


Abstract Rencana Penelitian:

1. Background

 **The Relationship Between ROX Index and The Degree of Severity of Acute Respiratory Distress Syndrome Measured by AaDO₂ After HFNC in Severe and Critical COVID-19 Patients**
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Acute respiratory distress syndrome is a life-threatening condition shown with high ROX index score. ROX index is the score to evaluate acute respiratory distress syndrome for the COVID-19 patient.

2. Objective

To evaluate the relationship ROX index for acute respiratory distress syndrome after high flow nasal cannula in severe and critical COVID-19 patient

3. Method

The research design of this study is retrospective cross-sectional study with the research population of adult with severe and critical COVID 19 patients in RSUP dr. Sardjito Yogyakarta in 2021. The independent variable in this study is ROX index and the dependent variable is AADO₂. The potential cofounders are older age, neutrophilia, and coagulation dysfunction.

4. Statistical Analysis

Statistical analysis consists of univariate, bivariate, and multivariate. Univariate analysis is used for computing the distribution and frequency of each research variable. Bivariate contains Chi-square test or fisher exact test and simple regression test. Chi square test or fisher exact test is used for computing the proportion different of acute respiratory distress syndrome after high flow nasal cannula between groups. Simple logistic regression is used for computing the relationship between ROX index and AADO₂. Multivariate logistic regression is used for computing the relationship between ROX index, confounders, and AADO₂.

Keywords: Severe COVID-19, critical COVID-19, AADO₂, ROX index, Retrospective cross-sectional study

Abstrak Rencana Penelitian

Acute Respiratory Distress Syndrome (ARDS) merupakan kondisi yang sering terjadi pada pasien COVID-19.

ARDS adalah kondisi yang mengancam jiwa dan dapat dievaluasi menggunakan indeks ROX, yaitu suatu skor

yang digunakan untuk mengevaluasi hubungan antara indeks ROX dengan derajat keparahan ARDS setelah pemberian terapi

High Flow Nasal Cannula (HFNC) pada pasien COVID-19 derajat berat dan kritis.

Desain penelitian ini adalah studi cross-sectional retrospektif dengan populasi penelitian berupa pasien dewasa dengan COVID-19 derajat berat dan kritis di RSUP Dr. Sardjito Yogyakarta pada tahun 2021. Variabel independen dalam penelitian ini adalah indeks ROX, sedangkan variabel dependen adalah nilai AaDO₂. Faktor perancu potensial meliputi usia lanjut, neutrofilia, dan gangguan koagulasi.

Analisis statistik terdiri dari analisis univariat, bivariat, dan multivariat. Analisis univariat digunakan untuk menggambarkan distribusi dan frekuensi masing-masing variabel penelitian. Analisis bivariat menggunakan uji Chi-square atau Fisher exact test serta regresi logistik sederhana untuk menilai perbedaan proporsi ARDS setelah HFNC antar kelompok dan hubungan antara indeks ROX dengan AaDO₂. Analisis multivariat menggunakan regresi logistik berganda untuk menilai hubungan antara indeks ROX, faktor perancu, dan AaDO₂.

Kata kunci: COVID-19 berat, COVID-19 kritis, AaDO₂, indeks ROX, studi cross-sectional retrospektif