

# Hubungan antara Parameter Obesitas dengan Luaran Buruk selama Perawatan Pasien COVID-19 Terkonfirmasi Derajat Ringan-Sedang = Association between Obesity Parameters and Poor Outcomes in Hospitalized Patients with Confirmed Mild to Moderate COVID-19

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## Abstrak

Latar Belakang. Obesitas merupakan faktor risiko luaran buruk pada pasien COVID-19. Sampai saat ini studi penilaian hubungan parameter obesitas berupa nilai lemak viseral, lingkar pinggang (LP), indeks massa tubuh (IMT), dan persentase lemak tubuh secara bersamaan dengan luaran COVID-19 menggunakan metode sederhana berupa bioimpedance analyzer (BIA) masih terbatas. Keempat variabel tersebut akan dinilai kemampuannya untuk memprediksi luaran buruk selama perawatan pasien COVID-19.

Metode. Penelitian ini merupakan kohort prospektif dari 261 pasien COVID-19 ringan-sedang di RSUPN Cipto Mangunkusumo rawat inap sejak Desember 2020 hingga Maret 2021. Pasien dilakukan pemeriksaan BIA, LP, dan IMT saat admisi. Dilakukan analisis multivariat regresi logistik untuk menilai kemampuan nilai lemak viseral, persentase massa tubuh, IMT dan LP untuk memprediksi luaran buruk komposit yang mencakup ARDS dan mortalitas.

Hasil. Didapatkan median nilai lemak viseral 10 (setara 100 cm<sup>2</sup> ), lingkar pinggang 93 cm, IMT 26,1 kg/m<sup>2</sup> , dan persentase lemak tubuh 31,5%. Berdasarkan multivariat regresi logistik, lingkar pinggang secara statistik bermakna sebagai faktor yang berpengaruh terhadap luaran buruk pada pasien COVID-19 [RR 1,04 (IK 95% 1,01-1,08)] bersama dengan derajat COVID-19 [RR 4,3 (IK 95% 1,9- 9,9)], skor NEWS [RR 5,8 (IK 95% 1,1-31)] saat admisi, dan komorbiditas [RR 2,7 (IK 95% 1,1-6,3)].

Kesimpulan. Luaran buruk COVID-19 selama perawatan pasien COVID-19 terkonfirmasi dapat dipengaruhi oleh lingkar pinggang.

.....Background. Obesity is a risk factor for adverse outcomes in COVID-19 patients. Until now, studies on assessing the relationship between obesity parameters in the form of visceral fat, waist circumference (WC), body mass index (BMI), and body fat percentage simultaneously with COVID-19 outcomes using a simple method such as bioimpedance analyzer (BIA) are still limited. The four variables will be assessed for their ability to predict adverse outcomes during the treatment of COVID-19 patients.

Method. This study is a prospective cohort of 261 mild-moderate COVID-19 subjects at Cipto Mangunkusumo General Hospital who were hospitalized from December 2020 to March 2021. Patients underwent BIA, WC, and BMI examinations upon admission. Multivariate logistic regression analysis was performed to assess the ability of visceral fat, body mass percentage, BMI, and WC to predict poor composite outcomes, including ARDS and mortality.

Results. The median value of visceral fat was 10 (equivalent to 100 cm<sup>2</sup> ), WC was 93 cm, BMI was 26.1 kg/m<sup>2</sup> , and body fat percentage was 31.5%. Based on multivariate logistic regression, WC was statistically significant as a factor influencing poor outcomes in COVID-19 patients [RR 1.04 (95% CI 1.01-1.08)] along with COVID-19 degree of severity [RR 4.3 (95% CI 1.9-9.9)], NEWS score [RR 5.8 (95% CI 1.1-31)] at admission, and comorbidities [RR 2.7 (95% CI 1.1) - 6.3)].

Conclusion. During the hospitalization of confirmed COVID-19 patients, poor outcomes can be affected by

waist circumference.