Do Sport Beverages Affect Self-Efficacy and Anaerobic Performance?

Gabe Hirsch, John Drop, Robert Kitchen, Corrine Urland, Sally Paulson and William Braun (FACSM). Shippensburg University, Shippensburg PA

Many sports teams and athletes utilize carbohydrate beverages during or prior to participation in exercise sessions. Whether the perceived benefit of sports beverage supplementation translates into enhanced work capacity under anaerobic exercise stress is of interest. **PURPOSE:** The primary purpose of this study was to examine the effects of carbohydrate beverages and self-efficacy on anaerobic performance. **METHODS:** Eight university students (5 male, 3 female, age: 20.63±0.7 yrs.; height: 176.21±10.39 cm; mass: 69.76±12.84 kg) volunteered to participate in this study. All subjects were considered moderately physically active and completed a health history questionnaire and one orientation testing day. The exercise protocol consisted of 10 x 60 sec cycle ergometry sprints (60 sec recovery) with total distance completed measured. Each test was conducted 10 min after consuming the assigned beverage for the day. Subjects completed the same exercise protocol preceded by each of three beverage (300 ml) conditions (placebo control (CON), 3% CHO (CHO-3), and 6% CHO (CHO-6)) on separate days. Treatment order was counterbalanced and drink administration was double-blinded. Distance, RPE, heart rate and self-efficacy were measured after each sprint. Self-efficacy was gauged after each interval by collecting responses to this question: "Your average distance was (distance in km) on your orientation day, what do you think your next distance will be?" **RESULTS:** No significant differences (p>0.05) were shown between average distance traveled for the three drink solutions (CHO-6: 0.651±0.11 km; CHO-3: 0.695±0.06 km; CON: 0.656±0.08 km). Likewise, no significant differences were observed with RPE (CHO-6: 12.9±0.84; CHO-3: 13.26±0.62; CON: 13.4±0.84) or with self-efficacy results among the different beverages. **CONCLUSION:** Despite the common perception that sports beverages may be broadly applied to exercise activities, there is no evidence that they enhance self-efficacy or performance involving interval work.