Hubungan Rasio Persentase Asupan Protein-Karbohidrat (%E P:C) dengan Resistensi Insulin dan Komposisi Tubuh pada Pasien Polycystic Ovary Syndrome (PCOS) Di Yogyakarta

Lintang Sekaring Athy[1], Tony Arjuna[2], Agung Dewanto[3]

ABSTRAK

Latar Belakang: PCOS merupakan gangguan endokrin yang terjadi pada 8-13% wanita usia subur di dunia. PCOS memiliki kaitan yang erat dengan resistensi insulin serta perubahan komposisi tubuh. Kondisi tersebut perlu dikontrol dengan peraturan jenis makan. Jenis makan dapat dinilai melalui %E P:C untuk melihat komposisi dan kualitas diet.
Tujuan: Penelitian ini secara umum bertujuan untuk mengetahui adakah hubungan antara rasio persentase asupan protein-karbohidrat dengan resistensi insulin dan komposisi tubuh pada pasien PCOS di Yogyakarta.
Metode: Penelitian ini menggunakan desain *cross-sectional* dan dilaksanakan pada bulan Mei hingga awal Juli 2025. Subjek penelitian direkrut dari Klinik IVF RSKIA Sadewa dan komunitas PCOS Fighter Yogyakarta. Asupan zat gizi diperoleh melalui SQ-FFQ tiga bulan terakhir dan komposisi tubuh diukur menggunakan BIA Tanita 545N. Data komposisi tubuh dianalisis pada 30 subjek, sedangkan data HOMA-IR dianalisis pada 10 subjek. Uji korelasi *Spearman* digunakan untuk menganalisis hubungan antar variabel.
Hasil: Sebanyak 30 subjek memenuhi kriteria inklusi. Hasil analisis HOMA-IR pada 10 subjek menunjukkan hasil r = 0,399; p = 0,254. Sedangkan analisis pada 30 subjek dengan persentase lemak tubuh menunjukkan hasil r = 0,086; p = 0,650, dan pada persentase massa otot menunjukkan r = –0,383; p = 0,037.
Kesimpulan: Tidak terdapat hubungan yang bermakna antara %E P:C dengan HOMA-IR pada pasien PCOS. Tidak terdapat hubungan yang bermakna antara %E P:C dengan persentase lemak tubuh pada pasien PCOS. Namun, terdapat hubungan negatif bermakna antara %E P:C dengan massa otot pada pasien PCOS.

Kata Kunci: PCOS; rasio protein:karbohidrat; HOMA-IR; massa otot; persen lemak

[1] Program Studi Sarjana Gizi, Fakultas Kedokteran, Kesehatan Masyarakat, dan Keperawatan, Universitas Gadjah Mada
[2] Departemen Gizi, Fakultas Kedokteran, Kesehatan Masyarakat, dan Keperawatan, Universitas Gadjah Mada
[3] Departemen Obstetri dan Ginekologi, Fakultas Kedokteran, Kesehatan Masyarakat, dan Keperawatan, Universitas Gadjah Mada

The Relationship of Protein-to-Carbohydrate Ratio (%E P:C) with Insulin Resistance and Body Composition on Polycystic Ovary Syndrome (PCOS) Patients in Yogyakarta

Lintang Sekaring Athy[1], Tony Arjuna[2], Agung Dewanto[3]

ABSTRACT

Background: PCOS is an endocrine disorder that occurs in 8-13% woman of reproductive age worldwide. PCOS is associated with insulin resistance and changes in body composition. These conditions need to be controlled by dietary regulation. Diet type can be assessed through %E P:C to see the composition and quality of the diet.
Objective: This study generally aims to determine whether there is a relationship between the percentage ratio of protein-carbohydrate intake with insulin resistance and body composition in PCOS patients in Yogyakarta.
Methods: This study used a cross-sectional design and was conducted from May to early July 2025. The subjects were recruited from IVF Clinic of RSKIA Sadewa and PCOS Fighter community of Yogyakarta. Nutrient intake was obtained through SQ-FFQ in the last three months and body composition was measured using BIA Tanita 545N. Body composition data were analyzed on 30 subjects, while HOMA-IR data were analyzed on 10 subjects. Spearman correlation test was used to analyze the relationship between variables.
Results: A total of 30 subjects met the inclusion criteria. The results of the HOMA-IR analysis on 10 subjects showed the results of r = 0.399; p = 0.254. While the analysis on 30 subjects with body fat percentage showed the results of r = 0.086; p = 0.650, and on the percentage of muscle mass showed r = -0.383; p = 0.037.
Conclusion: There is no significant relationship between %E P:C and HOMA-IR in PCOS patients. There is no significant relationship between %E P:C and body fat percentage. However, there was a significant negative association between %E P:C and muscle mass in PCOS patients.

Keyword: PCOS; protein-to-carbohydrate ratio; HOMA-IR; muscle mass; body fat percentage

[1] Bachelor of Nutrition Study Program, Faculty of Medicine, Public Health, and Nursing, Gadjah Mada University
[2] Department of Nutrition, Faculty of Medicine, Public Health, and Nursing, Gadjah Mada University
[3] Department of Obstetrics and Gynecology, Faculty of Medicine, Public Health and Nursing, Gadjah Mada University