

## Hubungan antara skor brixia dan mortalitas pasien coronavirus disease 2019 di RSUP Persahabatan = Relationship between brixia score and mortality in coronavirus disease 2019 patients at Persahabatan Hospital

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### Abstrak

Latar Belakang : Coronavirus disease 2019 (COVID-19) menjadi pandemi pada Maret 2020. Luaran penyakit ini sangat bervariasi, hingga mengakibatkan kematian. Mortalitas COVID-19 dipengaruhi oleh banyak faktor. Pemeriksaan radiografi merupakan salah satu pemeriksaan penunjang yang dapat dilakukan pada COVID-19 untuk skrining, diagnosis, menentukan derajat keparahan penyakit dan memantau respons pengobatan. Foto toraks merupakan modalitas yang banyak tersedia di berbagai fasilitas layanan kesehatan, murah, mudah, dan dapat dilakukan di tempat tidur pasien. Skor Brixia merupakan salah satu sistem penilaian derajat keparahan foto toraks yang mudah dan cepat.

Metode : Desain penelitian ini adalah kohort retrospektif menggunakan data rekam medik awat inap RSUP Persahabatan yang dipilih secara acak sistematis. Subjek penelitian adalah pasien COVID-19 yang dirawat pada Maret hingga Agustus 2020. Subjek penelitian dipilih sesuai kriteria inklusi dan eksklusi.

Hasil : Pada penelitian ini didapatkan total 313 subjek dengan pasien yang memiliki luaran meninggal sebanyak 65 subjek dan yang hidup sebanyak 248 subjek. Nilai tengah skor Brixia 8 dengan nilai paling rendah 0 dan paling tinggi 18. Jenis kelamin terbanyak adalah laki-laki sebanyak 185 subjek (59,1%). Sebanyak 79 subjek (25,2%) merupakan pasien berusia lanjut (> 60 tahun). Status gizi subjek terdiri atas gizi cukup (53,7%), gizi lebih (42,5%), dan gizi kurang (3,8%). Pasien yang memiliki komorbid sebanyak 143 subjek (45,7%) dengan jenis komorbid terbanyak adalah hipertensi dan diabetes melitus. Pada titik potong 7,5, skor Brixia memiliki nilai sensitivitas 61,5% dan spesifisitas 50%. Terdapat hubungan bermakna skor Brixia dengan status gizi ( $p < 0,001$ ) dan ada tidaknya komorbid ( $p 0,002$ ). Tidak terdapat hubungan bermakna antara usia ( $p 0,420$ ), jumlah komorbid ( $p 0,223$ ) dan mortalitas ( $p 0,121$ ) dengan skor Brixia. Skor Brixia 16-18 memiliki risiko mortalitas 3,29 kali lebih besar daripada skor Brixia 0-6.

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Background : Coronavirus disease 2019 (COVID-19) became a pandemic in March 2020. The outcome of this disease varies widely, including death. There are many risk factors for mortality in COVID-19. Imaging is one of the supporting examinations that can be performed on COVID-19 for screening, diagnosis, determining the severity of the disease and monitoring response to treatment. Chest X-ray is a modality that is widely available in various health care facilities, is cheap, easy, and can be done bedside patient. The Brixia score is an easy and fast chest radiograph severity rating system.

Methods : The design of this study was a retrospective cohort using medical records of inpatients at Persahabatan General Hospital which were selected systematically random sampling. The research subjects were COVID-19 patients who hospitalized from March to August 2020. The study subjects were selected according to the inclusion and exclusion criteria.

Results : In this study, a total of 313 subjects were obtained with 65 died and 249 survived. The median of Brixia score was 8 with the lowest score 0 and the highest score 18. The male population was 185 subjects (59.1%). Total of 79 subjects (25.2%) were elderly patients (> 60 years). The subjects are grouped into three

categories nutritional status based on body mass index. There were normal (53.7%), overweight (42.5%), and malnutrition (3.8%). Patients who had comorbidities were 143 subjects (45.7%). The most frequent comorbidities were hypertension and diabetes mellitus. At the cut point of 7.5, the Brixia score has a sensitivity value 61.5% and a specificity 50%. There is a significant relationship between the Brixia score and nutritional status ( $p < 0.001$ ) and the presence or absence of comorbidities ( $p 0.002$ ). There was no significant relationship between age ( $p 0.420$ ), number of comorbidities ( $p 0.223$ ) and mortality ( $p 0.121$ ) with the Brixia score. Brixia score of 16-18 has a mortality risk 3.29 times higher than Brixia score of 0-6.