Abstrak

HUBUNGAN ASUPAN PROTEIN, ASUPAN LEMAK, ASUPAN KARBOHIDRAT, DAN PERSEN MASSA OTOT TERHADAP VO_2 *MAX* PADA *RECREATIONAL RUNNER* DI KOMUNITAS *FUN RUN* PURWOKERTO

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Latar Belakang: *Recreational runner* adalah individu yang melakukan aktivitas lari dengan intensitas terbatas untuk tujuan kesehatan.Performa dalam lari dipengaruhi oleh komposisi tubuh dan asupan makan. Peningkatan partisipasi kelompok ini belum diiringi oleh banyaknya penelitian di Indonesia yang mengkaji hubungan asupan zat gizi makro dan komposisi tubuh dengan VO_2 *max.* Penelitian ini bertujuan untuk mengetahui hubungan asupan protein, asupan lemak, asupan karbohidrat, dan persen massa otot terhadap VO_2 *max* pada *recreational runner* di komunitas *Fun Run* Purwokerto.

Metodologi: Penelitian ini menggunakan desain *cross-sectional* dengan responden *recreational runners* sebanyak 45 orang. Pengambilan data menggunakan form *food recall* 2x24 jam untuk mengukur asupan protein, lemak, dan karbohidrat; timbangan BIA untuk mengukur persen massa otot; dan *balke test* untuk mengukur VO_2 *max*. Analisis bivariat menggunakan uji korelasi *Pearson Product Moment* dan *Rank Spearman*.

Hasil Penelitian: Tidak terdapat hubungan antara asupan protein (p = 0,185) dan asupan lemak (p = 0,681) dengan VO_2 *max*. Sebaliknya, asupan karbohidrat (p = 0,039) dan persen massa otot (p = 0,005) memiliki hubungan dengan VO_2 *max* pada *recreational runner* di komunitas *Fun Run* Purwokerto.

Kesimpulan: Tidak terdapat hubungan antara asupan protein dan asupan lemak terhadap VO_2 *max,* sedangkan terdapat hubungan antara asupan karbohidrat dan persen massa otot terhadap VO_2 *max* pada pada *recreational runner* di komunitas *Fun Run* Purwokerto.

Kata Kunci: asupan karbohidrat, asupan lemak, asupan protein, persen massa otot, VO_2 *max*

Abstract

THE RELATIONSHIP BETWEEN PROTEIN INTAKE, FAT INTAKE, CARBOHYDRATE INTAKE, AND MUSCLE MASS PERCENTAGE WITH VO_2 *MAX* IN RECREATIONAL RUNNER IN THE FUN RUN PURWOKERTO COMMUNITY

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Background: Recreational runners are individuals who engage in running activities at limited intensity primarily for health purposes. Running performance is influenced by body composition and dietary intake. Despite the rising participation in this group, research in Indonesia examining the relationship between macronutrient intake and body composition with VO_2 max remains limited. This study aims to investigate the associations of protein intake, fat intake, carbohydrate intake, and muscle mass percentage with VO_2 max among recreational runners in the Fun Run Purwokerto community.

Methodology: This study employed a cross-sectional design with 45 recreational runner respondents. Data collection included a 2×24-hour food recall questionnaire to assess protein, fat, and carbohydrate intake; bioelectrical impedance analysis (BIA) scale to measure muscle mass percentage; and the Balke treadmill test to estimate VO_2 max. Bivariate analysis was conducted using Pearson product-moment correlation and Spearman rank correlation tests.

Results: No significant associations were found between protein intake ($p = 0.185$) or fat intake ($p = 0.681$) and VO_2 max. In contrast, carbohydrate intake ($p = 0.039$) and muscle mass percentage ($p = 0.005$) showed significant associations with VO_2 max among recreational runners in the Fun Run Purwokerto community.

Conclusion: No associations exist between protein or fat intake and VO_2 max, whereas carbohydrate intake and muscle mass percentage are associated with VO_2 max among recreational runners in the Fun Run Purwokerto community.

Keywords: carbohydrate intake, fat intake, protein intake, muscle mass percentage, VO_2 max