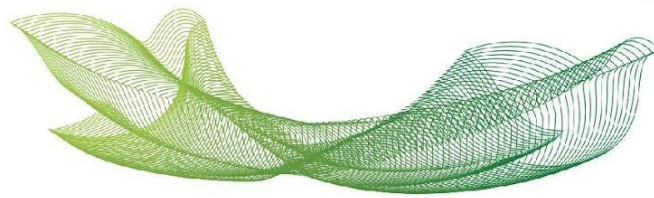| Tipo | Periódico |
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| Título | Epidemiologic Profile of Severe Acute Respiratory Infection in Brazil During the COVID-19 Pandemic: An Epidemiological Study |
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| Resumo | Background: The COVID-19 is a significant public health issue, and monitoring confirmed cases and deaths is an essential epidemiologic tool. We evaluated the features in Brazilian hospitalized patients due to severe acute respiratory infection (SARI) during the COVID-19 pandemic in Brazil. We grouped the patients into the following categories: Influenza virus infection (G1), other respiratory viruses' infection (G2), other known etiologic agents (G3), SARS-CoV-2 infection (patients with COVID-19, G4), and undefined etiological agent (G5).<br><br>Methods: We performed an epidemiological study using data from DataSUS (https://opendatasus.saude.gov.br/) from December 2019 to October 2021. The dataset included Brazilian hospitalized patients due to SARI. We considered the clinical evolution of the patients with SARI during the COVID-19 pandemic according to the SARI patient groups as the outcome. We performed the multivariate statistical analysis using logistic regression, and we adopted an Alpha error of 0.05.<br><br>Results: A total of 2,740,272 patients were hospitalized due to SARI in Brazil, being the São Paulo state responsible for most of the cases [802,367 (29.3%)]. Most of the patients were male (1,495,416; 54.6%), aged between 25 and 60 years (1,269,398; 46.3%), and were White (1,105,123; 49.8%). A total of 1,577,279 (68.3%) patients recovered from SARI, whereas 701,607 (30.4%) died due to SARI, and 30,551 (1.3%) did not have their deaths related to SARI. A major part of the patients was grouped in G4 (1,817,098; 66.3%) and G5 (896,207; 32.7%). The other groups account for <1% of our |

sample [G1: 3,474 (0.1%), G2: 16,627 (0.6%), and G3: 6,866 (0.3%)]. The deaths related to SARI were more frequent in G4 (574,887; 34.7%); however, the deaths not related to SARI were more frequent among the patients categorized into the G3 (1,339; 21.3%) and G5 (25,829; 4.1%). In the multivariate analysis, the main predictors to classify the patients in the G5 when compared with G4 or G1-G4 were female sex, younger age, Black race, low educational level, rural place of residence, and the use of antiviral to treat the clinical signs. Furthermore, several features predict the risk of death by SARI, such as older age, race (Black, Indigenous, and multiracial background), low educational level, residence in a flu outbreak region, need for intensive care unit, and need for mechanical ventilatory support.

Conclusions: The possible COVID-19 underreporting (G5) might be associated with an enhanced mortality rate, more evident in distinct social groups. In addition, the patients' features are unequal between the patients' groups and can be used to determine the risk of possible COVID-19 underreporting in our population. Patients with a higher risk of death had a different epidemiological profile when compared with patients who recovered from SARI, like older age, Black, Indigenous, and multiracial background races, low educational level, residence in a flu outbreak region, need for intensive care unit and need for mechanical ventilatory support.

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