

Association of Planetary Health Diet Index with Waist Circumference and Fasting Blood Glucose Among Minang and Sundanese Women in Indonesia = Hubungan antara Planetary Health Diet Index dengan Lingkar Pinggang dan Gula Darah Puasa pada Wanita Minang dan Sunda di Indonesia

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Abstrak

Latar Belakang: Peningkatan prevalensi diabetes melitus tipe 2 dan obesitas sentral di Indonesia merupakan tantangan besar bagi kesehatan masyarakat, terutama bagi wanita. Lingkar pinggang dan glukosa darah puasa adalah indikator kunci kesehatan metabolik. Studi ini memeriksa hubungan antara Planetary Health Diet Index (PHDI) dan indikator-indikator tersebut di antara wanita Minang dan Sunda di Indonesia.

Metode: Data dari studi cross-sectional "Diets, Metabolic Profiles, and Gut Microbiota Among Indonesian Women in Minang and Sundanese-ethnic Communities" digunakan. Asupan makanan dinilai menggunakan kuesioner frekuensi makanan semi-kuantitatif (FFQ), dan PHDI dihitung serta divalidasi. Pengukuran antropometrik termasuk BMI, lingkar pinggang, dan kadar glukosa darah puasa dicatat, dengan kadar glukosa diukur menggunakan metode kolorimetri glukosa oksidase. Usia, aktivitas fisik, etnis, dan area tempat tinggal dievaluasi melalui kuesioner. Analisis regresi linier disesuaikan dengan faktor pengganggu: usia, BMI, etnis, dan area tempat tinggal untuk lingkar pinggang; dan usia, BMI, serta lingkar pinggang untuk glukosa darah puasa.

Hasil: Tidak ada hubungan signifikan antara PHDI dengan lingkar pinggang maupun kadar glukosa darah puasa. Setelah disesuaikan dengan faktor pengganggu, umbi-umbian dan kentang (adjusted = 0,288, p = 0,014) serta produk susu (adjusted = 0,755, p = 0,022) secara signifikan berkorelasi positif dengan lingkar pinggang. Asupan buah secara signifikan berkorelasi positif dengan kadar glukosa darah puasa (adjusted = 0,973, p = 0,046).

Kesimpulan: Studi ini menunjukkan bahwa meskipun PHDI secara keseluruhan tidak menunjukkan hubungan signifikan dengan lingkar pinggang atau kadar glukosa darah puasa, komponen diet spesifik seperti umbi-umbian dan kentang, serta produk susu berhubungan dengan lingkar pinggang yang lebih besar. Selain itu, asupan buah yang lebih tinggi berhubungan dengan peningkatan kadar glukosa darah puasa. Temuan ini menekankan perlunya intervensi diet pada komponen makanan spesifik dalam PHDI untuk meningkatkan kesehatan metabolik yang lebih baik pada wanita Indonesia.

.....**Background:** The rising prevalence of type 2 diabetes mellitus and central obesity in Indonesia presents major public health challenges, especially for women. Waist circumference and fasting blood glucose are key indicators of metabolic health. This study examines the link between the Planetary Health Diet Index (PHDI) and these indicators among Minang and Sundanese women in Indonesia.

Methods: Data from the cross-sectional study "Diets, Metabolic Profiles, and Gut Microbiota Among

Indonesian Women in Minang and Sundanese-ethnic Communities" were used. Dietary intake was assessed using a semi-quantitative food frequency questionnaire (FFQ), and the PHDI was calculated and validated. BMI, waist circumference, and fasting blood glucose levels were recorded, with glucose levels measured using a glucose oxidase colorimetric method. Age, physical activity, ethnicity, and living area were evaluated through questionnaires. Linear regression analysis was adjusted for confounders: age, BMI, ethnicity, and living area for waist circumference, and age, BMI, and waist circumference for fasting blood glucose.

Results: There is no significant association between PHDI with either waist circumference and fasting blood glucose levels. After adjusting for confounders, tubers and potatoes (adjusted β = 0.288, p = 0.014) and dairy (adjusted β = 0.755, p = 0.022) were significantly positively correlated with waist circumference. Fruit intake was significantly positively correlated with fasting blood glucose levels (adjusted β = 0.973, p = 0.046).

Conclusions: The study highlights that while the overall PHDI did not show a significant association with waist circumference or fasting blood glucose levels, specific dietary components such as tubers and potatoes, and dairy were linked to larger waist circumference. Additionally, higher fruit intake was associated with increased fasting blood glucose levels. These findings emphasize the need for targeted dietary interventions focusing on specific food components within the PHDI to improve metabolic health outcomes among Indonesian women.