

Poster presentation

Comparing two sports drinks effects on indices of aerobic performance

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Background

The purpose of this study was to compare the effects of a pre-exercise drink (PRX1) called EM·PACT® to Gatorade® (PRX2) on indices of aerobic performance. A previous study had indicated that ingestion of PRX1 significantly enhanced aerobic performance when compared to a water placebo.

Methods

Twenty-two males ($n = 13$) and females ($n = 9$) ages 20–36 years (23.68 ± 3.91), volunteered as subjects. Each subject performed two VO_{2max} treadmill tests within two weeks of each other. Administration of the trials was double-blinded and randomized with half of the participants ingesting PRX1 during the first trial and PRX2 during their second trial with the product order being reversed for the other subjects performing both exercise trials. In this crossover design, each subject ingested the PRX1 or PRX2 exactly 20 minutes before each exercise bout. VO_{2max} , maximal heart rate (HR), time to exhaustion (Time), respiratory exchange ratio (RER), and fat substrate utilization (%), during graded exercise testing were evaluated.

Results

Using repeated measures ANOVA, results indicated significant mean differences in VO_{2max} ($ml.kg^{-1}.min^{-1}$) between PRX1 (50.65 ± 8.27) and PRX2 (49.18 ± 8.15) trials for the total group ($p = 0.036$), but not among gender ($p > .05$). No significant mean differences in maximal Time (minutes) to exhaustion or HR ($beats.min^{-1}$) were

found between the PRX1 (11.65 ± 1.57 ; 186.41 ± 9.03) and PRX2 (11.54 ± 1.65 ; 185.36 ± 11.03) trials respectively for all subjects as well as for gender ($p > .05$). Significant mean differences in maximal RER were found between the PRX1 ($1.19 \pm .071$) and PRX2 (1.21 ± 0.053) trials for all subjects ($p = 0.026$), but not for gender ($p > 0.05$). Significant mean differences in percent fat substrate utilization were found between PRX1 (61.06 ± 22.05) and PRX2 (54.62 ± 22.14) in stage 1 (3 minutes) and in stage 2 (6 minutes), PRX1 (31.20 ± 17.89) and PRX2 (22.78 ± 16.88) for all subjects ($p < 0.05$), but not for gender ($p > 0.05$) in the treadmill protocol used for this study.

Conclusion

Differences in overall time to exhaustion as well as gender specific values for each variable were not significantly different between the two exercise trials, however; during aerobic exercise bouts, the combined results of this investigation may provide meaningful practical applications for coaches and athletes alike regarding ergogenic hydration options.

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