ABSTRACT

Purpose: Tart cherry contains two key antioxidants (anthocyanin and polyphenol) which have been shown prevent and reduce the onset of exercise induced oxidative stress, muscle damage and fatigue. The purpose of this study was to investigate the effects of tart cherry juice on recovery outcomes, metabolic responses, and cardiovascular function in trained cyclists. Methods: This study was a randomized, double-blind, placebo-controlled, cross-over design. Seven participants received 30 ml of tart cherry (TC) juice or a placebo (G) twice a day for seven days with a wash-out period of one month. Participants visited the lab three times during each supplementation period. On day 1, anthropometric measurements were obtained. Participants completed three 10km time trials on days 1, 6, and 7 with blood glucose and lactate measurements obtained pre- and post-trial. Additionally, on day 6 participants completed a 90minute cycling test at 65% max heart rate before the 10km time trial. Blood glucose and lactate measures were obtained at baseline and again at 15,30,60 and 90 minutes. Results: The results showed blood lactate levels decreased after the 90-minute cycling test and increased post 10 km time trial in the TC condition. The 10 km time trial results on the last day of supplementation decreased by 2.4% in the TC condition compared to G condition. Also, heart rate decreased 2.6% bpm and stroke volume increased by 4.5% in TC condition compared to G condition. Conclusion: In conclusion, TC supplementation improved recovery, time trial performance and cardiovascular function among trained cyclists.