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COVID-19

Children, covid-19, and India's looming third wave

Makepeace Sitthou reports on how covid-19 has affected children in India, and how the authorities are making plans to improve provision of care

Makepeace Sitthou *freelance journalist*

In September 2020, 15 year old Well Done Boy Marbaniang was brought to hospital in Shillong, India, with fever, cough, and breathing difficulties. He was immediately put on non-invasive ventilation and given intravenous fluids, but just five and a half hours after his admission, Marbaniang died.

He was the first child to die of covid-19 in Meghalaya. The northeastern state had the highest case fatality rate (8.3%) in India during the first wave of covid-19, and one of the highest rates of positive test results (7-8% against the national average of 2.5%) during the second wave. Around 22% of total infections through to August were in under 18s.

Covid-19 has devastated India's already inadequate health system, and has resulted in more than 430 000 deaths, including 1500 children.¹

Children who contract covid-19 generally do not experience its worst effects. But as new waves of SARS-CoV-2 variants occur across the globe—and particularly in countries where vaccination rollout has been slow—the proportion of children infected with covid and getting seriously ill has grown this year.

In Indonesia, 13% of people infected with covid-19 in August (534 182 of 4 109 039 total cases) were under 18, with a case fatality rate of 1%, according to the health ministry.²

In the US, where the infection rate is far higher than in Indonesia, children constituted 14.6% of the cumulative cases up to 26 August, according to the American Academy of Paediatrics Committee on Infectious Diseases.³ Between 31 July and 6 August, 216 children were hospitalised with covid-19 each day, although the case fatality rate was around 0.24%.⁴

In India, data are lacking on hospitalisations and deaths among infected children, and it is unclear whether the official numbers are fewer than reality. Only a few states, including Karnataka, Tamil Nadu, and Kerala, have published numbers of infections and deaths stratified by age, and no publicly available centralised database is maintained by the union ministry of health and family welfare.

According to data shared by medical authorities in Jaipur, capital of Rajasthan state, 10.7% of local cases in January to July 2021 were in patients aged under 20, with a spike in April and May. Of this, only 2% of cases were symptomatic, Narottam Sharma, the chief medical health officer, told *The BMJ*.

Jenny Swett, a paediatrician at Ganesh Das Institute for Maternity Care and Children in Shillong, says she has seen more cases of moderately to severely ill children with covid-19 this year, most of whom suffered with respiratory symptoms and acute gastroenteritis. She says the increase in deaths (2.7% in August) is probably the result of delays (of up to seven days) in children being brought in for treatment, largely because parents and carers are sceptical about covid and vaccines. Some parents have refused treatment even when their children test positive, Swett says.

“They have this notion that covid doesn't exist; that it's a made up thing. In some cases, parents have discharged their children against our advice to keep them in isolation wards.”

Preparing for a third wave

Most published data suggest that children with covid-19 were usually either asymptomatic or mildly symptomatic, and that mortality from multisystem inflammatory syndrome (MIS-C) (which is associated with covid-19 infection) is very low (box). In a report published in June, the Lancet covid-19 Commission India Task Force found a mortality rate of 2.4% among 2600 children under 10 who were hospitalised with covid-19. Of the children who died, most had comorbidities (asthma, gastrointestinal conditions, diabetes, or neuro-disabilities).

Studies in India and elsewhere have found no evidence that children are more at risk from the delta variant. A survey conducted by the All India Institute of Medical Sciences (AIIMS) found traces of the virus in the blood samples of 55.7% among children 2-17 years old compared with 63.5% in adults.⁵

The Indian government's National Institute of Disaster Management has assembled a panel to assess the impact a third wave of covid-19 infections might have on children, particularly because vaccination for under 18s has yet to be rolled out. The panel, which includes paediatricians from some of the country's most respected medical institutions, said paediatric facilities in India were not “robust enough to treat children on a large scale.”⁶ Meghalaya state's health infrastructure, for example, is so severely strained that 877 newborns and 61 pregnant women died in 2020⁷ while state healthcare resources were re-directed to manage covid-19. In May, 13 of the 17 children diagnosed with covid-19 died, according to Meghalaya's health minister.

Despite being the largest maternal and paediatric hospital in Meghalaya, Ganesh Das did not have an intensive care unit (ICU) for children until the state government announced plans to set up units at the state's three district hospitals in June. Says Jenny Swett, "Just weeks ago, a child needed to be admitted to the ICU but we didn't have one of our own, and for a while we struggled to find a bed in another hospital."

Anticipating a third wave, in July the federal government allocated funds to hospitals, directing them to increase intensive care beds by 20 000, designating 20% of those beds to children, and building paediatric units in all 736 district hospitals.⁸

Swett told *The BMJ*, "The healthcare infrastructure in our state is not prepared for severe cases. Until recently, only one government hospital in the entire state had a paediatric ICU, and that is a tertiary care centre."

The city of Jaipur has set up 25 oxygen centres. "We have reserved 75 ICU beds for children in JK Lone hospital, where 300 beds were added. If required, affiliated hospitals will come to our aid," Sharma told *The BMJ*. "The government has also ensured that community health centres can admit children, equipping the centres with 15 ventilators and training the staff [to use them]." Several states in India are preparing to re-open schools which have remained closed for the most part since the pandemic began. With only 15.4% of India's adult population⁹ fully vaccinated at the time of writing, and vaccination drives yet to begin for children, medical practitioners told *The BMJ* that opening schools at the moment might be "premature."

"Unless almost 50-70% of the adult population gets fully vaccinated and we get the vaccine for adolescents followed by children in the next 3-4 months, logistical issues with opening schools will be significantly high (and covid cases could increase)," said Chetan Ginigeri, a paediatrician at Aster CMI hospital in Bangalore. But K Sujatha Rao, a former health secretary and secretary for education for Andhra Pradesh state, pointed out that children can also be infected in temples, markets, and malls that are open.

Parents bringing children to the government paediatric hospital in Shillong come from all districts of Meghalaya, and most are not vaccinated, says Swett. This is because of distrust of the government and vaccines, and sometimes for religious reasons. Meghalaya has one of the lowest vaccination rates in the country, with 400 000 of the 3.3 million population fully vaccinated (a little over a million have had one dose).

Marbaniang's family is unwilling to accept covid as the cause of his death, and is sceptical that the virus exists. "Our local legislators are travelling up and down but none of them has ever tested positive," said Marbaniang's mother Irinda. "I think covid is a conspiracy to make money," she said, adding that no one in her family was willing to get vaccinated.

It's a stance Swett sees every day. "Children are getting infected by the adults at home while schools are closed and kids are not being taken to crowded places here," she said. "If their parents are hesitant to get vaccinated, they're also less likely to follow covid [protection] protocols."

MIS-C in India

Indian media have reported that many children who had severe symptoms of covid-19 have also developed multisystem inflammatory syndrome (MIS-C), a hyper inflammatory infection that attacks the heart, lungs, kidney, eyes, brain, skin, or gastrointestinal organs. Typically detected in children 2-6 weeks after covid-19 infection, in severe cases it can be fatal, as it was for 18 children in Jaipur in July.

A paper published in *Indian Pediatrics* concluded that early detection and intensive care admission leads to a lower mortality rate.¹⁰ However, according to Chetan Ginigeri, a paediatrician in Bangalore, children who have recovered from MIS-C are often taking longer than expected to recover from tropical or seasonal infections. "Children with dengue, pneumonia, or hepatitis-A, which usually take a 4-6 day natural course, are now taking 12-15 days to recover," he said.

Competing interests: I have read and understood the BMJ policy on declaration of interests and have no relevant interests to declare.

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