HUBUNGAN ANTARA ANTROPOMETRI DENGAN KADAR ADIPONEKTIN DAN KADAR *C-REACTIVE PROTEIN*
Studi pada Penderita Diabetes Melitus Tipe 2

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ABSTRAK

Latar belakang: Beberapa parameter antropometri yaitu lingkar pinggang (LP), indeks masa tubuh (IMT), *waist to hip ratio* (WHR) dan *waist to heigh ratio* (WHtR) digunakan untuk pengukuran lemak tubuh dan merupakan faktor predikor diabetes melitus (DM). Adiponektin merupakan adipokin yang terkait dengan metabolisme lemak serta resistansi insulin. Sitokin proinflamasi dari jaringan adiposit dapat meningkatkan produksi protein fase akut diantaranya adalah *C-reactive protein* (CRP).

Tujuan: Membuktikan hubungan antara parameter antropometri dengan adiponektin dan CRP pada penderita diabetes melitus tipe 2 (DMT2).

Metode: Penelitian observasional analitik dengan pendekatan belah lintang pada 46 pasien dengan usia 48-78 tahun di bulan Desember 2022 – Januari 2023. Indeks massa tubuh (IMT), WHR dan WHtR dihitung secara manual. Pengukuran adiponektin dengan metode *enzyme linked immunosorbent assay* (ELISA), sedangkan CRP dengan immunoturbidimetri flourosensi. Hubungan antar variabel dianalisis dengan *Pearson* dan *Spearman Test* ($p < 0,05$).

Hasil: Analisis statistik menunjukkan hubungan negatif lemah antara IMT (p=0,039 ; r =-0,306) ,WHR (p =0,000 ; r=-0,541) dengan kadar adiponektin, dan negatif sedang antara WHtR (p =0,017; r=-0,351) dengan kadar adiponektin , serta hubungan positif lemah antara IMT (p= 0,046 ; r =0,296),WHR (p=0,033 ; r =0,315) dan WHtR (p=0,033 ; r =0,315) dengan kadar CRP.

Simpulan: Terdapat hubungan negatif antara nilai IMT, WHR dan WHtR dengan kadar adiponektin dan terdapat hubungan positif antara nilai IMT, WHR dan WHtR dengan kadar CRP.

Kata Kunci: Diabetes mellitus tipe-2, antropometri, IMT, WHR, WHtR, adiponektin

CORRELATION BETWEEN ANTHROPOMETRY WITH ADDIPONECTIN AND C - REACTIVE PROTEIN
Studies on Patients with Diabetes Mellitus Type 2

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ABSTRACT

Background: Several anthropometric parameters, waist circumference (WC), body mass index (BMI), waist to hip ratio (WHR) and waist to height ratio (WHtR) are used to measure body fat and predictive factors for diabetes mellitus (DM). Adiponectin is an adipokine associated with fat metabolism and insulin resistance. Proinflammatory cytokines from adipocytes can increase the production of acute phase proteins including C-reactive protein (CRP).

Purpose: To determine the correlation between anthropometry with adiponectin and CRP in type-2 diabetes mellitus (T2DM).

Methods: The study was conducted as an analytical observational study using a cross-sectional design approach on 46 patients aged 48-78 years in December 2022 – January 2023. Body mass index (BMI), WHR, and WtR were calculated manually. Adiponectin was measured by enzyme linked immunosorbent assay (ELISA) method, while CRP was measured by fluorescence immunoturbidimetry. Correlation between variables were analyzed with Pearson and Spearman test <0.05).

Results: Analysis statistics showed a weak negative correlation between BMI (p=0.039 ; r=-0.306), WHR (p=0.000 ; r=-0.541) with adiponectin, and a medium negative correlation between WHtR (p=0.017; r=-0.351), with adiponectin, as well as a weak positive correlation between BMI (p=0.046 ; r=0.296), WHR (p=0.033 ; r=0.315) and WHtR (p=0.033 ; r=0.315) with CRP levels.

Conclusion: There is negative correlation between BMI, WHR, WHtR with adiponectin, and positive correlation between BMI, WHR and WHtR with CRP

Keywords: Type-2 diabetes mellitus, anthropometry, BMI, WHR, WHtR , adiponectin, CRP