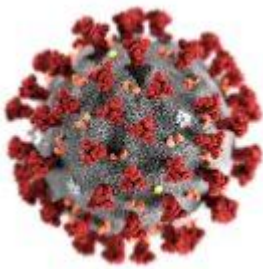


Exploratory study investigates the relationship between recent vaccinations and SARS-CoV-2 infection rates.



Live vaccines such as Bacillus Calmette-Guérin (BCG), licensed against tuberculosis, have been shown to induce heterologous (non-specific) immunity against other infections. Last year (2020), an ecological study suggested that historical BCG vaccination might be associated with a lower risk of SARS-CoV-2 infection ([Read more](#)). However, this study had many limitations, with many commentaries and another study refuting their results ([Hensel et al., 2020](#)). Regardless, BCG does confer heterologous (non-specific) immunity against other infection in a trained immunity dependant manner. However, this effect is likely short term (<2 years).

What about other vaccines? Can they confer some form of “heterologous protective immunity” against SARS-CoV-2? Study by Pawlowski et al. analysed immunisation records of approximately 130000 individuals to determine if historical vaccination (within 5 years) afforded any protection against SARS-CoV-2 in individuals who received SARS-CoV-2 PCR tests.

Researchers observed that Haemophilus influenza type-B (Hib), measles-mumps-rubella (MMR), Varicella, pneumococcal conjugate

(PCV13), Geriatric Flu, and hepatitis A/hepatitis B (HepA–HepB) vaccines administered in the past 1, 2, and 5 years are associated with decreased SARS-CoV-2 infection rates, even after adjusting for geographic SARS-CoV-2 incidence and testing rates, demographics, comorbidities, and a number of other vaccinations.

Analyses that indicated a potential heterologous protective effect were for vaccines administered within a one-year time window, suggesting a potential effect of trained immunity. Unfortunately, this study did not perform any immunological tests to determine if the potential effect could be attributed to trained immunity. Further, their results reported no difference in clinical outcome between recent vaccinees and non-vaccinees once an individual developed severe COVID-19 requiring hospitalisation. Though this study, points towards a favourable association between recent vaccinations and lower risk of SARS-Cov-2 infection, more studies are needed to confirm this and identify the immunological basis of this finding.

Journal Article: Pawlowski et al., 2020. [Exploratory analysis of immunization records highlights decreased SARS-CoV-2 rates in individuals with recent non-COVID-19 vaccinations.](#)
Scientific Reports

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