Journal of Science & Cycling
Breakthroughs in Cycling & Triathlon Sciences

OPEN ACCESS

Conference Abstract

Coconut water; a sports drink alternative?

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Received: 29 March 2023; Accepted: 3 April 2023; Published: 23 October 2023

Abstract: Coconut water is used in replacement of sports drinks for hydration during endurance cycling, however evidence to support it is limited. This study determined if drinking coconut water compared to a sports drink altered cycling performance and physiology. In a randomized cross-over trial, 19 experienced male (n=15) and female (n=4) cyclists (age 30±9 years, body mass 79±11 kg, V O2 peak 55±8 mL.kg-1.min-1) completed two experimental trials consuming either a commercially available sports drink or iso-calorific coconut water during 90 minutes of sub-maximal cycling at 70% of peak power output, followed by a simulated, variable gradient, 20-km time trial. Blood glucose, lactate, sweat loss, and heart rate were monitored throughout 90 minutes of sub-maximal cycling, as well as time trial performance (seconds) and average power (watts). A repeated measures analysis of variance and effect sizes (Cohen's d) analysis were applied. There were no significant differences ($p \geq 0.05$) between treatments for any measured physiological or performance variables. Additionally, effect size analysis showed only trivial ($d \leq 0.2$) differences between treatments for all measured variables, except blood glucose, which was lower in the coconut-water trial compared to the sports drink trial ($d = 0.31$). Consuming coconut water has a similar effect on cycling time trial performance and physiological responses to consuming a commercially available sports drink.

Keywords: coconut water; sodium; potassium; glucose; hydration