

ABSTRAK

EFEKTIVITAS PEMBERIAN JUS KOMBINASI MENTIMUN (*Cucumis sativus*) MELON HIJAU (*Cucumis melo L.*) DENGAN PENAMBAHAN MADU TERHADAP PENURUNAN KADAR ASAM LAKTAT PASCA OLAHRAGA ANAEROBIK (Studi Secara *In vivo*)

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Latar Belakang: Asam laktat merupakan hasil sampingan metabolisme anaerobik yang menumpuk setelah aktivitas fisik anaerobik. Mentimun dan melon hijau mengandung kalium dan sitrulin, senyawa yang berperan membantu mempercepat penurunan kadar asam laktat. Penelitian ini bertujuan mengetahui dan membandingkan efektivitas pemberian jus kombinasi mentimun, melon hijau, dan madu terhadap penurunan asam laktat pasca aktivitas anaerobik pada tikus Sprague dawley.

Metodologi: Penelitian menggunakan desain *true experimental* dengan rancangan *pretest-posttest with control group*. Sebanyak 30 ekor tikus jantan usia 6–8 minggu dibagi dalam lima kelompok: K(-) tanpa intervensi, K(+) hanya renang 1 menit, M1 renang 1 menit dan dosis 30:70, M2 renang dan dosis 70:30, M3 renang 1 menit dan dosis 50:50. Asam laktat diukur dari vena ekor menggunakan laktat meter. Data diuji menggunakan saphiro wilk, perbedaan tiap kelompok dianalisis menggunakan one way ANOVA dilanjutkan uji *Post Hoc LSD*.

Hasil Penelitian: Rata-rata asam laktat *based line* sebesar 34,17 mg/dL, meningkat setelah renang menjadi 65,33 mg/dL (K+), 69,67 mg/dL (M1), 64,67 mg/dL (M2), dan 66,67 mg/dL (M3). Setelah pemberian jus, kadar menurun menjadi 29,67 mg/dL (M1), 24,67 mg/dL (M2), dan 37,33 mg/dL (M3).

Kesimpulan: Dosis yang paling menurunkan kadar asam laktat pasca aktivitas anaerobik adalah perlakuan M1 dengan dosis 30:70.

Kata kunci: Anaerobik, Asam Laktat, Kelelahan Otot, Mentimun, Melon Hijau

ABSTRACT

EFFECTIVENESS OF GIVING A COMBINATION JUICE OF CUCUMBER (*Cucumis sativus*) GREEN MELON (*Cucumis melo* L.) WITH ADDITION OF HONEY ON REDUCTION OF ANAEROBIC EXERCISE ACID LAKTAT RATE (In vivo Study)

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Background: Lactic acid is a byproduct of anaerobic metabolism that builds up after anaerobic physical activity. Cucumber and green melon contain potassium and citrulline, compounds that help accelerate the decrease in lactic acid levels. This study aims to determine and compare the effectiveness of giving a combination of cucumber, green melon, and honey juice on reducing lactic acid after anaerobic activity in Sprague dawley rats.

Methodology: The study used a true experimental design with a pretest-posttest with control group design. A total of 30 male rats aged 6-8 weeks were divided into five groups: K(-) without intervention, K(+) only 1-minute swimming, M1 1-minute swimming and 30:70 dose, M2 swimming and 70:30 dose, M3 1-minute swimming and 50:50 dose. Lactic acid was measured from the tail vein using lactate meter. Data were tested using saphiro wilk, differences between groups were analyzed using one way ANOVA followed by Post Hoc LSD test.

Research Results: Mean lactic acid at baseline was 34.17 mg/dL, increasing after swimming to 65.33 mg/dL (K+), 69.67 mg/dL (M1), 64.67 mg/dL (M2), and 66.67 mg/dL (M3). After juice administration, the levels decreased to 29.67 mg/dL (M1), 24.67 mg/dL (M2), and 37.33 mg/dL (M3).

Conclusion: The dose that best reduced lactic acid levels after anaerobic activity was treatment M1 with a dose of 30:70.

Keywords: Anaerobic, Lactic Acid, Muscle Fatigue, Cucumber, Green Melon.