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EDITORIAL COMMENTARY

Looking Back at the COVID-19 Pandemic in Children

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Three years on, we are nearing the end of the COVID-19 pandemic. The 630 million cases and 6.5 million deaths so far are a gross underestimate of the actual direct burden of the disease [1]. Fortunately though, COVID-19 has been a mild disease in children. Children have contributed to only 0.4% of the deaths despite constituting 21% of reported cases and 33% of the population [2]. But it was the indirect impact of the disease that was devastating for children. The COVID-19 pandemic has occurred in different waves due to the emergence of viral mutants. The delta wave has been the most severe, with higher rates of hospitalizations and deaths in adults. Hence, there have been efforts to compare the disease profile in children during delta virus circulation versus the previous waves/subsequent waves.

In their paper, Vishwa et al. have described and compared the epidemiology, clinical profile, and outcomes of 217 children with COVID-19 during the first and second waves in Chandigarh, India [3]. Of these, 65 children (30%) were hospitalized due to COVID-19 while the rest had other illnesses with incidentally detected COVID-19. More than half the children (57%) needed high-dependency care/ICU care. Forty-six percent needed supplemental oxygen/noninvasive ventilation, and 21% were ventilated with a mortality rate of 13.5%. These rates are higher than those reported from hospitalized children in an international multicentric study from 51 centers (871 children, invasive ventilation in 8.6%, and 1.8% mortality), Brazil (11,613 hospitalized children, invasive ventilation in 10%, and 7.6% mortality), and Japan (1038 hospitalized children, 2.1% on respiratory support, 0 ventilation/deaths) [4–6]. The higher rates in the Indian study may be due to referral bias and the admission of a sicker cohort. One of the strengths of the study by Vishwa et al. is that they report separately on children with disease attributable to COVID-19, unlike other published studies. The study results would have been even more meaningful if the characteristics of this cohort of 65 children had been discussed in greater detail, including risk factors for mortality and severe disease.

Vishwa et al. reported no significant difference in profile, severity, and outcome between the two waves. This has been the experience elsewhere as well. In a cohort of 82,798 US children between March 2020 and December 2021, the adjusted odds for severe disease did not change over time, including during the delta variant [7]. Interestingly though, in a study from Brazil in 21,000 hospitalized children < 20 y, hypoxemia, intensive care admissions, and the need for invasive ventilation were significantly higher during the gamma variant as compared to the first wave [8].

And what about omicron? A Japanese study, which compared COVID-19 disease in hospitalized children between the delta-predominant period ($n = 458$) and the omicron-predominant period ($n = 398$) reported a higher incidence of fever and seizures in the latter but no difference in severity of the disease; no deaths were reported in either wave [9].

Lastly, long COVID in children is an emerging concern [10]. There is a pressing need for studies to look at this outcome as well.

Declarations

Conflict of Interest None.

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