

**PENGARUH PEMBERIAN *SPORT DRINK* “MABEL” FORMULA MADU  
DAN BELIMBING WULUH (*Averrhoa bilimbi*) TERHADAP TEKANAN  
DARAH, SATURASI OKSIGEN (SpO<sub>2</sub>), DAN VOLUME OKSIGEN  
MAKSIMAL (VO<sub>2</sub>Maks) PADA ATLET SEPAK BOLA**

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**ABSTRAK**

**Latar Belakang:** Sepak bola merupakan olahraga dengan intensitas aktifitas fisik tinggi yang mengombinasikan kekuatan, daya tahan, dan kecepatan sehingga memicu pengeluaran keringat yang berlebih dan berisiko mengalami dehidrasi yang dapat menurunkan performa atlet. Perlu adanya pengaturan asupan cairan untuk mencegah terjadinya dehidrasi dengan pemberian minuman berbahan alami yang memiliki kandungan karbohidrat dan elektrolit. Asupan cairan yang cukup akan berdampak terhadap kebugaran jasmani sehingga akan memiliki kemampuan sirkulasi darah, kerja jantung, dan peningkatan daya tahan.

**Tujuan:** Menganalisis pengaruh *sport drink* Mabel (Madu dan Sari Belimbing Wuluh) terhadap tekanan darah, saturasi oksigen, dan volume oksigen maksimal atlet sepak bola dibandingkan dengan isotonik komersial dan air putih.

**Metode:** Jenis penelitian yang digunakan adalah *Quasi Eksperimental* dengan rancangan *pretest-posttest by subject design*. Subjek penelitian adalah SSB KKK dengan rentang usia 14-16 tahun berjumlah 14 orang. Diberikan intervensi berupa *sport drink* Mabel, isotonik komersial, dan air putih sebanyak 250 ml dengan pemberlakuan washout selama 6 hari diantara intervensi yang diberikan. Pengukuran VO<sub>2</sub>Maks dilakukan dengan metode tes balke. Pengukuran tekanan darah dan saturasi oksigen dilakukan 15 menit setelah pengukuran VO<sub>2</sub>Maks. Analisis data menggunakan uji *Paired sampel t-test* dan *Anova* dilanjutkan dengan uji Post hoc LSD.

**Hasil:** Intervensi berupa *sport drink* Mabel berdasarkan hasil uji t berpasangan menunjukkan terdapat perbedaan tekanan darah sistolik (p=0,016) dan diastolik (p=0,008), saturasi oksigen (p=0,035), dan VO<sub>2</sub>Maks (p=0,000). Hasil uji post hoc LSD pada variabel VO<sub>2</sub>Maks terdapat perbedaan bermakna intervensi *sport drink* Mabel dibandingkan air putih (p=0,000).

**Kesimpulan:** Intervensi yang diberikan tidak terdapat perbedaan efektivitasnya terhadap tekanan darah dan saturasi oksigen. Intervensi *sport drink* Mabel dan minuman isotonik komersial dapat meningkatkan VO<sub>2</sub>Maks atlet sepak bola.

Kata Kunci : minuman isotonik, *sport drink* Mabel, tekanan darah, saturasi oksigen, VO<sub>2</sub>Maks

# EFFECT OF SPORT DRINK “MABEL” FORMULA HONEY AND STARFRUIT (*Averrhoa bilimbi*) TO BLOOD PRESSURE, OXYGEN SATURATION, AND MAXIMUM OKSYGEN VOLUME (VO<sub>2</sub>Max) OF FOOTBALL ATHLETES

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## ABSTRACT

**Background:** Football is a sport with a high intensity of physical activity that combines strength, endurance, and speed so that it triggers excessive sweating and is at risk of dehydration which can reduce athlete performance. It is necessary to regulate fluid intake to prevent dehydration by providing natural drinks that contain carbohydrates and electrolytes. Adequate fluid intake will have an impact on physical fitness so that it will have the ability to circulate blood, work the heart, and increase endurance.

**Purpose:** Analysing the effect of Mabel's sport drink (honey and star fruit juice) on blood pressure, oxygen saturation, and maximal oxygen volume of soccer athletes compared to commercial isotonic and plain water.

**Method:** The type of research used is Quasi Experimental with pretest-posttest design by subject design. The research subjects were SSB KKK with an age range of 14-16 years totalling 14 people. An intervention was given in the form of a Mabel sport drink, commercial isotonic, and 250 ml of water with a washout for 6 days between the interventions given. The measurement of VO<sub>2</sub>Max was carried out using the balke test method. Measurements of blood pressure and oxygen saturation were carried out 15 minutes after measuring VO<sub>2</sub>Max. Data analysis using paired sample t-test and Anova test followed by Post hoc LSD test.

**Result:** Intervention in the form of a Mabel sports drink based on the results of the paired t test showed that there was a difference in systolic (p=0.016) and diastolic (p=0,008) blood pressure, oxygen saturation (p=,035), and VO<sub>2</sub>max (p=0,000). The results of the post hoc LSD test on the VO<sub>2</sub>max variable showed a significant difference between Mabel's sport drink intervention compared to water (p=0,000).

**Conclusion:** There was no difference in the effectiveness of the interventions given to blood pressure and oxygen saturation. Mabel's sports drink intervention and commercial isotonic drinks can increase the VO<sub>2</sub>max of soccer athletes.

**Keywords:** isotonic drink, Mabel sport drink, blood pressure, oxygen saturation, VO<sub>2</sub>max