

PICKids Power-Up: Did Pfizer and Sinovac vaccination shield hospitalisation in Malaysian children (6 to 11 years old) during the Omicron surge? Analysis using multi-linked national surveillance data

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ABSTRACT

Introduction: Starting February 2022, Malaysia authorised Pfizer and Sinovac vaccines for children aged 5-11 under the national immunisation program (PICKids). This study aimed to assess vaccine effectiveness (VE) against COVID-19 hospitalisation in Malaysian children aged 6-11, considering the unique vaccine profiles, dosing strategies, and dose intervals in the country. **Methods:** A national cohort of public school children aged 6 to 11 was created using the student registry, vaccination records, COVID-19 cases line listing, and hospital discharges. Time to hospital admission was the primary outcome. Data was gathered from various administrative sources under the Ministry of Education and Ministry of Health Malaysia. COVID-19-related hospitalisations were extracted from the Medical Treatment Report System, MyHealthDataWarehouse. Survival analysis was utilised to estimate hazard ratios adjusting for important covariates such as age, sex, regions and history of infection. **Results:** The study included 2,203,846 children, with 119,698 partially vaccinated and 918,638 fully vaccinated with either Pfizer or Sinovac. The estimated VE against hospitalisation was 21% (95% CI: 10-30%) and 84% (95% CI: 82-86%) for one- and two doses of vaccines. The VE for full vaccination was 59% (95% CI: 37-73%) and 85% (95% CI: 83-87%) with Sinovac, and Pfizer, respectively. **Conclusion:** This study is the first to compare Pfizer and Sinovac VE against COVID-19 hospitalisation under Omicron dominance in children in Malaysia. The VE of Pfizer (85%) was higher than previous studies in the US and Italy but similar to Singapore, while the VE of CoronaVac (59%) was consistent with observations in Brazil. This study informs child vaccination strategies during the Omicron pandemic and public health policies.