

Epidemiological and clinical features of SARS-CoV-2 Infection in children during the outbreak of Omicron Variant in Shanghai, March 7-March 31, 2022

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Abstract

Objectives: To understand the epidemiological and clinical characteristics of pediatric SARS-CoV-2 infection during the early stage of Omicron variant outbreak in Shanghai. **Study designs:** This study included local COVID-19 cases <18 years in Shanghai referred to the exclusively designated hospital by the end of March 2022 since emergence of Omicron epidemic. Clinical data, epidemiological exposure and COVID-19 vaccination status were collected. Relative risks (RR) were calculated to assess the effect of vaccination on symptomatic infection and febrile disease. **Results:** A total of 376 pediatric cases of COVID-19 (median age: 6.0±4.2 years) were referred to the designated hospital during the period of March 7-31, including 257 (68.4%) symptomatic cases and 119 (31.6%) asymptomatic cases. Of the 307 (81.6%) children [?] 3 years eligible for COVID-19 vaccination, 110 (40.4%) received 2-dose vaccines and 16 (4.0%) received 1-dose vaccine. The median interval between 2-dose vaccination and infection was 3.5 (IQR: 3, 4.5) months (16 days-7 months). Two-dose COVID-19 vaccination reduced the risks of symptomatic infection and febrile disease by 35% (RR 0.65, 95% CI: 0.53-0.79) and 33% (RR 0.64, 95% CI: 0.51-0.81). Two hundred and sixteen (83.4%) symptomatic cases had fever (mean duration: 1.7±1.0.8 days), 104 (40.2%) had cough, 16.4% had transient leukopenia; 307 (81.6%) had an epidemiological exposure in household (69.1%), school (21.8%) and residential area (8.8%). **Conclusion:** The surge of pediatric COVID-19 cases and multiple transmission model reflect wide dissemination of Omicron variant in the community. Asymptomatic infection is common among Omicron-infected children. COVID-19 vaccination can offer some protection against symptomatic infection and febrile disease

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