COVID-19 affects children of all ages, but they rarely develop any severe or critical illness. \(^1\) India has been hit by two major waves of the COVID-19 pandemic, with peaks in September 2020 and May 2021. \(^2\) More than 2% of the 44.5 million population of Odisha were diagnosed with COVID-19 infection during this period.

In this study, we retrospectively analysed the swab samples tested from 7 March 2020 to 17 August 2021 at the Indian Council of Medical Research-Regional Medical Research Centre, Bhubaneswar, Odisha. 553,763 nasopharyngeal swabs were collected from individuals suspected with COVID-19 in Odisha state. 75,190 (13.6%) samples were positive by reverse transcription-PCR. There were 5988 (8%) cases in children and young people under 18 years old. Odisha reported 996,153 COVID-19 cases during this period.

ABSTRACT

We retrospectively analysed the swab samples tested for COVID-19 from 7 March 2020 to 17 August 2021 at the Indian Council of Medical Research-Regional Medical Research Centre, Bhubaneswar, Odisha. 553,763 nasopharyngeal swabs were collected from individuals suspected with COVID-19 in Odisha state. 75,190 (13.6%) samples were positive by reverse transcription-PCR. There were 5988 (8%) cases in children and young people under 18 years old. Odisha reported 996,153 COVID-19 cases during this period.

COVID-19 in children in Odisha state, India: a retrospective review

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To cite: Dash GC, et al. BMJ Paediatrics Open 2021;5:e001284. doi:10.1136/bmjpo-2021-001284

Acknowledgements

None of the children had any comorbidities as per the data collected during sample collection. Fear of mutations causing more
severe cases in children has no solid scientific evidence to date. The most successful strategy to return children to schools is to increase vaccine eligibility for children and adolescents while addressing vaccine hesitancy. Immunisation of school teachers and staff is being prioritised to prevent occupational transmission, and there is a gradual emergence of evidence of vaccine effectiveness in adolescents. Even without vaccination, due to the high prevalence of seropositivity, children might incur natural immunity in preventing future infection or complications of COVID-19. An expanding vaccine eligibility for children and adolescents while addressing hesitancy is the most effective strategy in returning children to schools and colleges. The study highlights that presently there is no such concrete evidence to show that children are or would be affected more than adults in the upcoming waves. To address any future upsurge, a collaborative effort from the private and public sectors is the need of the hour.

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Acknowledgements The authors gratefully acknowledge all the healthcare workers for their tireless dedication at each level to fight COVID-19 and for voluntarily participating in this cohort study.

Contributors DB and SP designed the study. GCD, SS, JT, DP, SR, JS, UKR and RRN were involved in testing and analysis of data. GCD, SS, HRC and DB were responsible for data analysis and valuable inputs. SP, DB, GCD and SS wrote the manuscript. All authors have read and approved the final manuscript.

Funding The Indian Council of Medical Research, New Delhi and the Department of Health and Family Welfare, Government of Odisha provided financial support to the study.

Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

Patient consent for publication Not required.

Provenance and peer review Not commissioned; externally peer reviewed.

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REFERENCES
1 Ladhani SN, Amin-Chowdhury Z, Davies HG, et al. COVID-19 in children: analysis of the first pandemic peak in England. Arch Dis Child 2020;105:1180–5.
2 Ministry of health and family welfare, government of India (COVID-19) Dashboard. Available: https://www.mohfw.gov.in/ [Accessed 24 Aug 2021].
3 Murhekar MV, Bhatnagar T, Thangaraj JWV. Prevalence of IgG Antibodies Against SARS-CoV-2 Among the General Population and Healthcare Workers in India, June–July 2021 [Internet]. Report No.: ID 3899801. Rochester, NY: Social Science Research Network, 2021. https://papers.ssrn.com/abstract=3899801
4 Irfan O, Li J, Tang K, et al. Risk of infection and transmission of SARS-CoV-2 among children and adolescents in households, communities and educational settings: a systematic review and meta-analysis. J Glob Health 2021;11:05013.
5 Dowell AC, Butler MS, Jinkins E, et al. Children develop strong and sustained cross-reactive immune responses against spike protein following SARS-CoV-2 infection. Medrxiv 2021.
6 Kamidani S, Rostad CA, Anderson EJ. COVID-19 vaccine development: a pediatric perspective. Curr Opin Pediatr 2021;33:144–51.