

Model determinan diagnostik infeksi COVID-19 berdasarkan kombinasi gejala klinis, radiologis dan laboratorium = Determinant diagnostic model of COVID-19 infection based on combination of clinical symptoms, chest radiography and laboratory test.

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Abstrak

Latar Belakang: COVID-19 merupakan infeksi yang disebabkan oleh virus SARS-CoV 2. Baku emas diagnosis COVID-19 dengan pemeriksaan RT-PCR untuk mendeteksi asam nukleat virus, namun pemeriksaan ini memiliki kendala karena jumlah laboratorium yang terbatas, sehingga respon time hasil pemeriksaan memanjang. Keputusan diagnosis yang cepat dan tatalaksana segera merupakan pilar penting untuk menurunkan angka morbiditas dan mortalitas dan agar rantai penularan dapat diputus. Perlu diketahui model diagnosis lain dengan data yang praktis, sederhana dan tersedia luas untuk dijadikan suatu model determinan diagnostik yang dapat membantu klinisi mengambil keputusan lebih cepat.

Tujuan: Membuat model determinan diagnosis infeksi COVID-19 berdasarkan kombinasi gejala klinis, radiologis dan laboratorium.

Metode: Penelitian ini menggunakan desain potong lintang dengan metode konsekutif. Penelitian dilakukan di RSUPN Dr. Cipto Mangunkusumo, Jakarta yang dimulai bulan Maret s.d Juni 2020. Data diambil dari rekam medis berupa riwayat kontak, gejala klinis, pemeriksaan laboratorium dan foto toraks. Variabel yang diteliti akan dianalisis univariat, bivariat kemudian dilanjutkan analisis multivariat, kurva ROC dan kalibrasi Hosmer-Lemeshow.

Hasil: Subjek pada penelitian sebanyak 187 pasien, dengan mayoritas subjek pada kelompok usia < 60 tahun sebesar 65,2% dan jenis kelamin laki-laki sebanyak 53,47%. Komorbid terbanyak adalah diabetes mellitus dan hipertensi. Variabel akhir yang masuk kedalam sistem skoring adalah riwayat kontak (3 poin), demam/riwayat demam (1 poin), sesak dengan frekuensi napas > 20 x/menit (2 poin), leukosit > 10.000 sel / μ L (2 poin) dan gambaran foto toraks tipikal (2 poin). Model skoring ini mempunyai AUC: 0,777, P: < 0,001, IK 95% (0,706-0,847) dengan nilai cut off skor > 4 dari total 10 poin memiliki probabilitas 82 %, NDP: 74%, NDN: 77%.

Simpulan: Model determinan diagnosis infeksi COVID-19 berdasarkan kombinasi dari riwayat kontak, demam/riwayat demam, sesak napas, kadar leukosit > 10.000 sel / μ L dan gambaran tipikal foto toraks cukup baik dalam membantu diagnosis COVID-19.

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Background: COVID-19 is an infection caused by SARS-CoV 2. RT-PCR test is gold standart to diagnose COVID-19 by detecting SARS-CoV 2 nucleic acid. However, this test still have a problem due to the limited laboratory centers. Respond time of the RT-PCR result will lengthen. The prompt diagnosis and immediate management are important to decrease mortality, morbidity rate and also prevent transmission. A simple and practice model diagnostic by using determinant factors is needed to guide the physician for taking a quick decision.

Objective: Analyze of model determinant diagnosis of COVID-19 based on combination of clinical manifestation, chest radiography and laboratory test.

Methods: This study is a cross sectional study with consecutive methods. The study was conducted at RSUPN Dr. Cipto Mangunkusumo, Jakarta from March to June 2020. History of contact with COVID-19, clinical symptoms, laboratory examinations and chest radiographs data were taken from medical records. The steps of analysis were univariate, bivariate multivariate analyze, ROC curve and calibrate Hosmer-Lemeshow.

Results: There were 187 patients with the majority of subjects in the age group < 60 years (65.2%) and male sex (53.47%). The most frequent comorbid were diabetes mellitus and hypertension. The selected variables in this scoring are contact history, fever/ history of fever, dyspnea with respiratory rate >20 x/minute, leucocyte > 10.000 cell/ μ L and typical chest radiography. The area under the curve for this model is 0,777 (P : 0,000 IK 95% (0,706-0,847)). The probability is 82% with cut off point > 4 score.

Conclusions: Determinant model for diagnosing COVID-19 based on combination of contact history, fever/history of fever, dyspnea, leucocyte > 10.000 cell/ μ L and typical chest radiography are quite good for helping diagnosis of COVID-19.