

## ADULT PATIENTS ADMITTED TO A TERTIARY HOSPITAL FOR COVID-19 AND RISK FACTORS ASSOCIATED WITH SEVERITY: A RETROSPECTIVE COHORT STUDY

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**Resumo:** COVID-19 is a disease whose knowledge is still under construction, high transmissibility, with no consensual treatment available to everyone. Therefore, the identification of patients at higher risk of evolving to the critical form of the disease is fundamental. The study aimed to determine risk factors associated with the severity of COVID-19 in adults patients. This is an observational, retrospective study from a cohort of adult patients with COVID-19 admitted to a public hospital from March to August 2020, whose medical records were evaluated. For the association of possible severity predictors, a Poisson regression was used. The primary outcome was the critical form of the disease (need for admission to the Intensive Care Unit and/or invasive mechanical ventilation). We included 565 patients: mostly men; 55.5% of those who progressed to the critical form of the disease were over sixty years old. Hypertension, diabetes mellitus and obesity were the most frequent comorbidities. There were 39.8% of patients who progressed to the critical form of the disease. The hospital mortality rate was 22.1%, and that of critical patients was 46.7%. The independent factors associated with the severity of the disease were obesity [RR = 1.33 (95% CI 1.07 to 1.66; p = 0.011)], SpO<sub>2</sub>/FiO<sub>2</sub> ratio ≤ 315 [RR = 2.20 (95% CI 1.79 to 2.71; p = 0.000)], C-reactive protein > 100 mg/L [RR = 1.65 (95% CI 1.33 to 2.06; p = 0.000)], and lymphocytes < 1,000/μL [RR = 1.44 (95% CI 1.18 to 1.75; p = 0.000)]. Advanced age and comorbidities were dependent factors strongly associated with the critical form of the disease.

**Keywords:** COVID-19; SARS-CoV-2; Risk factors; Severity; Cohort study

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