

BODY MASS LOSS DURING TRAINING AND COMPETITION IN ELITE FUTSAL SPANISH PLAYERS

Tur, C¹, González-Haro, C¹

¹Department of Pharmacology and Physiology, School of Medicine, University of Zaragoza, Spain.

Introduction

It has been proposed that the level of *dehydration* do not impair the exercise performance; rather, it is altered to limit the extent to which the osmolality of the brain increases (Sawka and Noakes, 2007), and the level of *dehydration* even up to -11% body mass might not impair exercise performance in endurance athletes (Sharwood et al., 2004). Therefore, the aim of this study was to determine the level of body mass loss during training and during competition of elite Futsal players.

Methods

Eleven elite Futsal players (age: 30.1 ± 2.8 yrs, experience: 11.1 ± 3.0 yrs, BMI: 23.6 ± 1.5 yrs) of a elite Spanish soccer team drank water ad libitum in 10 consecutive training sessions (IN_T) and in a competition (IN_C). Body mass was measured before (BM_{BT}) and after (BM_{AT}) training and before (BM_{BC}) and after (BM_{AC}) competition. Body mass lost during training (BM_{LT}) and competition (BM_{LC}) was calculated. Comparisons between variables were made by means a Student's t test for paired data. Statistical significance was set at $p < 0.05$.

Results

In spite of no significant differences were shown between IN_T respects to IN_C (584 ± 232 vs. 760 ± 471 mL water; 7.6 ± 3.0 vs. 9.8 ± 6.0 mL water·kg⁻¹·BM⁻¹, respectively), it was shown a decrease for both BM_{BT} respects to BM_{AT} (77.2 ± 6.8 vs. 76.8 ± 6.8 kg, $p < 0.001$, respectively) and BM_{BC} respects to BM_{AC} (77.9 ± 8.2 vs. 76.1 ± 7.9 kg, $p < 0.001$, respectively). BM_{LC} was higher than BM_{LT} (-2.3 ± 0.8 vs. -0.7 ± 0.4 kg, $p < 0.001$, respectively).

Discussion

There are not studies in literature about BM_L of Futsal players. In this study, BM_L was little in training and in competition was over -2%. Edwards et al. (2007) have reported lower BM_L (0.7 %) associated with lower drink intake (5 mL mL·kg⁻¹·BM⁻¹) in soccer players. Other authors have

suggested that the level of *dehydration* even up to -11% BM might not impair exercise performance in the fastest endurance finishers that are often among the most dehydrated (Sharwood et al., 2004). Thus, it exists evidence that genetic factors regulating the thirst response might explain this highly individualistic response (Saunders et al., 2006). In conclusion, drinking ad libitum elite Futsal players prevents the BM_L during training sessions. BM_L during competition was moderate and may be had a little effect on increase in plasma osmolality and on exercise performance.

References

Edwards AM, Mann ME, Marfell-Jones MJ, Rankin DM, Noakes TD, Shillington DP. (2007). Br J Sports Med, 41(6), 385-391.

Saunders CJ, De Milander L, Hew-Butler T, Xenophontos SL, Cariolou MA, Anastas-Siades LC, Noakes TD, Collins M. (2006). Hum Mol Genet, 15(20), 2980-2987.

Sharwood KA, Collins M, Goedecke JH, Wilson G, Noakes TD. (2004). Br J Sports Med, 38(6), 718-724.