

INTISARI

PENGARUH VAKSINASI COVID-19 TERHADAP KEJADIAN DAN TINGKAT KEPARAHAN ACUTE RESPIRATORY DISTRESS SYNDROME (ARDS) PASIEN COVID-19 DI RSUP DR. SARDJITO YOGYAKARTA

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Latar Belakang: Virus SARS-CoV-2 telah menyebabkan infeksi pada populasi manusia di seluruh dunia dan memakan jutaan korban jiwa. Vaksinasi dinilai sebagai pendekatan yang paling menjanjikan dalam mengatasi pandemi COVID-19. Vaksinasi COVID-19 telah diimplementasikan secara luas di seluruh dunia dan terbukti bermanfaat dalam menurunkan transmisi, kejadian infeksi berat dan kematian akibat COVID-19. Hingga saat ini, masih belum diketahui pengaruh dari vaksinasi COVID-19 terhadap penurunan angka kejadian dan tingkat keparahan *acute respiratory distress syndrome* (ARDS) pada pasien COVID-19 di Indonesia, khususnya pada pasien yang membutuhkan perawatan di rumah sakit.

Tujuan: Penelitian ini bertujuan untuk mengetahui apakah status vaksinasi COVID-19 menurunkan angka kejadian dan mempengaruhi tingkat keparahan *acute respiratory distress syndrome* (ARDS) pada pasien terkonfirmasi COVID-19 yang dirawat di RSUP Dr. Sardjito.

Metode: Penelitian ini menggunakan metode penelitian *cross sectional* dengan mengambil data seluruh pasien COVID-19 yang dirawat di RSUP Dr. Sardjito pada periode 1 Januari 2021 hingga 31 Desember 2022. Analisa statistik multivariat menggunakan uji *Chi-Square* dan *logistic regression* untuk menghitung OR (*Odds Ratio*) untuk mengetahui pengaruh status vaksinasi terhadap angka kejadian dan tingkat keparahan ARDS pada pasien COVID-19, hasil dinyatakan bermakna secara statistik bila nilai $p < 0.05$ dengan *confidence interval* 95%.

Hasil: Didapatkan 1213 subyek yang diteliti, 769 (63%) subyek usia < 60 tahun, 638 (53%) laki-laki, dengan median Indeks Massa Tubuh (IMT) 23,9 (22,0 – 26,6), kelompok vaksin dan tidak vaksin dibandingkan dengan kejadian dan tingkat keparahan ARDS. Diperoleh hasil pemberian vaksinasi menurunkan angka kejadian ARDS sebesar 58% (OR 0,42; 95% CI 0,30-0,59) $p < 0,001$ dan meningkatkan proteksi terhadap keparahan di kelompok ARDS dari derajat ringan dan sedang sebesar 44% (OR 0,56; 95% CI 0,37-0,84) $p=0,015$, menjadi 70% (OR 0,30; 95% CI 0,20-0,45) $p<0,001$ pada derajat berat.

Kesimpulan: Status vaksinasi COVID-19 menurunkan angka kejadian dan mempengaruhi tingkat keparahan ARDS pada pasien terkonfirmasi COVID-19 yang dirawat di RSUP Dr. Sardjito.

Kata Kunci: Vaksin, COVID-19, ARDS

ABSTRACT

IMPACT OF COVID-19 VACCINATION ON THE OCCURRENCE AND SEVERITY OF ACUTE RESPIRATORY DISTRESS SYNDROME (ARDS) IN COVID-19 PATIENTS AT RSUP DR. SARDJITO YOGYAKARTA

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Background: The SARS-CoV-2 virus has caused infections in human populations worldwide, claiming millions of lives. Vaccination is considered the most promising approach to address the COVID-19 pandemic. COVID-19 vaccination has been widely implemented globally and has proven beneficial in reducing transmission, severe infection incidents, and COVID-19-related deaths. To date, the influence of COVID-19 vaccination on the reduction of incidence and severity of acute respiratory distress syndrome (ARDS) in COVID-19 patients in Indonesia, especially those requiring hospital care, remains unknown.

Objective: The objective of this study is to investigate whether the COVID-19 vaccination status reduce the incidence rate and impacts the severity of acute respiratory distress syndrome (ARDS) in confirmed COVID-19 patients undergoing treatment at RSUP Dr. Sardjito.

Methods: This study employed a cross-sectional research method, gathering data from all COVID-19 patients treated at RSUP Dr. Sardjito from January 1, 2021, to December 31, 2022. Multivariate statistical analysis utilized the Chi-Square test and logistic regression to calculate the Odds Ratio (OR) to determine the impact of vaccination status on the incidence rate and severity of ARDS in COVID-19 patients. Results were deemed statistically significant if the p-value was < 0.05 with a 95% confidence interval.

Results: A total of 1213 subjects were included in the study, with 769 (63%) subjects under the age of 60, and 638 (53%) subjects male, with a median Body Mass Index (BMI) of 23.9 (22.0 – 26.6). The vaccinated and unvaccinated groups were compared regarding the occurrence and severity of ARDS. The findings revealed that vaccination decreased the occurrence of ARDS by 58% ($p < 0.001$) and increased protection against severity in the ARDS group from mild and moderate by 44% ($p = 0.015$) up to 70% ($p < 0.001$) in severe category.

Conclusion: The COVID-19 vaccination status reduces the incidence and affect the severity of ARDS in confirmed COVID-19 patients underwent treatment at RSUP Dr. Sardjito.

Keywords: Vaccine, COVID-19, ARDS