

Study: COVID-19 vaccination gives added protection against omicron infections in 5 to 17-year-olds

June 21 2023



Credit: Unsplash/CC0 Public Domain

A study by KK Women's and Children's Hospital (KKH), National Center for Infectious Disease and Ministry of Health in Singapore found

that COVID-19 vaccination remained effective against omicron BA.4/BA.5 and XBB infections in children and adolescents. The paper is published in *The Lancet Child & Adolescent Health* journal.

Five- to 11-year-old children who are vaccinated with two COVID-19 [vaccine doses](#) have the highest immunity against [omicron](#) infections prior to the first infection.

For children and [adolescents](#) who were previously infected prior to vaccination, COVID-19 vaccination provides additional protection against omicron BA.4/BA.5 and XBB infections, as compared to those who remained unvaccinated.

Dr. Yung Chee Fu, Lead Author of the study, and Senior Consultant, Infectious Disease Service, Department of Pediatrics, KKH said, "Our study found that getting vaccinated has added protection against variants for children and adolescents who had recovered from a previous COVID-19 infection. In children, the best protection was achieved among those who got vaccinated before their first infection.

"This study reinforces that parents must not rely on past COVID-19 infections alone for their children's immunity against omicron variants. The benefits of vaccination against emerging omicron variants such as XBB, which is highly transmissible, remain significant in children and adolescents."

The study was based on nearly 150,000 5- to 17-year-olds who were previously infected with COVID-19 from January 2020 to December 2022. Omicron infections were the most common during the duration of the study, which also assessed the protection levels conferred by COVID-19 vaccination based on whether vaccination was given before or after the first infection took place. Published in May 2023, this is a comprehensive analysis of real-world [vaccine](#) effectiveness in the

pediatric population in Singapore.

Additional protection for the previously infected

The study found that in previously infected five- to 11-year-old children, vaccination provided 74% protection against omicron BA.4/BA.5. In previously infected 12- to 17-year-olds, vaccine protection against BA.4/BA.5 was 85.7%.

Against omicron XBB, protection conferred with two vaccine doses was lower but remained effective at 62.8% in children and 57.9% in adolescents. This was expected considering the significant molecular changes reported in the XBB [variant](#), making it more transmissible.

Highest protection for those vaccinated before the first infection

For those who were vaccinated with two doses before their first COVID-19 infection, the five- to 11-year olds had the highest protection of 85.3% against omicron BA.4/BA.5, while vaccination effectiveness in adolescents was 82.9%.

The previous infection variant also had an impact on subsequent protection against omicron BA.4/BA.5 infections. Those who were infected with the early Delta variant had the lowest protection against subsequent BA.4/BA.5 infections.

"Since many in the Singapore population including children and adolescents have already caught COVID-19, the study findings are directly relevant to our community. For unvaccinated individuals who have recovered from COVID-19, vaccination will provide added protection, and they can get vaccinated three months after their

infection," added Dr. Yung.

As Singapore transitions to an endemic phase, it is important for children and adolescents to remain up-to-date with their vaccination status. It is highly recommended to get vaccinated as soon as possible prior to any [infection](#).

More information: Chee Fu Yung et al, BNT162b2 vaccine protection against omicron and effect of previous infection variant and vaccination sequence among children and adolescents in Singapore: a population-based cohort study, *The Lancet Child & Adolescent Health* (2023). [DOI: 10.1016/S2352-4642\(23\)00101-3](https://doi.org/10.1016/S2352-4642(23)00101-3)

Provided by SingHealth

Citation: Study: COVID-19 vaccination gives added protection against omicron infections in 5 to 17-year-olds (2023, June 21) retrieved 27 April 2024 from <https://medicalxpress.com/news/2023-06-covid-vaccination-added-omicron-infections.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--