

THE BEST OF THE WEEK (09 mag – 15 mag 2022)

N. Islam et al.

Comparative effectiveness over time of the mRNA-1273 (Moderna) vaccine and the BNT162b2 (Pfizer-BioNTech) vaccine

Nature communications, May 2022; doi.org/10.1038/s41467-022-30059-3

Abstract

Real-world analysis of the incidence of SARS-CoV-2 infection post vaccination is important in determining the comparative effectiveness of the available vaccines. In this retrospective cohort study using deidentified administrative claims for Medicare Advantage and commercially insured individuals in a research database we examine over 3.5 million fully vaccinated individuals, including 8,848 individuals with SARS-CoV-2 infection, with a follow-up period between 14 and 151 days after their second dose. Our primary outcome was the rate of Covid-19 infection occurring at 30, 60, and 90 days at least 14 days after the second dose of either the mRNA-1273 vaccine or the BNT162b2 vaccine. Sub-analyses included the incidence of hospitalization, ICU admission, and death/hospice transfer. Separate analysis was conducted for individuals above and below age 65 and those without a prior diagnosis of Covid-19. We show that immunization with mRNA-1273, compared to BNT162b2, provides slightly more protection against SARS-CoV-2 infection that reaches statistical significance at 90 days with a number needed to vaccinate of ≥ 290 . There are no differences in vaccine effectiveness for protection against hospitalization, ICU admission, or death/hospice transfer (aOR 1.23, 95% CI (0.67, 2.25)).

F. Di Gennaro et al.

Long COVID: a systematic review and meta-analysis of 120.970 patients

The Lancet, May 2022; preprints

Abstract

Background: The long-term consequences of the coronavirus disease 19 (COVID-19) are likely to be frequent but results hitherto are inconclusive. Therefore, we aimed to summarize the state-of-the-art literature in relation to long COVID symptomatology, using a systematic review and meta-analysis of observational studies.

Methods: A systematic search in several databases was carried out up to 12 January 2022 for observational studies reporting the incidence rate of long COVID signs and symptoms divided according to body systems affected and defined using the World Health Organization criteria. Data are reported as incidence and 95% confidence intervals (CIs). Several sensitivity and meta-regression analyses were moreover performed.

Findings: Among 11,162 papers initially screened, 196 studies were included, consisting of 120,970 participants (mean age: 52.3 years; 48.8% females) who were followed-up for a median of six months. The incidence of any long COVID symptomatology was 56.9% (95%CI: 52.2-61.6). General long COVID signs and symptoms were the most frequent (incidence of 31%), digestive issues the less frequent (7.7%). Higher percentage of females moderated the onset of any, neurological, general and cardiovascular long COVID symptomatology, whilst higher mean age was

associated with higher incidence of psychiatric, respiratory, general, digestive and skin conditions. The incidence of long COVID symptomatology was different according to continent, age and follow-up length.

Interpretation: Long COVID is a common condition in patients who have been infected with SARS-CoV-2, whether symptomatically or asymptotically, and often regardless of the severity of the acute illness indicating the need for more cohort studies on this topic.