NO EFFECT OF ANTHOCYANIN-RICH NEW ZEALAND BLACKCURRANT EXTRACT ON 2000-M INDOOR ROWING PERFORMANCE IN TRAINED MALE ROWERS

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Mark Willems, Stefano Montanari, Tatjana Seymour, Oliver Page

University of Chichester, Institute of Sport, Nursing and Allied Health, Chichester, PO19 6PE, United Kingdom

Email: m.willems@chi.ac.uk

INTRODUCTION

New Zealand blackcurrant extract enhanced 16.1 km ergometer cycling [1], improved intermittent high-intensity treadmill running [2], reduced slowing of the maximal sprint speed during the Loughborough shuttle run test [3], enhanced repeated 4 km time trial cycling [4] and repeated 35 m running sprint performance [5]. However, the effects of nutritional ergogenic aids on exercise performance may depend on the recruitment of muscle mass and unique metabolic and physiological responses of an exercise modality. For example, cycling has lower exercise-induced fat oxidation than rowing. Rowing has lower heart rates than treadmill running at the same relative intensity. Studies have shown that caffeine and beta-alanine affects 2000-m rowing performance.

AIM

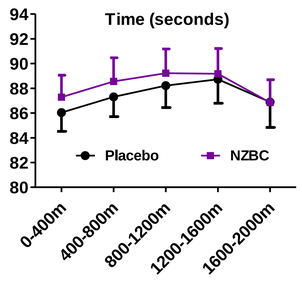
We examined the effect of 7-day intake of New Zealand blackcurrant extract on 2000-m indoor rowing performance in trained indoor rowers.

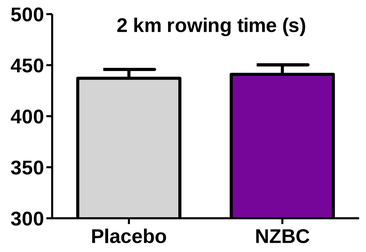
METHODS

Male indoor rowers from University teams (n=14, age: 21±2 years, height: 182±8 cm, mass: 81±14 kg, BMI: 24.3±2.9 kg·m^{-2}, body fat: 14±4%, rowing $\dot{V}O_2$max: 53.7±10.2 ml·kg^{-1}·min^{-1}) volunteered. Participants were familiarized with two maximal efforts of 2000-m (drag factor 120, Concept2, Nottingham, United Kingdom). Testing for each participant was at the same time of day (10 were tested in the morning and 4 in the afternoon). Feedback during rowing was distance and stroke rate. Rowing time and stroke rate were recorded every 400-m sector. Heart rate during rowing was measured every 500-m sector for seven participants.

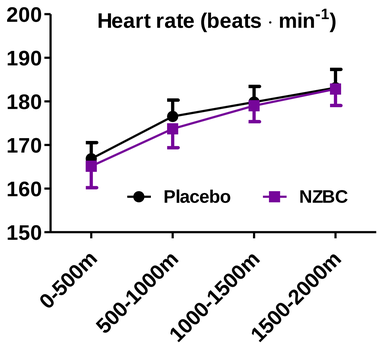
Participants consumed capsulated 600 mg of NZBC extract (210 mg of anthocyanin per day) or placebo for 7 days (randomized, cross-over design). The final capsules were taken 2 hours before testing with intake of a slice of toast and water.

RESULTS

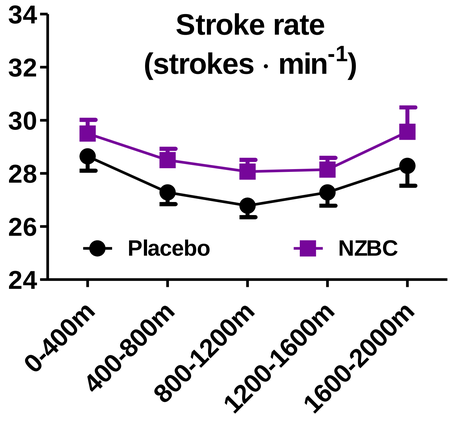




There was no effect of intake of NZBC extract on 400-m sector times and overall times for indoor 2000-m rowing

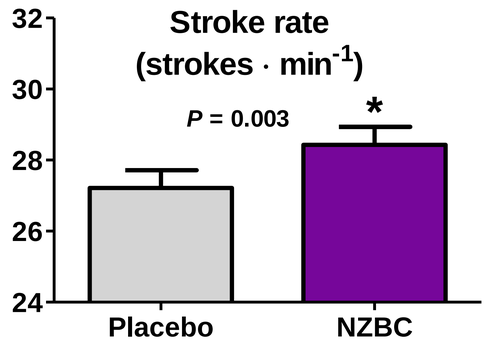


There was no effect of intake of NZBC extract on 500-m heart rate for indoor 2000-m rowing



There seems to be an effect of intake of NZBC extract for an increase in stroke rate throughout indoor 2000-m rowing

RESULTS CONT'D



7-day intake of NZBC extract increased stroke rate for indoor 2000-m rowing

CONCLUSION

For 2000-m indoor rowing, anthocyanin-rich NZBC extract had no effect on the pacing strategy and the total rowing time. NZBC extract allowed a higher stroke rate. During rowing, stroke rate is linked with breathing frequency. Under the assumption that tidal volume did not change in our study, the increased ventilation with NZBC extract may be beneficial for longer distance rowing events. NZBC extract did not affect 2000 rowing performance in male indoor rowers notwithstanding an increased stroke rate.

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