

Hubungan Antara Asupan Zat Gizi Makro dan Komposisi Lemak Tubuh terhadap Kekuatan dan Daya Tahan Otot pada Pemain Sepak Bola Unit Kegiatan Mahasiswa (UKM) di Daerah Istimewa Yogyakarta

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INTISARI

Latar Belakang : Sepak bola merupakan olahraga yang membutuhkan keterampilan dan kebugaran fisik optimal. Kebugaran fisik yang sangat berperan dalam permainan sepak bola adalah kekuatan dan daya tahan otot tungkai. Kekuatan otot tungkai yang baik diperlukan agar mampu melakukan aktivitas selama bertanding seperti menendang, melompat, menggiring, serta mengumpan bola. Sedangkan daya tahan otot tungkai diperlukan agar pemain mampu bermain selama 90 menit di lapangan. Kebugaran fisik seorang pemain bola dipengaruhi oleh asupan zat gizi sebagai pemasok energi saat bertanding. Selain itu, juga dipengaruhi oleh komposisi lemak tubuh. Belum ada penelitian yang mengkaji hubungan asupan zat gizi makro dan komposisi lemak tubuh terhadap kekuatan dan daya tahan otot tungkai.

Tujuan : Mengetahui hubungan antara asupan zat gizi makro dan komposisi lemak tubuh terhadap kekuatan dan daya tahan otot pada pemain sepak bola Unit Kegiatan Mahasiswa (UKM) di Daerah Istimewa Yogyakarta.

Metode Penelitian : Penelitian ini merupakan penelitian *cross sectional* dengan rancangan observasional. Subjek penelitian adalah 66 pemain sepak bola UKM yang dipilih menggunakan teknik *purposive sampling*. Data asupan gizi makro diperoleh dengan metode *food recall* 3 x 24 jam, dan diolah menggunakan aplikasi *nutrisurvey*. Data komposisi lemak tubuh diperoleh dengan melakukan pengukuran menggunakan alat *Bioelectrical Impedance Analysis* (BIA). Data kekuatan otot diukur menggunakan alat *leg dynamometer*. Data daya tahan otot diukur menggunakan tes *squat*. Analisis hubungan antara asupan zat gizi makro dan komposisi lemak tubuh terhadap kekuatan dan daya tahan otot tungkai dilakukan menggunakan uji korelasi Pearson.

Hasil : Rerata asupan zat gizi makro subjek sebesar 1568,62±343,31 kkal energi, 52,44±23,14 gram protein, 54,09±14,36 gram lemak, dan 218,63±53,76 karbohidrat gram. Rerata persen lemak tubuh pemain sebesar 15,99±4,18%, lemak subkutan *whole body* 11,55±3,14%, subkutan *trunk* 9,93±3,03%, subkutan *legs* 16,79±3,99%, dan subkutan *arms* 17,71±3,55%. Berdasarkan analisis korelasi, tidak terdapat hubungan signifikan antara asupan zat gizi makro dan komposisi lemak tubuh terhadap kekuatan dan daya tahan otot tungkai. Terdapat hubungan yang bermakna antara jenis dan frekuensi latihan terhadap kekuatan otot tungkai.

Kesimpulan : Tidak terdapat hubungan antara asupan zat gizi makro dan komposisi tubuh terhadap kekuatan dan daya tahan otot tungkai pada pemain sepak bola Unit Kegiatan Mahasiswa (UKM) di DIY.

Kata kunci : asupan zat gizi makro, komposisi lemak tubuh, kekuatan otot tungkai, daya tahan otot tungkai

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***Association between Macro Nutrient Intake and Body Fat Composition with
Muscle Strength and Endurance in Student Football Player at Daerah
Istimewa Yogyakarta***

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ABSTRACT

Background : *Football requires optimal skills and fitness. The role of physical fitness in football are legs muscle strength and endurance. A good muscle strength is required to be able to perform some activities during match such as kicking, jumping, herding, and passing the ball. While legs muscle endurance is required by football players to play for 90 minutes in the field. The physical fitness of football players are influenced by the intake of nutrients as an energy supplier during the match. Physical fitness also influenced by body fat composition.*

Objective : *To define the relationship between macro nutrients intake and body fat composition with muscular strength and endurance in student football players at Daerah Istimewa Yogyakarta.*

Method : *This was a cross-sectional analytic study with observational design. The study subjects were 66 football students selected using purposive sampling technique. Data of macro nutrients intake was obtained by food recall method 3x24 hours, and processed using nutrisurvey application. Body fat composition data was obtained by measuring using Bioelectrical Impedance Analysis (BIA) tool. The muscle strength data was measured using a leg dynamometer tool. Muscle endurance data was measured using a squat test. An analysis of the relationship between macro nutrient intake and body fat composition on leg muscle strength and endurance was performed using Pearson correlation test.*

Results : *The mean of macro nutrients were 1568,62 ± 343,31 kcal of energy, 52,44 ± 23,14 grams protein, 54,09 ± 14,36 grams of fat, and 218,63 ± 53,76 grams carbohydrate. The mean of body fat percentage were 15,99 ± 4,18%, whole body subcutaneous fat 11,55 ± 3,14%, subcutaneous trunk 9,93 ± 3,03%, subcutaneous legs 16,79 ± 3,99%, and subcutaneous arms 17.71 ± 3.55%. Based on correlation analysis, there is no significant relationship between macro nutrients intake and body fat composition on leg muscle strength and endurance. There is a significant relationship between the type and frequency of exercise on leg muscle strength.*

Conclusion : *There is no significant relationship between macro nutrient intake and body fat composition with muscular strength and endurance in student football player. There is a significant relationship between the type and frequency of exercise on leg muscle strength.*

Key words : *macro nutrient intake, body fat composition, muscle strength, muscle endurance*

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