

# Considering risk factors and results for delirium in older COVID-19 patients

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## ABSTRACT

The prevalence of delirium in older patients with coronavirus illness has been found to be high (COVID-19). In hospitalized

older patients with COVID-19, we sought to identify drivers of delirium, including the Clinical Frailty Scale. Additionally, we wanted to investigate the relationship between delirium and in-hospital outcomes in older COVID-19 patients, regardless of frailty.

**Key Words:** *Delirium*

## INTRODUCTION

The Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2)-caused Coronavirus Disease 2019 (COVID-19) places a significant strain on the world's healthcare system, with older individuals suffering the most. The most common acute symptoms of COVID-19 are cough, dyspnea, and fever, which characterize its typical respiratory infection presentation. The presentation of COVID-19 in older individuals may be more unusual, with delirium being a recognized mode of presentation. Delirium has been previously identified as a risk factor for morbidity and mortality in older individuals and is typically a sign of severe disease.

Patients admitted due to COVID-19 at the general ward have a reported incidence of delirium between 14% and 40%. The well-known traditional risk factors for delirium in hospitalized patients include concomitant conditions, advanced age, dementia and cognitive impairment, a history of delirium, dependency on daily living activities (ADLs), and delirium. We speculate that these risk variables are also connected to delirium in senior citizens hospitalized for COVID-19. Furthermore, in COVID-19 patients at the general ward and intensive care unit, a higher level of frailty was linked to a higher occurrence of delirium. It is still unknown whether the Clinical Frailty Scale (CFS), which measures frailty, independently influences delirium in COVID-19 from the usual predisposing factors.

The CFS has become a recognized predictor of in-hospital mortality in older patients treated with COVID-19, using frailty as a metric in 80% of COVID-19 literature. Delirium has also been linked to death in older COVID-19 patients, much like the CFS score. According to

a recent study, individuals admitted with COVID-19 who developed delirium had a pooled death rate of 45%, compared to 22% for patients who did not. It is uncertain whether frailty explains the link between delirium and mortality or if both are independent predictors of mortality. There have been conflicting results reported; including those that claim there is no link between delirium and mortality and those that claim it predicts mortality independently of frailty.

In this multicenter cohort analysis, we discovered that delirium in patients admitted to the hospital with a COVID-19 infection was independently correlated with cognitive impairment and a history of delirium. After multivariable adjustment, the link between delirium and in-hospital mortality vanished.

The outcomes of patients who experienced delirium while hospitalized were worse. In our study, patients with delirium had an in-hospital mortality rate that was two times higher than that of patients without delirium. This outcome is consistent with a recent study that found a pooled mortality rate of 44.5% among COVID-19 patients who had delirium, as well as a recent review that mentioned a greater mortality risk in COVID-19 patients who experienced delirium.

According to this study, patients who had delirium had lower baseline CRP levels and shorter symptom durations, but there was no difference in their vital signs. These results appear to indicate that in COVID-19 patients, predisposing delirium risk factors, such as a history of delirium, are more significant than precipitating delirium risk factors, such as the severity of the disease upon presentation.

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Previous delirium episodes and pre-existing memory issues were independent predictors of a higher risk of delirium. Only a few earlier research examined the relationship between frailty and other risk variables that predispose to delirium in COVID-19 patients. First, a CFS >5 was linked to a higher incidence of delirium in two cohorts. Second, higher CFS was not linked to incident delirium in a sizable multicenter trial. However, these results are not directly comparable to our findings due to variations in the study population, variables included, and CFS cut-off values used. Our findings highlight the fact that, in order to establish delirium risk in COVID-19 patients, it is crucial to evaluate cognitive impairment and the existence of a prior delirious episode in addition to frailty.

The results of our study highlight the value of screening for delirium risk factors in older hospitalized COVID-19 patients and raise awareness of delirium risk. Delirium is linked to greater mortality, being discharged to a nursing home, and longer hospital stays. However, since preventive measures for the management of delirium have shown to lower the incidence of delirium by 40%, early identification of individuals at risk for delirium may improve outcomes. In addition to prevention, early delirium recognition is crucial for the right kind of therapy to shorten its duration and lessen its severity. Further study is required to determine how delirium affects other hospital outcomes, such as in-hospital falls, as well as long-term outcomes in older COVID-19 patients, such as cognitive function and independence.