

Investigating the Association Between Psychiatric History and COVID-19 Mortality in a Hospitalized Patient Cohort

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Elevated levels of pro-inflammatory cytokines and neuroinflammation in patients with depression or anxiety disorders create an increased risk of infection (Valkanova et al. 2013)(Dahl et al. 2014)(Dowlati et al. 2010)(Seminog et al. 2013). A combination of elevated pro-inflammatory cytokines due to depressive and anxiety disorders and inflammation due to infection by severe acute respiratory syndrome-coronavirus (SARS-CoV2) influences the 'cytokine storm' found in patients hospitalized with COVID-19 (Guo et al. 2020) (Taquet et al. 2020) (Wang et al. 2021). The purpose of this study was to identify whether a history of psychiatric illness, specifically depression or anxiety, was associated with a higher mortality rate in hospitalized patients with COVID-19. A retrospective cohort study was conducted using electronic medical records of patients hospitalized for COVID-19 from March 2020 to March 2021 at a large 365-bed community teaching hospital. Psychiatric history information was identified using patient International Classification of Diseases, 10th revision diagnosis codes extracted from electronic medical records. Of the 1372 patients admitted to the hospital with COVID-19, 447 patients had a history of mental or behavioral conditions, including 228 patients with either depressive or anxiety disorders and 132 patients prescribed either antipsychotics or antidepressants. After adjusting for SARS-CoV2 mortality risk factors, a history of either depression or anxiety was significantly associated with an increase in mortality (OR, 1.565; 95% CI, 1.064-2.300). In this patient population with a history of depression or anxiety, antipsychotic or antidepressant prescription was associated with a decrease in mortality (OR, 0.434; 95% CI, 0.227-0.829). These results suggest that treatment of depression and anxiety provides benefits in addition to managing the psychiatric illness. The mechanism may be related to the anti-inflammatory protective effects of antidepressant and antipsychotic medications. Future research should focus on patient outreach to optimize care and allow easier access to healthcare in vulnerable populations. Supported by R25ES020721 and the Rutgers Office of Research and Economic Development.

Association of Patient Psychiatric History with COVID-19 Mortality

