

RASIO MONOSIT/HDL PADA LANSIA DENGAN OBESITAS SARKOPENIA DI KOTA SEMARANG

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ABSTRAK

Latar belakang: Obesitas sarkopenia pada lansia terjadi karena peningkatan lemak tubuh akibat penurunan massa otot, kekuatan otot, dan atau performa fisik disertai inflamasi. RMH merupakan parameter inflamasi. Peningkatan RMH menyebabkan peningkatan risiko penyakit kardiovaskular. Tujuan penelitian untuk mengetahui gambaran RMH pada lansia.

Metode: Jenis penelitian *cross sectional* dengan 43 subjek di posyandu pada 3 wilayah puskesmas di Semarang menggunakan metode *cluster random sampling*. Data yang diambil adalah lingkaran pinggang menggunakan metline, *Skeletal Muscle Index* (SMI) menggunakan *bioimpedance analysis* (BIA), *Handgrip strength* (HGS) menggunakan *hand dynamometer jamar*, *Gait Speed* (GS) menggunakan pita ukur 6 meter, monosit menggunakan metode *flowcytometri*, *High Density Lipoprotein* (HDL) menggunakan metode langsung (*direct method*), RMH dengan cara membagi nilai absolut monosit dan HDL. Analisis bivariat menggunakan uji korelasi *Pearson* dan *rank Spearman*, serta uji beda *independent t-test* dan *Mann Whitney*.

Hasil: Rerata monosit ($0.53 \pm 0.17 \times 10^3 \mu\text{L}$), HDL ($50.40 \pm 10.45 \text{ mg/dl}$), dan RMH (0.011 ± 0.004). Subjek yang mengalami monositosis sebesar 4.6% dan 95.6% lainnya normal, 18.6% mempunyai HDL yang rendah, 60.4% HDL normal, dan 20.9% HDL tinggi. Seluruh subjek (100%) mempunyai RMH normal. Status obesitas tidak mempunyai hubungan bermakna dengan rasio monosit/HDL ($r=0.203$, $p=0.192$) sedangkan status sarkopenia memiliki hubungan positif dengan RMH (SMI ($r=0.511$, $p=0.000$), HGS ($r=0.325$, $p=0.034$)). RMH pada laki-laki (0.016 ± 0.003) secara signifikan ($p=0.000$) lebih tinggi dibandingkan perempuan (0.009 ± 0.003).

Simpulan: RMH pada lansia obesitas sarkopenia masih dalam batas normal. Laki-laki mempunyai RMH lebih tinggi dibandingkan perempuan

Kata kunci: Obesitas, sarkopenia, rasio monosit/HDL, lansia

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MONOCYTE/HDL RATIO IN ELDERLY WITH SARCOPENIC OBESITY IN SEMARANG

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ABSTRACT

Background: Sarcopenic obesity in the elderly caused by high body fat impact on low skeletal muscle mass, lower strength, and low physical performance accompanied by inflammation. Monocyte/HDL ratio as a novel marker inflammation. Elevated monocyte/HDL ratio risk of cardiovascular disease. The aimed of this study was to investigate monocyte/HDL ratio in the elderly.

Method: A cross-sectional study was conducted to 43 participants in 3 Primary Health Care Semarang using cluster random sampling. Waist circumference (WC) measured by medline, Skeletal Muscle Index (SMI) using bioimpedance analysis (BIA), Handgrip strength (HGS) by hand dynamometer Jamar, Gait Speed (GS) based on 6 meter walking test, monocyte by flow cytometry, High Density Lipoprotein (HDL) by direct method, and monocyte/HDL ratio is divided absolute monocyte to HDL. Bivariate analysis using Pearson Correlation and rank Spearman, and compare test using independent t-test and Mann Whitney.

Result: The results of the study showed that monocyte mean ($0.53 \pm 0.17 \times 10^3 \mu\text{L}$), HDL ($50.40 \pm 10.45 \text{ mg/dl}$), and monocyte/HDL ratio (0.011 ± 0.004). Subject have 4.6% monocytosis, 95.6% was normally, and 18.6% was lower HDL, 60.4% was normal, and 20.9% was higher. All participant has monocyte/HDL ratio were normally. Monocyte/HDL ratio were positive correlate with sarcopenia (SMI ($r=0.511$, $p=0.000$), HGS ($r=0.325$, $p=0.034$)), without obesity ($r=0.203$, $p=0.192$). Monocyte/HDL ratio in men (0.016 ± 0.003) was significance higher ($p=0.000$) than women (0.009 ± 0.003)

Conclusion: Monocyte/HDL ratio in the elderly sarcopenic obesity was normally. Monocyte/HDL ratio in men was higher than women.

Keyword: Obesity, sarcopenic, monocyte/HDL ratio, elderly

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