

ABSTRAK

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HUBUNGAN ANTROPOMETRI ADIPOSITAS DENGAN FUNGSI ENDOTEL DIUKUR DENGAN *FLOW MEDIATED DILATION* PADA TENAGA KESEHATAN RUMAH SAKIT SILOAM LIPPO VILLAGE

(xvi + 93 halaman: 17 tabel; 3 bagan, 6 lampiran)

Latar belakang: Obesitas berkontribusi secara langsung dalam perkembangan penyakit kardiovaskular. Pada tahun 2021, 1,95 juta kematian kardiovaskular disebabkan oleh peningkatan indeks massa tubuh atau obesitas. Antropometri adipositas merupakan pengukuran untuk menentukan distribusi lemak tubuh, yang terdiri dari indeks massa tubuh, lingkar pinggang, dan rasio lingkar pinggang terhadap tinggi badan. Fungsi endotel sering dikaitkan dengan faktor risiko, berhubungan dengan perkembangan penyakit, dan memprediksi kejadian kardiovaskular. Fungsi endotel dapat diperiksa melalui *flow mediated dilation* (FMD). Jika hasil FMD <7.1%, maka menunjukkan adanya disfungsi endotel dan dapat berisiko terkena penyakit kardiovaskular.

Tujuan penelitian: Mengetahui hubungan antara antropometri adipositas dengan fungsi endotel diukur dengan *flow mediated dilation* pada tenaga Kesehatan Rumah Sakit Siloam Lippo Village.

Metode penelitian: Penelitian ini menggunakan desain studi *cross-sectional* (potong lintang) pada tenaga kesehatan Rumah Sakit Siloam Lippo Village yang memenuhi kriteria inklusi penelitian. Pengumpulan data dilakukan dengan mengukur berat badan, tinggi badan, lingkar pinggang, mengukur fungsi endotel dengan *flow mediated dilation* (FMD), dan metode wawancara. Hasil data diolah menggunakan uji statistik SPSS dengan metode *Chi-square*.

Hasil: Dari 82 sampel yang memenuhi kriteria inklusi, didapatkan hasil sebanyak 46 responden (56,1%) masuk dalam kategori IMT *overweight* + obesitas, 40 responden (48,8%) masuk dalam kategori lingkaran pinggang risiko tinggi, 42 responden (51,2%) mengalami peningkatan risiko dari rasio lingkaran pinggang terhadap tinggi badan, dan 26 responden (31,7%) mengalami disfungsi endotel yang diukur dengan *flow mediated dilation*. Berdasarkan hasil penelitian ditemukan adanya hubungan signifikan antara indeks massa tubuh dengan fungsi endotel diukur dengan FMD ($p\text{-value}<0.001$; OR 7,3; 95% CI 2,2 – 24,1; $r -0,483$), lingkaran pinggang dengan fungsi endotel diukur dengan FMD ($p\text{-value}<0.001$; OR 6; 95% CI 2,07 – 17,38; $r -0,473$), dan rasio lingkaran pinggang terhadap tinggi badan dengan fungsi endotel diukur dengan FMD ($p\text{-value}<0.001$; OR 7; 95% CI 2,29 – 21,35).

Kesimpulan: Terdapat hubungan yang signifikan antara antropometri adipositas dengan fungsi endotel yang diukur dengan *flow mediated dilation* pada tenaga kesehatan Rumah Sakit Siloam Lippo Village.

Kata kunci: antropometri adipositas, indeks massa tubuh, lingkaran pinggang, rasio lingkaran pinggang terhadap tinggi badan, fungsi endotel, *flow mediated dilation*, FMD

ABSTRACT

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RELATIONSHIP BETWEEN ANTHROPOMETRIC ADIPOSITY AND ENDOTHELIAL FUNCTION MEASURED BY FLOW-MEDIATED DILATION IN HEALTH WORKERS AT SILOAM LIPPO VILLAGE HOSPITAL

(xvi + 92 pages: 17 tables; 3 charts, 6 attachments)

Background: *Obesity contributes directly to the development of cardiovascular disease. In 2021, 1.95 million cardiovascular deaths were attributed to increased body mass index or obesity. Anthropometric adiposity is a measurement to determine body fat distribution, which consists of body mass index, waist circumference, and waist-to-height ratio. Endothelial function is often associated with risk factors, associated with disease progression, and predicts cardiovascular events. Endothelial function can be examined through flow-mediated dilation (FMD). If the FMD result is <7.1%, it indicates endothelial dysfunction and could be at risk of cardiovascular disease.*

Objective: *To find out the relationship between anthropometric adiposity and endothelial function measured by flow-mediated dilation in Siloam Lippo Village Health Centre staff.*

Methods: *This study used a cross-sectional study design on Siloam Lippo Village Hospital health workers who met the study inclusion criteria. Data were collected by measuring body weight, height, waist circumference, measuring endothelial function with flow-mediated dilation (FMD), and interview methods. Data results were processed using the SPSS statistical test with the Chi-square method.*

Results: *Of the 82 samples that met the inclusion criteria, the results showed that 46 respondents (56.1%) were classified as overweight + obese, 40 respondents (48.8%) had high waist circumference, 42 respondents (51.2%) had an increased*

risk of waist-to-height ratio, and 26 respondents (31.7%) had endothelial dysfunction measured by flow-mediated dilation. Based on the results of the study, there was a significant relationship between body mass index with endothelial function measured by FMD (p-value <0.001; OR 7.3; 95% CI 2.2 - 24.1; r -0,483), waist circumference with endothelial function measured by FMD (p-value <0.001; OR 6; 95% CI 2.07 - 17.38; r -0,473), and waist-to-height ratio with endothelial function measured by FMD (p-value <0.001; OR 7; 95% CI 2.29 - 21.35).

Conclusion: There is a significant relationship between anthropometric adiposity and endothelial function measured by flow-mediated dilation in Siloam Lippo Village Hospital health workers.

Keywords: anthropometric adiposity, body mass index, waist circumference, waist-to-height ratio, endothelial function, flow-mediated dilation, FMD