's water polo, it is true some have tried, but had no succeed. This is one of the first attempts to get to certain indicators and presenting in Bosnia the Herzegovina. The results can be used in Water polo clubs, to Faculty of Sport and Physical Education and the similar institutions that deal with this issue. Research results can be a good basis for further research projects aimed at improving women's water polo and men's water polo.

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Submitted: November 11, 2011.

Accepted: December 13, 20101.

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