Submission Id: 6393

Title

The association of medical and vaccination history with the development of long COVID

Priority 1 (Research Category)

Big Data

Presenters

Robert Post, MD, MS

Abstract

Context: One of the major complications of the COVID pandemic is the development of long COVID, defined as COVID symptoms persisting for more than 3 months. Some previous studies have evaluated demographic factors that may lead to long COVID, but none have evaluated medical history or covid vaccination as potential factors. Objective: To evaluate the association of medical history and COVID vaccination in combination with demographics as potential risk factors for long COVID. Study Design and Analysis: Cross-sectional study of adults in the 2022 National Health Interview Survey. Demographics (age, sex, race/ethnicity, poverty, metropolitan status, insurance status), medical history (obesity, hypertension, prediabetes, diabetes, heart disease, asthma, COPD, arthritis, anxiety, depression, chronic fatigue syndrome (CFS)), and COVID vaccination status were collected, and comparisons were made between those who reported long COVID and those who did not. Means were compared using the 2-sample t-test, and proportions were compared using chi-square. Logistic regression was used to determine odds of one factor being associated with development of long COVID when controlling for other factors. Dataset: 2022 NHIS. Population Studied: Adults age 18 or greater who answered questions regarding whether they had ever been diagnosed with COVID-19 or had tested COVID positive. Of adults who reported having COVID, those who reported symptoms for 3 months or more were deemed to have long COVID. Intervention: None. Outcome Measures: Proportions of patients with and without long COVID who reported a history of various medical issues and COVID vaccination status. Results: 39.4% of those surveyed reported having COVID-19 (unweighted n=9.954, weighted n=98,566,771). Of those, 17.6% reported having long COVID. In logistic regression analysis, odds of developing long COVID was associated more with white race, age 35-64, female sex, obesity, hypertension, asthma, arthritis, asthma, COPD, anxiety, depression, and CFS (all with $p<0.05$). Previous COVID vaccination was associated with lower odds of long COVID (OR 0.83, 95% CI 0.71-0.97, $p=0.02$) Conclusions: Many chronic medical conditions are associated with increased odds of developing long COVID in patients who

have had COVID infection. Conversely, COVID vaccination is associated with decreased odds. Future research is needed to assess if COVID vaccination indeed has a protective effect against the development of long COVID.