INFLUENCE OF HALF TIME SCORE, MATCH LOCATION AND SCORING FIRST ON MATCH OUTCOME IN ROLLER HOCKEY.

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INTRODUCTION

Performance analysis appears to be widely accepted by players, coaches and sports scientists as useful feedback to achieve better results on the coaching process (Liu, Hopkins, & Gómez, 2016). Although there are several studies on the different variables and performance indicators in team sports like basketball, handball or soccer (Garcia-Rubio, Gómez, Lago-Peñas, & Ibañez, 2015; Prieto, Gómez, & Sampaio, 2015), there are few data on this topic in roller hockey.

OBJECTIVES

The aim of this study was to examine the effect of different performance indicators in match outcomes in roller hockey: match location (ML), scoring first (SF), winning at halftime (WH) and wining at halftime for more than one goal (WHG). A secondary objective to compare these variables to identify the most influential in the final outcome.

METHODS

The sample consisted of 240 matches of the First Spanish league (*OkLiga*) in the 2017-2018 season. The dependent variable was match outcome, defined as the goal difference between confronting teams.
Four independent variables were studied: a) WH, b) ML, c) SF and d) WHG. Univariate analysis for each variable in relation to final outcome was performed by means the χ^2 test with Yates correction for categorical variables. Statistical significance was set at $p < 0.05$. Variables were subjected to multivariate analysis with a logistic regression procedure. Odds ratio and 95% confidence intervals were calculated from the beta coefficients and standard errors.

RESULTS

Results from the logistic regression showed that all the match variables considered had a positive impact in the final match outcome. WHG was the strongest predictive variable with an OR value of 10.191. The second was WH (OR = 3.593) followed by SF (OR = 2.289), and ML (OR = 2.085).
In the model, setting cutoff point of 0.420 for predicting winning match resulted in a sensitivity of 0.6897, a specificity of 0.8425, a positive predictive value of 76.50%, a negative predictive value of 78.50%, and a total correct classification of 77.73%

Table 1. Descriptive statistics and percentage of match variables on match outcome.

	Winning n (%)	Not winning n (%)	p
Winning at halftime	141 (76.2)	44 (23.8)	.000**
Score first	150 (62.5)	90 (37.5)	.000**
Match location	117 (49.2)	121 (50.8)	.004**
Winning at halftime for more than one goal	83 (93.3)	6 (6.7)	.000**

**Significant difference between match variable and match outcome; p<.01

Table 2. Results of multivariate analysis. Effects of winning at halftime, scoring first, match location and winning at halftime for more than one goal on the final outcome

	β	SE (β)	Wald	df	p	Odds ratio	OR (95% CI) Lower	OR (95% CI) Upper
Winning at halftime	1.279	.291	19.346	1	.000	3.593	2.032	6.352
Score first	.828	.265	9.777	1	.002	2.289	1.362	3.847
Match location	.735	.222	10.961	1	.001	2.085	1.350	3.221
Winning at halftime for more than one goal	2.322	.479	23.500	1	.000	10.191	3.986	26.053
Intercept	-1.986	.227	76.708	1	.000	.137		

Goodness of fit χ^2 = 3.795; df = 6; p = 0.704
Area under ROC curve = 0.834; Sensitivity = 0.6897; Specificity = 0.8425; VPP = 0.7650; VPN = 0.7850

CONCLUSIONS

These results reinforce the importance of reaching halftime with a favorable score, and winning at halftime for more than one goal is by far a decisive predictor to win the match. In this sense, initial events like scoring the first goal or the halftime result will condition the course of the game.
The analysis of the match variables can provide valuable information to help coaches with the design of the lineups. Additionally, these findings help staff teams to prepare training sessions based on the specificity of a particular stage of the competition or simulate different scenarios. These hypothetical scenarios could be interesting to know the response of each player to deal with these situations, and train the teams how to play under pressure situations.

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