KORELASI LINGKAR PINGGANG DAN DERAJAT LEMAK VISERAL DENGAN INDEKS ATEROGENIK PLASMA PADA KARYAWAN UNIVERSITAS GADJAH MADA

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ABSTRAK

Latar Belakang: Penyakit kardiovaskular berkontribusi terhadap 43,6% dari 41 juta mortalitas global akibat penyakit tidak menular (PTM), sedangkan penyakit jantung koroner menempati peringkat atas pemicu mortalitas di Indonesia. Diagnosis yang terlambat berisiko memperburuk progresivitas penyakit. Tempat kerja merupakan setting ideal untuk mengendalikan PTM. *Medical check up* sebagai skrining kesehatan telah diberlakukan kepada karyawan UGM, tetapi belum terdapat analisis terkait profil antropometri dan biokimia yang berpotensi menjadi biomarker penyakit kardiovaskular dan metabolik.
Tujuan: Mengetahui korelasi antara lingkar pinggang dan derajat lemak viseral dengan Indeks Aterogenik Plasma (IAP) pada karyawan Universitas Gadjah Mada.
Metode: Penelitian ini merupakan penelitian *cross-sectional*. Terdapat 230 karyawan UGM sebagai subjek penelitian. Data lingkar pinggang diperoleh melalui pengukuran menggunakan metline, derajat lemak viseral dengan BIA (*Bioelectrical Impedance Analyzer*), IAP dengan perhitungan logaritma rasio trigliserida dan HDL-C. Data dianalisis menggunakan uji korelasi *Pearson, Spearman correlation,Chi-Square,* dan analisis multivariat regresi logistik ordinal.
Hasil: Persentase karyawan UGM dengan lingkar pinggang risiko tinggi, derajat lemak viseral risiko tinggi, dan IAP risiko tinggi secara berurutan, yaitu 47,8%, 42,6%, dan 61,7%. Distribusi ukuran klinis subjek dengan lingkar pinggang dan IAP risiko tinggi, yaitu 72,7%, sedangkan derajat lemak viseral dan IAP risiko tinggi, yaitu 85,7%. Lingkar pinggang berkorelasi positif dengan IAP ($p<0,05$; $r<0,5$). Derajat lemak viseral berkorelasi positif dengan IAP ($p<0,05$; $r<0,5$). Variabel derajat lemak viseral terbukti paling signifikan terhadap IAP ($p=<0,001$, OR=4,7) pada analisis multivariat. Karyawan dengan lingkar pinggang kategori “berisiko” dan derajat lemak viseral kategori “tinggi” memiliki nilai IAP lebih besar dengan OR=2,2 dan OR=4,7 dibandingkan karyawan kategori “normal” setelah dikontrol variabel jenis kelamin.
Kesimpulan: Terdapat korelasi positif antara lingkar pinggang dengan IAP. Terdapat korelasi positif antara derajat lemak viseral dengan IAP. Jenis kelamin berpengaruh sebagai perancu dalam korelasi tersebut.

Kata kunci: lingkar pinggang; lemak viseral; Indeks Aterogenik Plasma; kardiovaskular; karyawan universitas

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CORRELATION BETWEEN WAIST CIRCUMFERENCE AND VISCERAL FAT LEVEL WITH THE ATHEROGENIC INDEX OF PLASMA IN UNIVERSITAS GADJAH MADA EMPLOYEES

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ABSTRACT

Background: Cardiovascular disease contributes to 43.6% of the 41 million global mortalities from non-communicable diseases (NCDs), while coronary heart disease is the top mortality driver in Indonesia. Late diagnosis risks worsening disease progression. The workplace is an ideal setting for controlling NCDs. Medical check-up as a health screening has been applied to UGM employees, but there has been no analysis related to anthropometric and biochemical profiles that have the potential to become biomarkers of cardiovascular and metabolic diseases.
Objective: This study aims to determine the correlation between waist circumference (WC) and visceral fat level with the value of the Atherogenic Index of Plasma (AIP) in Universitas Gadjah Mada employees.
Method: This research is a cross-sectional study. There were 230 UGM employees as research subjects. Waist circumference data were obtained through measurement using metline, visceral fat level with BIA (Bioelectrical Impedance Analyzer), IAP with logarithm calculation of triglyceride and HDL-C ratio. Data were analyzed using Pearson correlation test, Spearman correlation test, Chi-Square test, and multivariate ordinal logistic regression.
Result: The percentage of UGM employees with high-risk WC, high-risk visceral fat level, and high-risk IAP were 47.8%, 42.6%, and 61.7%, respectively. Distribution of the clinical size of subjects with high-risk WC and high-risk IAP was 72.7%, while the high-risk visceral fat level and high-risk IAP was 85.7%. Waist circumference were positively correlated with IAP ($p<0.05$; $r<0.5$). Visceral fat level were positively correlated with AIP ($p<0.05$; $r<0.5$). The visceral fat level proved to be the most significant variable for IAP ($p=<0.001$, OR=4.7) with multivariate analysis. Employees with high-risk WC and high-risk visceral fat level had a greater IAP value with OR=2.2 and OR=4.7 than employees in the “normal” category after controlling for gender.
Conclusion: There was a positive correlation between waist circumference with AIP. There was a positive correlation between visceral fat level with AIP. There was a confounding effect of gender in the correlation.

Key words: waist circumference; visceral fat; Atherogenic Index of Plasma (AIP); cardiovascular; university employees

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