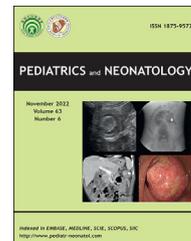


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Editorial

Anxiety-driven post-vaccination concerns in the pediatric emergency department



The Pfizer-BioNTech COVID-19 Vaccine (BNT162b2) received emergency use authorization (EUA) approval from the U.S. Food and Drug Administration in May 2021 for the prevention of coronavirus disease 2019 (COVID-19), which was caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), to include adolescents aged 12–15 years.¹ In this age group, the premarketing clinical trial revealed that it had a decent safety profile and 100% vaccination effectiveness (95% CI, 75.3–100).² Those who were eligible would get two doses of the BNT162b2 vaccine, each 30 mg, with an interval of at least 21 days.

Although COVID-19 infections in teenagers are typically less severe than those in adults, serious symptoms can still develop in this population, particularly in individuals with underlying medical issues.³ Following infection with the SARS-CoV-2, this group is also susceptible to multisystem inflammatory syndrome, which further encourages the requirement for immunization.⁴ Thus, many countries have swiftly included adolescents aged 12–18 years to their BNT162b2 immunization programs, with Singapore being one of the first to do so.

A few months after the EUA of BNT162b2 for usage in adolescents, Krug et al. reviewed the data from the Vaccine Adverse Event Reporting System in the USA and reported that the incidence of myo/pericarditis following the second dose in male patients were 162.2 (ages 12–15) and 93.0 (ages 16–17) per million.⁵ The report stirred up the fear of vaccine side effects. Following the COVID-19 vaccination, there was an increase in the frequency of visits to the pediatric emergency department (PED), along with a few other factors. These visits seem to be brought on by worry or negative effects from the vaccine.

Ng et al.⁶ describe their findings on the rate of COVID-19 vaccine-related visits to a PED in this issue of *Pediatrics and Neonatology* to comprehend teenage health behaviors following vaccination. From the start of the teenage

vaccination drive until at least 85% of this cohort had received all recommended vaccinations, the authors retrospectively reviewed the electronic medical records across a 4-month period. Of the 291 PED attendances associated with vaccinations, 88% had mild presentations. Moreover, patients with moderate-to-severe presentations tended to be older (+0.7 years, $p = 0.030$), more likely to have underlying medication allergies ($p = 0.048$), and more likely to be hospitalized ($p = 0.005$) than patients with mild presentations. Furthermore, all cases of severe presentations were self-limiting, and patients did not experience any irreversible function loss. Moreover, 171 vaccination-related PED attendances (42.1% women) were complaints of chest pain, but only four patients (all men) were diagnosed with myo/pericarditis. Their data support the safety of the BNT162b2 vaccine in adolescents aged 12–18 years. Common side effects include rash, angioedema, dyspnea, palpitations, chest tightness, fever, light-headedness, and syncope.

The study is a scaled-down version of the COVID-19 vaccine adverse effects reporting platform, which may detect major adverse events and reflect health-seeking behaviors motivated by anxiety about receiving the immunization for COVID-19. The authors' phrase "post-vaccine phenomena" refers to the surge in post-vaccination complaints to the PED. Most post-vaccination concerns are related to anxiety, and symptoms resolve on their own. During the study period, the daily incidence of post-vaccination phenomena was as high as 15.4%, which may have had an effect on how well the hospital department operated.

The author made the argument that the widespread fear was caused by the media's dissemination of false information about the negative effects of COVID-19 vaccines. However, the post-vaccine phenomenon appears to be unavoidable considering the media influence.

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Declaration of competing interest

I have no conflict of interest to disclose.

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