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Effect of betaine on cycling sprint power

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Purpose

We examined the effect of betaine on cycling sprint performance.

Methods

Sixteen untrained subjects (7 females and 9 males) completed three sprint tests, each consisting of four 12 sec efforts against 5.5% of body weight as resistance; efforts were separated by 2.5 min of cycling at zero resistance. Test one established baseline; test two and three were preceded by daily consumption of 591 ml of a carbohydrate-electrolyte beverage as a placebo or a carbohydrate-electrolyte beverage containing 0.42% betaine. A double blind random order crossover design and a three-week washout between trials were used. Average and maximum peak and mean power were analyzed with one-way repeated measures ANOVA and, where indicated, a Student Newman–Keuls; α was set at 0.05.

Results

Compared to baseline, betaine ingestion increased average peak power (6.4%, $p < 0.001$), max peak power (5.7%, $p < 0.001$), average mean power (5.4%, $p = 0.004$), and max mean power (4.4%, $p = 0.004$) for all subjects combined. Compared to placebo, betaine ingestion significantly increased average peak power (3.4%, $p = 0.026$), max peak power max (3.8%, $p = 0.007$), average mean power (3.3%, $p = 0.034$), and max mean power (3.5%, $p = 0.011$) for all subjects combined. There were no differences between the placebo and baseline trials.

Conclusion

One week of betaine ingestion improved cycling sprint power in untrained males and females.

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