

Editorial
Pediatrics



The Baseline Seroprevalence of SARS-CoV-2 Before the Omicron Surge in Korean Children – The Calm Before the Perfect Storm

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OPEN ACCESS

Received: Nov 6, 2022

Accepted: Nov 6, 2022

Published online: Nov 8, 2022

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Disclosure

The author has no potential conflicts of interest to disclose.

► See the article “The Seroprevalence of SARS-CoV-2 in Children During Early COVID-19 Pandemic in Korea: A Nationwide, Population-Based Study” in volume 37, number 44, e314.

Since the first case of coronavirus disease 2019 (COVID-19) was reported, the incidence of pediatric cases stayed very low for a very long period in Korea. Intensive quarantine, strict social distancing measures, and/or school closure may be attributable to this. In addition, during the period, the majority of confirmed pediatric cases showed mild symptoms and mortality was very rare in previously healthy children, occurring mainly in those with comorbidities such as obesity, neurologic disorders, or immunocompromising underlying diseases.¹ Lee et al.² reported evidence on how much of the pediatric population aged 0–18 years was vulnerable to SARS-CoV-2 infection before the omicron surge. In the report, the observed seroprevalence rate was only 0.11% during the study period, from late December 2020 to late March 2021, when the third COVID-19 wave was in progress in Korea.²

However, as the omicron variant, which is extremely transmissible, became dominant in Korea, the pediatric incidence of COVID-19 increased significantly, and even previously healthy children have been experiencing various manifestations of COVID-19 and its complications including multisystem inflammatory syndrome in children (MIS-C).^{1,3} Even before the report from Lee et al.,² the Korean Pediatric Society and the Korean Society of Pediatric Infectious Diseases have unitedly announced multiple statements on the preparedness in response to the omicron variant surge in Korea. In the statements, the pediatric societies demanded the preparedness of a sustainable healthcare system for children and a more proactive response from the health authorities.³

Recently, the Korean government distributed a press release regarding the result of a cross-sectional nationwide community-based seroprevalence study.⁴ In the study, the blood samples were collected in August and early September 2022 and over 97% of the Korean population had antibodies against SARS-CoV-2 S or N antigen. The anti-S and anti-N seroprevalence rates of children aged 5 to 9 years were 79.6% and 79.8%, respectively.⁴ It meant that about 80% or over of those children in Korea have experienced at least one episode of SARS-CoV-2 infection. But it does not mean those have permanent protective immunity against SARS-CoV-2, especially against new variants.

During the first two years of the COVID-19 pandemic in Korea, a significant decrease in the incidence of various viral infections including influenza was observed.^{5,6} It is also suggested

to be attributable to those strict nonpharmaceutical interventions (NPIs). However, now pediatricians in Korea are experiencing huge epidemics of infections that had almost disappeared earlier in the pandemic, such as infections caused by parainfluenza virus, respiratory syncytial virus, human metapneumovirus, bocavirus, and so on.

In the initial phase of the COVID-19 pandemic in Korea, we could mention that strict nationwide infection control strategies focused on saving adults had successfully oppressed the pediatric incidence of COVID-19. However, those strategies are not tolerable for a long period and may cause developmental problems and deprivation of educational opportunities in children. It is time to evaluate the direct, indirect, and long-term effects of those policies on children, to provide not only the mandatory NPIs, but also the appropriate control measures, especially for children, and to maintain a reliable healthcare system being able to withstand multiple pediatric COVID-19 surges and simultaneous or consecutive infectious disease storms.

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