

ABSTRAK

Latar belakang: Virus Corona atau severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) menjadi pandemi bagi dunia saat ini. Virus corona menyebabkan gangguan pernapasan, pneumonia akut, dan kematian. Acute respiratory distress syndrome (ARDS) adalah salah satu komplikasi serius dari infeksi COVID-19 dengan perkiraan kematian berkisar antara 26,4% hingga 94%. Beberapa penelitian telah mengidentifikasi mengenai hubungan ARDS dan mortalitas pada pasien COVID-19, namun masih memiliki keterbatasan pada besarnya interval nilai persentasi kematian yang ditimbulkan, ukuran sampel yang kecil, dan ketidakkonsistenan dalam validitasnya ketika diterapkan pada kohort lain pada pasien COVID-19 rawat inap.

Tujuan: Penelitian ini bertujuan untuk menganalisis hubungan antara kondisi Acute respiratory distress syndrome (ARDS) dan mortalitas pada pasien COVID-19 rawat inap.

Metode: Penelitian ini menggunakan desain study kohort retrospektif yang menargetkan pasien COVID-19 rawat inap di RSUP Dr.Sardjito Yogyakarta pada bulan Mei-oktober 2021. Kriteria pasien yang dipilih sebagai sampel penelitian yaitu berusia 18 tahun keatas terkonfirmasi ARDS dan memiliki data rasio PaO₂/FiO₂ (P/F) pada rekam medisnya. Pasien yang akan dieksklusi dari penelitian ini adalah Pasien terkonfirmasi pneumonia (community and hospital acquired) yang tidak terkonfirmasi COVID-19 dan rekam medis yang tidak lengkap. Variable bebas pada penelitian ini adalah Acute respiratory distress syndrome (ARDS) dan variable terikat adalah kejadian mortalitas. Keeratan hubungan antara Acute respiratory distress syndrome (ARDS) dengan kejadian mortalitas akan dianalisis dengan uji regresi logistik simpel dan multipel. Perbedaan proporsi dari kedua variabel akan dianalisis dengan uji chi-square.

Hasil: Acute respiratory distress syndrome (ARDS) berhubungan dengan mortalitas pada pasien COVID-19 rawat inap ($p = 0,001$; RR = 1,196; CI 95% = 1,076-1,329). Pada variabel bebas, didapatkan bahwa tidak terdapat hubungan usia, diabetes, anemia, hipertensi, dan obesitas dengan mortalitas ($p > 0,05$). Namun, terdapat hubungan signifikan antara sepsis dengan mortalitas pada pasien COVID-19 rawat inap ($p = 0,0001$; RR = 1,283; CI 95% = 1,183-1,391). Hasil analisis multivaribel menunjukkan bahwa variabel bebas sepsis mengubah nilai RR hubungan ARDS dengan mortalitas pasien COVID-19 lebih dari 10% sehingga diketahui bahwa sepsis merupakan confounding factor didalam penelitian ini.

Kesimpulan: Berdasarkan hasil penelitian yang telah dilakukan, dapat disimpulkan terdapat hubungan signifikan antara acute respiratory distress syndrome (ARDS) dengan mortalitas pada pasien COVID-19 rawat inap.

Kata kunci: Acute Respiratory Distress Syndrome (ARDS), COVID-19, Mortalitas, Study Kohort Retrospektif, rasio P/F.

ABSTRACT

Background: The Corona virus or severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has become a pandemic for the world today. The coronavirus causes respiratory disturbances, acute pneumonia, and death. Acute respiratory distress syndrome (ARDS) is one of the serious complications of COVID-19 infection with an estimated death rate ranging from 26.4% to 94%. Several studies have identified association between ARDS and mortality in COVID-19 patients, but they still have limitations in terms of the range of percentage of death values generated, small sample size, and inconsistency in validity when applied to other cohorts of hospitalized COVID-19 patients.

Objective: This study aims to analyze association between Acute respiratory distress syndrome (ARDS) and mortality in hospitalized COVID-19 patients.

Method: This study uses a retrospective cohort study design targeting hospitalized COVID-19 patients at RSUP Dr. Sardjito Yogyakarta in May-October 2021. The patient criteria selected as study samples are aged 18 years and above, confirmed ARDS, and have PaO₂/FiO₂ (P/F) ratio data in their medical records. Patients who will be excluded from this study are confirmed pneumonia patients (community and hospital acquired) who are not confirmed to have COVID-19 and have incomplete medical records. The independent variable in this study is Acute respiratory distress syndrome (ARDS) and the dependent variable is mortality. The strength of association between Acute respiratory distress syndrome (ARDS) and mortality will be analyzed using simple and multiple logistic regression tests. The difference in proportions of the two variables will be analyzed using a chi-square test.

Results: Acute respiratory distress syndrome (ARDS) is related to mortality in hospitalized COVID-19 patients ($p = 0.001$; RR = 1.196; CI 95% = 1.076-1.329). In the independent variable, it was found that there was no association between age, diabetes, anemia, hypertension, and obesity with mortality ($p > 0.05$). However, there is a significant association between sepsis and mortality in hospitalized COVID-19 patients ($p = 0.0001$; RR = 1.283; CI 95% = 1.183-1.391). The multivariate analysis results show that the sepsis independent variable changes the RR value of association between ARDS and mortality in COVID-19 patients by more than 10%, indicating that sepsis is a confounding factor in this study.

Conclusion: Based on the results of the study that has been conducted, it can be concluded that there is a significant association between acute respiratory distress syndrome (ARDS) and mortality in hospitalized COVID-19 patients.

Keywords: Acute Respiratory Distress Syndrome (ARDS), COVID-19, Mortality, Retrospective Cohort Study, P/F ratio.