

EFFECTS OF HONEY (*APIS MELLIFERA* AND *APIS CERANA* SPECIES) SUPPLEMENTATION ON REDUCING BLOOD LACTATE CONCENTRATION IN FUTSAL ATHLETES

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Abstract

Introduction. The purpose of this study was to examine whether 6-week daily consumption of honey from *Apis mellifera* and *Apis cerana* species would affect performance and reduce blood lactate in futsal athletes. **Subjects and Methods.** In this study, 30 male futsal athletes volunteered to be subjects. A group of 15 futsal athletes volunteered for random blind assignment to either an *Apis mellifera* honey (AM) group or an *Apis cerana* honey (AC) group. Each group completed tests pre- and post-supplementation for 20 m sprint test and agility t-test. Additionally, blood lactate was measured before and immediately after the tests. **Results.** Independent t-test revealed significant changes from before to after supplementation in the AC group ($p=0.009$) for lactate post. Conversely, independent t-test revealed no significant changes in the AM group ($p=0.698$) for lactate post. Regarding 20 m sprint performance, there were statistically significant differences for time ($p=0.036$) and group main effects ($p=0.009$). Specifically, independent t-test showed significant changes from before to after supplementation just in the AC group ($p=0.018$). For the t-test, independent t-test revealed significant changes from before to after supplementation in the AC group ($p=0.013$). **Conclusions.** We demonstrated that 1.14 g/kg of *Apis cerana* honey given once a day at breakfast for 6 weeks is more effective in reducing blood lactate concentration and enhancing agility t-test performance than 1.14 g/kg of *Apis mellifera* honey in futsal athletes.

Keyword: blood lactate, muscle function, nutrition, performance.