Improvement of COVID-19 symptoms: a survival analysis study from a Portuguese cohort

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The COVID-19 pandemic has had a profound impact on the world, affecting millions of people and causing widespread illness and death. As the disease continues, it is critical to understand the patterns and predictors of the disease in order to get valuable information that can be used to develop strategies for preventing and managing COVID-19. Survival analysis techniques have been widely used in medical research to analyze longitudinal time-to-event data, such as time from diagnosis to recovery or death. These techniques provide valuable insights into the risk factors and the outcome of the disease. A registry of 3481 COVID-19 patients diagnosed at Centro Hospitalar Universitário de São João (CHUSJ) between March 01, 2020 and January 01, 2021. Symptoms of the disease were reported at admission, and its improvement was investigated using phone interviews. Descriptive statistics were performed according to the measurement level of the variable, and some nonparametric localization tests were used to compare groups. For the longitudinal analysis, the product-limit estimator of survival (Kaplan and Meier) was used to describe COVID-19-associated symptom duration. The estimated survival curves were used to compare the improvement of COVID-19 symptoms for categorical predictors, and formal hypothesis tests were used. Simple and multiple regression models were used to estimate the effect of potential predictors on the improvement of COVID-19 symptoms.

Keywords: COVID-19, Regression, Survival Analysis.