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DISCUSSION

Discussion of "Effect of exercise-induced dehydration on circulatory markers of oxidative damage and antioxidant capacity"[1]

Abolfazl Zahedi and Ali Amani-Beni

We read with great interest a recent article by Georgescu et al. (2017) entitled "Effect of exercise-induced dehydration on circulatory markers of oxidative damage and antioxidant capacity". The authors aimed to investigate effects of hydration and rehydration by using sensitive indirect measures of oxidative stress and the antioxidant capacity response. In this study, they evaluated concentrations of plasma osmolality, Trolax equivalent antioxidant capacity (TEAC), and ferric reducing ability of plasma (FRAP) in a sample of athletes during pre-exercise, immediately postexercise, and 1 h after full rehydration. As stated in statistical analysis and also abstract of the article, the authors used 1-way ANOVA to compare differences in means of numerical variables (i.e., concentrations of plasma osmolality, TEAC, and FRAP) of different time-points of measurement. Since they investigated the same sample of participants in each group during different time-points (i.e., pre-exercise, immediately postexercise, and 1 h after full rehydration), their measurements are completely dependent (Farrokhi and Peykanpour 2017a; Farrokhi and Shirian 2017; Farrokhi et al. 2017). ANOVA and Kruskal–Wallis test are used for comparison of the means of more than 2 independent groups (Gaddis 1998; Farrokhi 2017b; Farrokhi and Arjaki 2017; Farrokhi and Peykanpour 2017b). Therefore, after assessment of the normal distribution of studied quantitative variables, including concentrations of plasma osmolality, TEAC, and FRAP, the authors must use repeated-measures ANOVA or Friedman test for comparison of the means of each variable at pre-exercise, immediately postexercise, and 1 h after full rehydration (Farrokhi 2017a; Farrokhi and Amani-Beni 2017). Furthermore, they must use Wilcoxon test and paired t test for comparison of concentrations of plasma osmolality, TEAC, and FRAP between 2 time-points of measurement.

Conflict of interest statement

The authors declare that they have no conflict of interest.

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A. Zahedi. Student Research Committee, Kashan University of Medical Sciences, Kashan, Iran.
A. Amani-Beni. Medical Student, School of Medicine, Isfahan University of Medical Sciences, Isfahan, Iran.
Corresponding author: Ali Amani-Beni (email: amanibeni71@gmail.com).

[1]Appears in Appl. Physiol. Nutr. Metab. **42**(7): 694–699 (2017) [doi:10.1139/apnm-2016-0701].

Appl. Physiol. Nutr. Metab. **43**: 522 (2018) dx.doi.org/10.1139/apnm-2018-0031

Published at www.nrcresearchpress.com/apnm on 3 April 2018.