



COMPARISON OF INSTEP KICKING BY PREFERRED LEG AMONG VARIOUS STATES AND INTENSITIES IN YOUNG FOOTBALL PLAYERS.

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INTRODUCTION:

One of the reasons for football being so popular and common worldwide is that players do not necessarily need to have extraordinary level of endurance, strength, power and flexibility but need to possess some level of the abilities to be efficient during a football game (Sporis et al. 2007). One of these abilities is instep kick which is the main offensive action during the game (Kellis, & Katis, 2007). The kicking accuracy is an important component of football performance (Finnoff et al. 2002) and the improvement of football instep kick technique is one of the most important aims of training programs and scientific research. According to Scurr, and Hall (2009), the instep kick has been subject to the majority of biomechanical analysis and research (Barfield et al. 2002; Dorge et al. 2002; Nunome et al. 2002; Shan, & Westerhoff, 2005; Bjelica, 2008; Bjelica et al. 2011). Therefore, the aim of the present study was to compare accuracy of instep kicking by preferred leg depending on the different intensity (optimal and maximal) in a resting state, and in a state of fatigue.

METHODS:

Sample

Twenty football players from the junior premier league volunteered to be subjects. The players' characteristics were: age (yrs) 16.7±0.47, height (cm) 178.91±4.26, and body weight (kg) 71.52±5.13. They had at least seven years experience and they were under the supervision of qualified coaches.

Variables

It was used 4 variables in this study:

Variable 1 (OR)

- Intensity: optimal
- State: resting

Variable 2 (OF)

- Intensity: optimal
- State: fatigue

Variable 3 (MR)

- Intensity: maximal
- State: resting

Variable 4 (MF)

- Intensity: maximal
- State: fatigue

Protocol

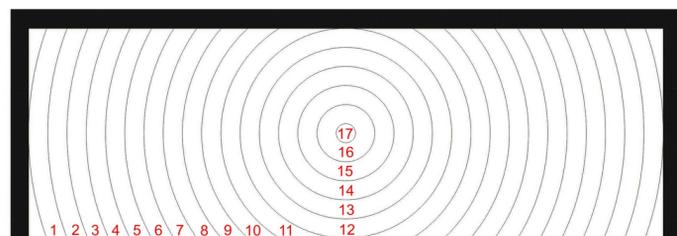
The measurement was conducted by a valid and reliable method for measuring the accuracy of instep kicking (Bjelica, 2008).

It was conducted outdoors on a natural football pitch and all subjects wore their own shorts, t-shirt and football shoes. Following a warm up, stretching exercises and familiarization trials subjects were asked to shoot on target from the distance of 20 meters with preferred leg within four occasions: with optimal and maximal intensities and in a resting state (the respondents had to shoot only if their heart rate is under 90 bpm) and a state of fatigue (he respondents had to shoot as soon as they do ten squats) respectively.

Subjects kicked a total of ten shoots, using a standard size ball, at an outlined target on a steady vertical surface in standard dimensions (7.32 x 2.44 m).

Statistical procedures

Descriptive statistics were the first calculated, and then it was determined whether there was significance with respect to the difference between the mean in every variable recreationally, which was done testing the difference between the mean of independent samples, using the popularly known, t-test which was set at p<0.05.



Picture 1. The target

RESULTS:

Based on the results of this study which were collected by testing 20 representative young footballers who had to shoot on target with preferred leg within four occasions: with optimal and maximal intensities and in a resting state and a state of fatigue respectively, it was affirmed that significant differences occur in the case of almost all the variables as it was expected.

Table 1. Descriptive statistics

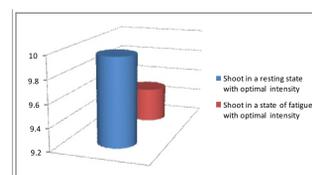
	M	SD	SE	Min	Max	R	Sk.	Ku.
Age (yrs)	16.7	0.47	0.1	16	17	1	-0.94	-1.24
Height (cm)	178.91	4.26	0.95	171.5	188.6	17.1	0.31	0.42
Weight (kg)	71.52	5.13	1.15	64	84	20	0.59	0.24
OR	9.97	3.62	0.26	0	16	16	-0.72	-0.19
OF	9.5	4.31	0.3	0	17	17	-0.93	0.16
MR	6.53	5.23	0.37	0	16	16	0.02	-1.45
MF	6.47	4.96	0.35	0	15	15	-0.05	-1.50

Table 2. Independent t-test

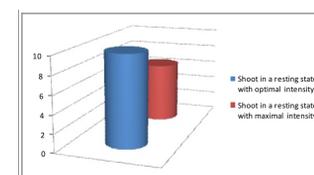
vs.	OR	OF	MR
OF	-0.19		
MR	5.62*	-6.51*	
MF	5.66*	6.22*	0.13

*p<0.05

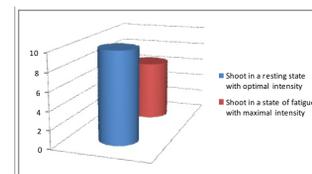
GRAPHS:



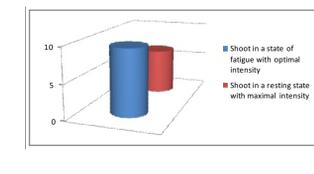
Graph 1. Comparison among a shoot in a resting state with optimal intensity and a shoot in a state of fatigue with optimal intensity



Graph 2. Comparison among a shoot in a resting state with optimal intensity and a shoot in a resting state with maximal intensity

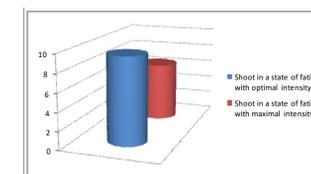


Graph 3. Comparison among a shoot in a resting state with optimal intensity and a shoot in a state of fatigue with maximal intensity

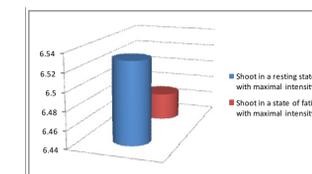


Graph 4. Comparison among a shoot in a state of fatigue with optimal intensity and a shoot in a resting state with maximal intensity

GRAPHS:



Graph 5. Comparison among a shoot in a state of fatigue with optimal intensity and a shoot in a state of fatigue with maximal intensity



Graph 6. Comparison among a shoot in a resting state with maximal intensity and a shoot in a state of fatigue with maximal intensity

CONCLUSION:

1. The respondents showed better result when they do the test for the evaluation of accuracy with optimal intensity versus maximal intensity. The differences between the means were statistically significant in the resting state as well as in the state of fatigue.
2. When we compared the accuracy of preferred leg with optimal intensity depending of the state, the respondents showed better result in the resting state versus the state of fatigue, and we didn't find the statistically significant difference between the means.
3. When we compared the accuracy of preferred leg with maximal intensity depending of the state, the respondents showed better result in the resting state versus the state of fatigue, but we didn't find the statistically significant difference between the means.

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