

**HUBUNGAN KADAR C-REACTIVE PROTEIN, KADAR FERITIN,
DENGAN LUARAN PADA PASIEN *CORONAVIRUS DISEASE* 2019
DI *INTENSIVE CARE UNIT* COVID RSUP. DR. M. DJAMIL
PADANG PERIODE JULI – DESEMBER 2021**



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ABSTRACT

CORRELATION BETWEEN C-REACTIVE PROTEIN, FERRITIN, AND OUTCOME IN CORONAVIRUS DISEASE 2019 PATIENTS AT COVID INTENSIVE CARE UNIT RSUP. DR. M. DJAMIL PADANG PERIOD JULY – DECEMBER 2021

By

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Coronavirus Disease 2019 (COVID-19) is a respiratory system disease that is transmitted to humans and has infected humans in almost every country in the world. COVID-19 patients with severe and critical conditions have higher plasma cytokine levels. C-reactive protein (CRP) and ferritin are inflammatory markers that are elevated in most COVID-19 patients and are routinely examined, especially patients in the Intensive Care Unit (ICU). Elevated CRP and Ferritin levels are associated with higher rates of severity and death.

The purpose of this study was to determine the correlation between CRP levels, Ferritin levels, and outcomes in COVID-19 patients at COVID ICU RSUP. Dr. M. Djamil Padang Period July – December 2021.

This research was conducted by analytic observational method with a retrospective cohort design. Secondary data was collected from the medical records of COVID-19 patients who were treated in the ICU COVID RSUP. Dr. M. Djamil Padang from July – December 2021 using total sampling as a technique, 107 samples met the inclusion criteria. Data analysis was carried out using univariate and bivariate methods.

The result show that there were more male patients (51.4%) than women (48.6%). From the age range, most age was found in the range > 59 years (54.2%). The most common types of comorbid disease was diabetes (32,7%). The highest CRP level at the initial ICU admission was >160 mg/L (70,1%) and the highest ferritin level was >434 ng/mL (86.0%). The most common patient outcome was death (65.4%). There is a relationship between CRP levels ($p = 0.029$) and the outcome of COVID-19 patients in the COVID ICU. There is a relationship between ferritin levels ($p = 0.000$) and the outcome of COVID-19 patients in the COVID ICU. The conclusion of this study is that there is a correlation between C-Reactive Protein (CRP) levels, Ferritin levels, and Outcomes in COVID-19 patients at COVID ICU RSUP. Dr. M. Djamil Padang Period July – December 2021.

Keywords : COVID-19, CRP, Ferritin, Patient Outcome, ICU

ABSTRAK

HUBUNGAN KADAR C-REACTIVE PROTEIN, KADAR FERITIN, DENGAN LUARAN PADA PASIEN *CORONAVIRUS DISEASE 2019* DI *INTENSIVE CARE UNIT* COVID RSUP. DR. M. DJAMIL PADANG PERIODE JULI – DESEMBER 2021

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Coronavirus Disease 2019 (COVID-19) merupakan penyakit sistem pernapasan yang menular dan telah menginfeksi manusia di hampir setiap negara di dunia. Kadar sitokin plasma biasanya meningkat pada pasien COVID-19 dengan kondisi berat kritis. C-reactive protein (CRP) dan ferritin merupakan penanda inflamasi yang meningkat pada sebagian besar pasien COVID-19 dan rutin diperiksa, terutama pasien di *Intensive Care Unit* (ICU). Peningkatan kadar CRP dan Ferritin dikaitkan dengan tingkat keparahan dan kematian yang lebih tinggi.

Tujuan dari penelitian ini adalah untuk mengetahui Hubungan kadar CRP, kadar ferritin, dengan luaran pada pasien COVID-19 di ICU COVID RSUP. Dr. M. Djamil Padang Periode Juli – Desember 2021.

Penelitian ini dilakukan dengan metode observasional analitik dengan desain *cohort retrospective*. Data sekunder dikumpulkan dari rekam medis pasien COVID-19 yang dirawat di ICU COVID RSUP. Dr. M. Djamil Padang dari Juli – Desember 2021 dengan teknik *total sampling*. Terdapat sebanyak 107 sampel yang memenuhi kriteria inklusi. Analisis data dilakukan secara univarian dan bivariat.

Hasil penelitian didapatkan lebih banyak pasien laki-laki (51,4%) daripada perempuan (48,6%). Pada populasi usia, didapatkan usia paling banyak pada rentang >59 tahun (54,2%). Jenis penyakit komorbid yang paling banyak ditemukan adalah diabetes (32,7%). Kadar CRP terbanyak saat awal masuk ICU adalah >160 mg/L (70,1%) dan kadar ferritin terbanyak adalah ≥ 434 ng/mL (86,0%). Luaran pasien paling banyak adalah meninggal (65,4%). Terdapat hubungan antara kadar CRP ($p = 0,029$) dengan luaran pasien COVID-19 di ICU COVID. Terdapat hubungan antara kadar ferritin ($p = 0,000$) dengan luaran pasien COVID-19 di ICU COVID. Kesimpulan penelitian ini adalah terdapat hubungan kadar C-Reactive Protein (CRP), Kadar Ferritin, dengan Luaran pada pasien COVID-19 di ICU COVID RSUP. Dr. M. Djamil Padang Periode Juli – Desember 2021.

Kata Kunci : COVID-19, CRP, Ferritin, Luaran Pasien, ICU