Updated Evidences Proves that COVID-19, RSV, and Flu Vaccines Remain Safe and Effective

A systematic review of U.S.-licensed immunizations against respiratory viruses has recently been done to provide updated evidence on vaccine efficacy and safety and to inform immunization guidance during the 2025–2026 season.

Study

Three predominantly circulating respiratory viruses in the U.S. are severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), respiratory syncytial virus (RSV), and influenza. These viruses are associated with significant morbidity and mortality, with hospitalization rates varying according to viral evolution and changes in population immunity.

In the U.S, the rate of hospitalization due to respiratory infections was highest for SARS-CoV-2 during the 2023–2024 season, followed by influenza and RSV. The risk of hospitalization for SARS-CoV-2 infection remained significantly higher for older adults and very young children since the onset of the coronavirus disease 2019 (COVID-19) pandemic. The risk of RSV-related hospitalization remained highest in 2023–2024 among children under five years of age.

Recent changes in the vaccine advisory process in the U.S. have disrupted immunization guidance, underscoring the need for updated evidence on vaccine efficacy and safety.

The current systematic review aimed to provide recent information on the epidemiology of respiratory viruses and the efficacy and safety of vaccines. The primary objective was to provide healthcare professionals with timely evidence for the 2025–2026 respiratory virus season.

Findings

The systematic review included U.S.-based randomized controlled trials and observational studies that investigated the epidemiology of SARS-CoV-2, RSV, and influenza viruses, as well as the efficacy and safety of vaccines targeting these viruses.

In total, 17,263 references were screened, and 511 studies met the inclusion criteria. The primary outcomes of the review were vaccine efficacy against virus-related hospitalization and other clinical parameters, as well as vaccine safety.

The study analysis reconfirmed that COVID-19, RSV, and influenza vaccines can effectively reduce the risk of severe infection and related hospitalization across populations.

According to the recent estimates, the efficacy of the COVID-19 vaccine against hospitalization due to a highly transmissible subvariant of the omicron strain (XBB.1.5) was 46% among adults and 37% among immunocompromised adults. Such moderate-to-high vaccine efficacy was observed across age groups, and it remained substantial within six months after vaccination.

However, the vaccine targeting this subvariant showed lower efficacy (14 % to 54 %) during the circulation of the newer JN.1 omicron subvariant, highlighting the need for continuous viral surveillance and the timely development of strain-specific vaccines.

In a case–control study, the BNT162b2 vaccine adapted to the KP.2 subvariant showed 68 % effectiveness against hospitalization. The study analysis also revealed an association between COVID-19 vaccination and a reduced risk of long COVID among children.

Conclusion

This systematic review provides updated and independent evidence on the safety and efficacy of vaccines against respiratory viruses that are predominantly circulating in the U.S. The findings highlight the enduring value of vaccination and support the practicability of maintaining rigorous, evidence-based guidance during periods of institutional disruption.

Notably, this systematic review demonstrates that available evidence supports the safety and effectiveness of co-administration of COVID-19, RSV, and influenza vaccines, with outcomes comparable to separate administration. However, evidence on this point remains limited and is based primarily on small studies. This finding supports single-visit vaccination strategies to facilitate access.

Source:

https://www.news-medical.net/news/20251103/COVID-19-RSV-and-flu-vaccines-remain-safe-and-effective.aspx