

# Dampak indeks massa tubuh pada penyakit COVID-19 di RSUP Nasional Dr. Cipto Mangunkusumo: kajian pada parameter hematologi, hemostasis dan CRP = Impact of body mass index on COVID-19 disease at Dr.Cipto Mangunkusumo Hospital, Jakarta, Indonesia: studies on hematological, hemostasis and CRP parameters

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## Abstrak

RSCM merupakan rumah sakit terbesar di Indonesia yang menangani penyakit COVID-19. Ditemukan banyak faktor yang mempengaruhi morbiditas, lama perawatan dan perubahan parameter laboratorium. Prevalensi obesitas semakin meningkat di Indonesia. Saat ini belum ada penelitian mengenai pengaruh IMT terhadap derajat keparahan COVID-19 di Indonesia. Masalah penelitian ini adalah belum adanya informasi mengenai pengaruh indeks massa tubuh (IMT) terhadap derajat keparahan COVID-19 di Indonesia dan adanya perbedaan temuan hasil laboratorium (leukosit, trombosit, rasio neutrofil limfosit (RNL), PT, APTT, D-dimer dan CRP) pada pasien COVID-19 sehingga dapat memberikan informasi derajat keparahan COVID-19 pada pasien rawat inap di RSUPNCM. Penelitian ini merupakan studi potong lintang yang melibatkan 378 data subjek yang memuat data demografi, data klinis, IMT, jumlah leukosit, RNL, trombosit, PT, APTT, D-dimer, dan CRP. Analisis statistik hasil laboratorium dilakukan dengan membandingkan antar kelompok berdasarkan IMT dan derajat penyakit. Selain itu, analisis statistik juga dilakukan antara IMT dengan derajat penyakit. Penelitian ini menunjukkan adanya peningkatan bermakna nilai CRP pada kelompok overweight dan obese (53,6 mg/L dan 63,35 mg/L) dibandingkan dengan kelompok normal (22,65 mg/L). Selain itu, terdapat perbedaan bermakna jumlah leukosit, RNL, PT, APTT, D-dimer dan CRP antara kelompok severe vs non-severe pada hari pertama perawatan. Obesitas 1,88 kali lebih tinggi untuk mengalami COVID-19 derajat penyakit severe dibandingkan kelompok normal. Berdasarkan hasil penelitian ini maka obesitas merupakan faktor risiko terjadinya COVID-19 severe dimana pada kelompok obesitas didapatkan kadar CRP yang tinggi sejak hari pertama perawatan dan hanya kadar D-dimer dan CRP yang meningkat secara bermakna pada kelompok severe

.....RSCM is the largest designated hospital in Indonesia for managing COVID-19 cases. Many factors have been found which affect morbidity, length of treatment and changes in laboratory parameters. The prevalence of obesity is increasing in Indonesia. Currently, there is no research on the effect of BMI on the severity of COVID-19 in Indonesia. The problem of this research is that there is no information regarding the effect of body mass index (BMI) on the severity of COVID-19 in Indonesia and the differences in laboratory findings (leukocytes count, platelets count, neutrophil to lymphocyte ratio (NLR), PT, APTT, D-dimer and CRP) in COVID-19 patients to provide information on the severity of COVID-19 in hospitalized patients at the RSUPNCM. This study is a cross-sectional study involving 378 subject data containing demographic data, clinical data, BMI, leukocyte count, NLR, platelets, PT, APTT, D-dimer, and CRP. Statistical analysis of laboratory results was performed by comparing groups based on BMI and disease severity. In addition, statistical analysis was done between BMI and disease severity. This study showed a significant increase in CRP values in the overweight and obese groups (53.6 mg/L and 63.35 mg/L) compared to the normal group (22.65 mg/L). In addition, there were significant differences in the leukocytes

count, NLR, PT, APTT, D-dimer and CRP between the severe vs non-severe groups on the first admission day. Obesity was 1.88 times more likely to develop severe COVID-19. Based on the results of this study, obesity is a risk factor for severe COVID-19 where in the obese group there was high CRP level since the first admission day and only D-dimer and CRP level increase significantly in the severe group.