

New Zealand Blackcurrant Extract Supplementation Improves Recovery From

But Not Performance Of Repeated Sprint Ability



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Introduction

Blackcurrants are an excellent source of antioxidant and anti-inflammatory agents which can facilitate performance and recovery in aerobic activities (1 & 2).

Due to limited research existing in intermittent or anaerobic settings we examined the effects of New Zealand Blackcurrant (NZBC) on repeated sprint ability (RSA) and recovery parameters.

Methodology

Twelve recreationally active females supplemented with either NZBC (1.6mg.kg⁻¹ anthocyanin content; ViBERi, Timaru, New Zealand) or a matched placebo (artificial sweetener) for 7 days in a randomized, double-blind, parallel-group design.

On day 7 participants performed the RSA test which consisted of ten 30m shuttle sprints interspersed with a 30 second recovery period. Blood lactate was assessed 1, 3, 5, and 10 minutes post-test. The same protocol was then replicated the following day.

Magnitude based inferences were used for statistical analyses.

Results

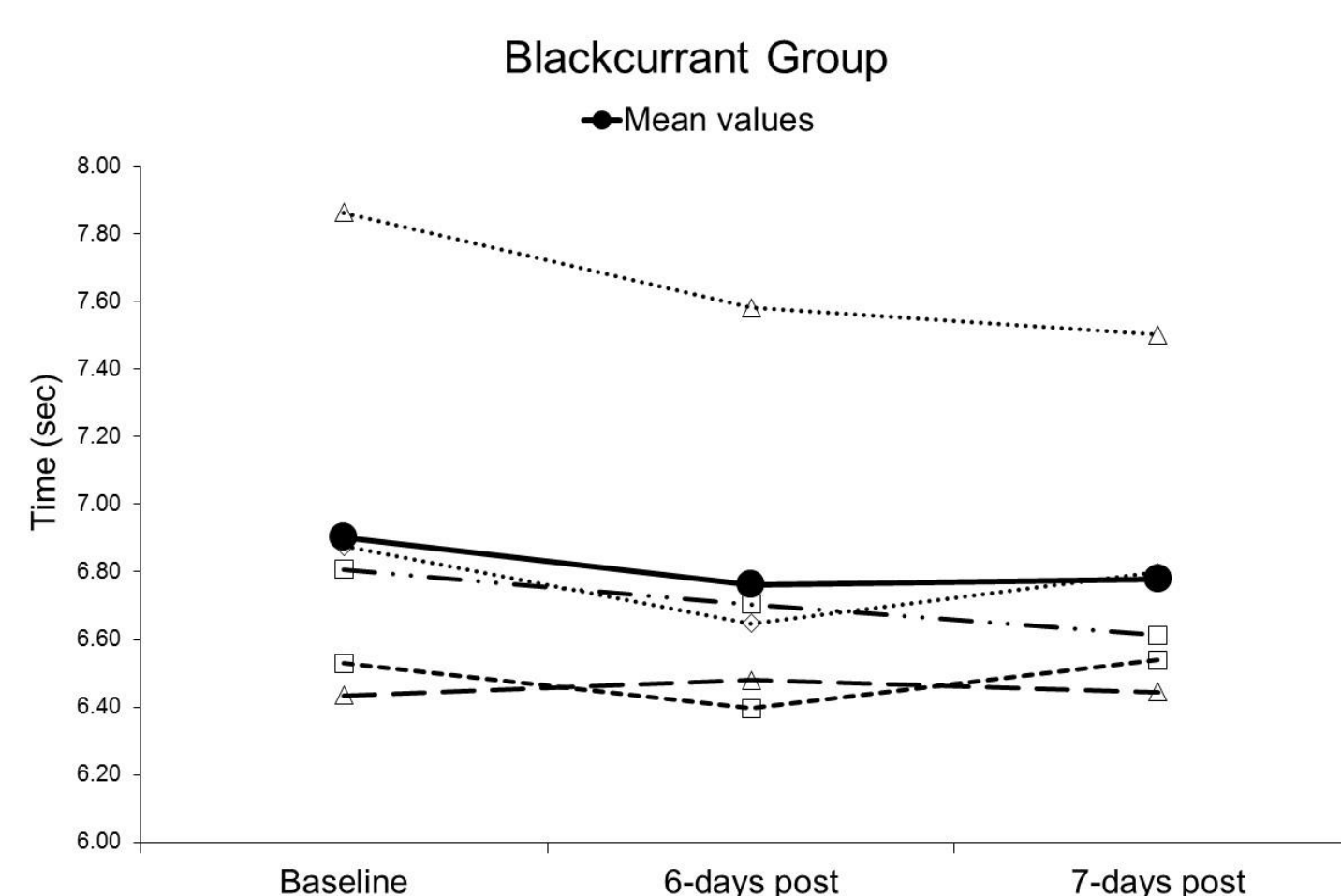


Figure 1: Individual and mean responses in RSA mean sprint time in the NZBC group.

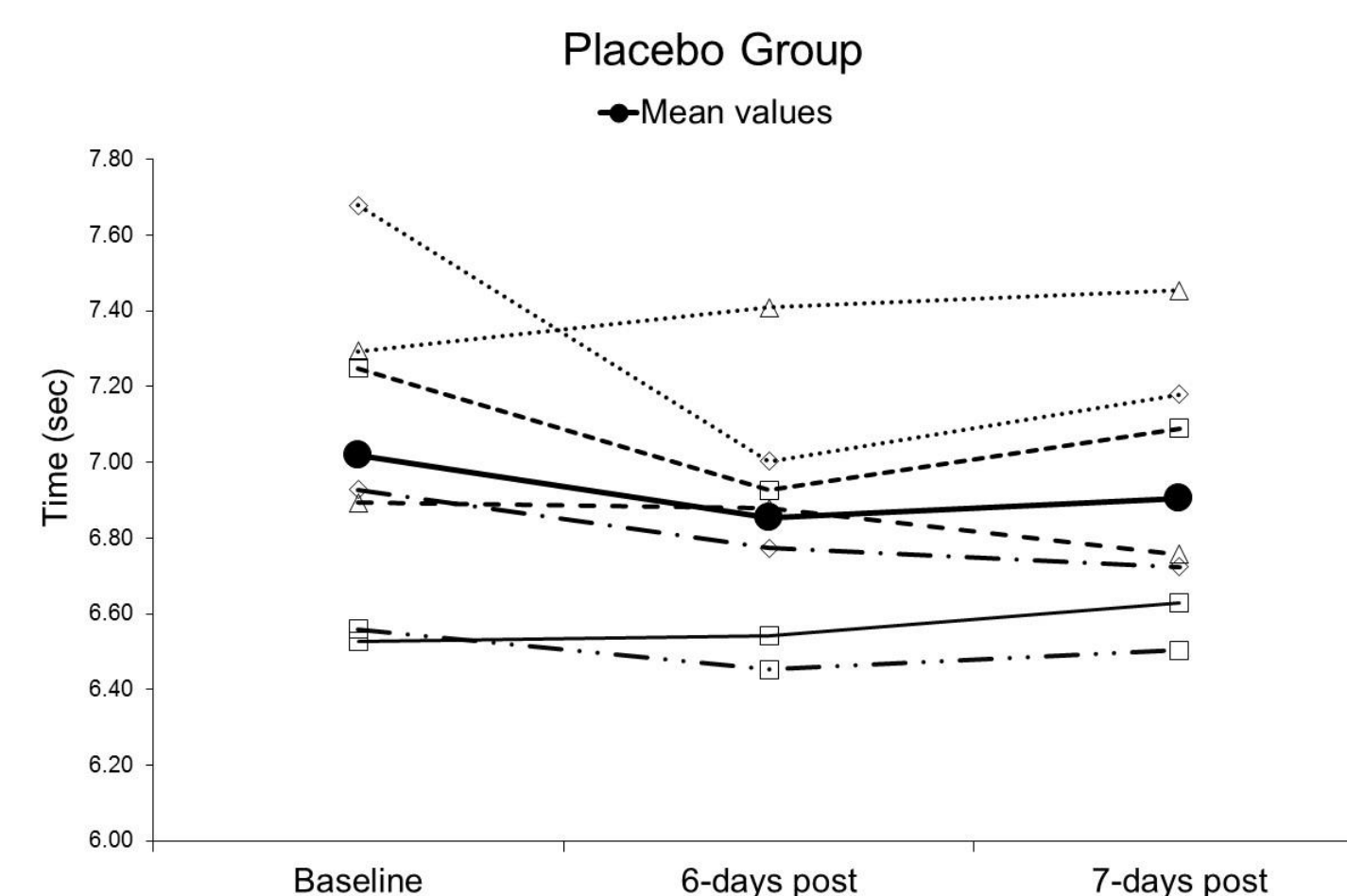


Figure 2: Individual and mean responses in RSA mean sprint time in the Placebo group.

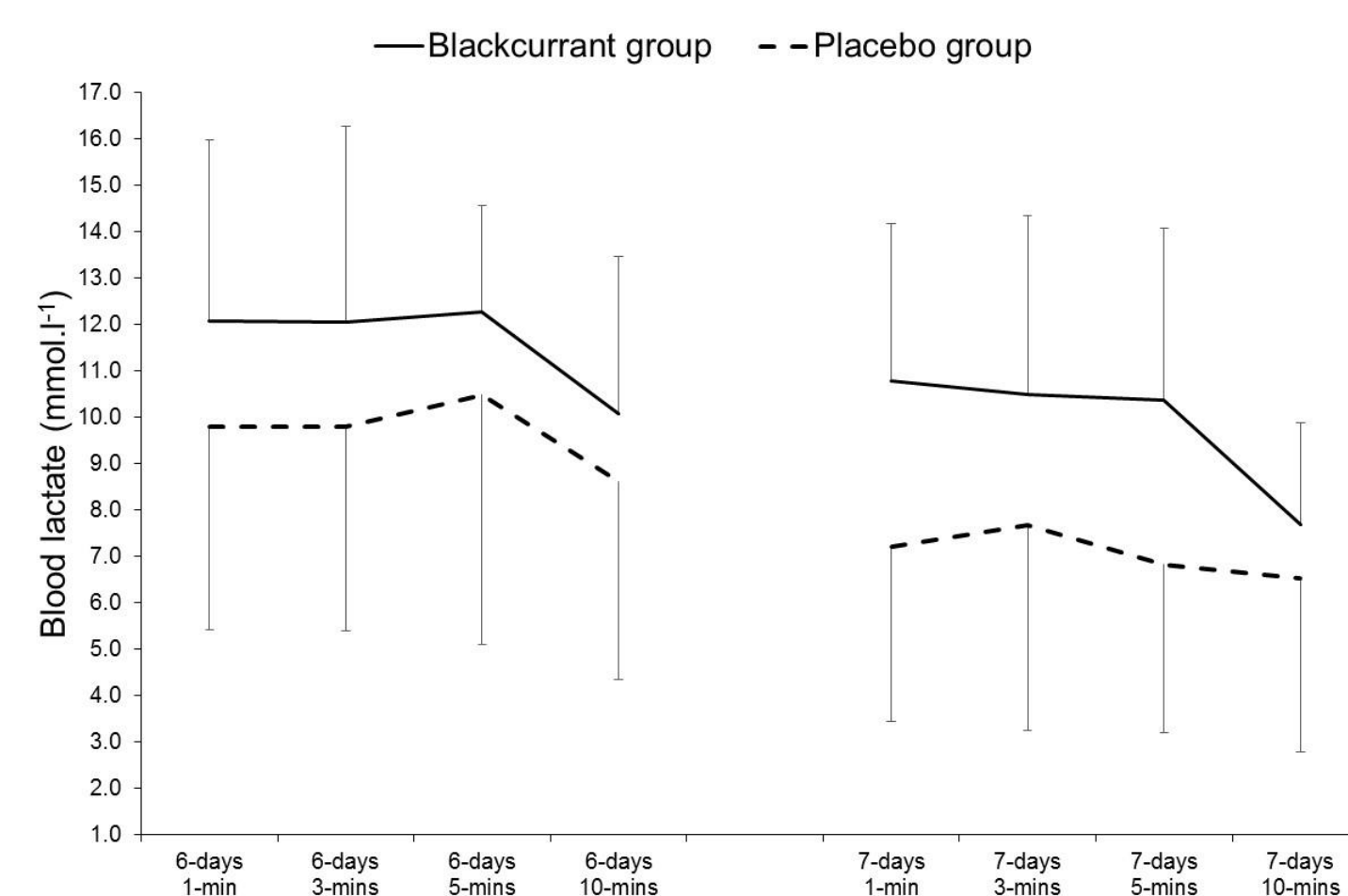


Figure 3: Blood lactate responses post RSA test after 6-days and 7-days of supplementation



RSA performance: NZBC improved mean sprint time from baseline by 2.0% and fastest sprint time by 2.7%. Placebo also improved sprint time by 2.3%.

Compared to the placebo group the NZBC group typically performed better in all RSA test outcomes however the differences were deemed unclear and insignificant.

RSA recovery: Lactate responses post RSA on average tended to be higher on both days for the NZBC group compared to placebo group. A moderate difference (Effect size = -0.64) was observed between groups post 7-days of supplementation for lactate clearance from 5-minutes to 10-minutes post-test with NZBC leading to a significant decrease of 23.7%.

Findings

NZBC supplemented athletes consistently displayed faster mean sprint times than placebo supplemented athletes, although the magnitude of change between groups is similar (Figures 1 & 2).

NZBC supplementation tended to promote higher lactate accumulation during repeated sprints, irrespective of time point (Figure 3).

NZBC supplementation produced a significant reduction of circulating lactate during recovery (between 5 and 10min post-exercise) in a subsequent testing session (Figure 3).

References

- Murphy CA, Cook MD, Willems MET. Effect of New Zealand blackcurrant extract on repeated cycling time trial performance. Sports 5(2):25-31, 2017.
- Willems MET, Myers SD, Gault ML, Cook MD. Beneficial physiological effects with blackcurrant intake in endurance athletes. Int J Sport Nutr Exerc Metab 25(4):367-374, 2015.

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