

Experts weigh pros and cons of vaccinating children under 16

There is the risk of severe allergic reaction in children, but inoculating them can be vital for herd immunity

Cheryl Tan

Clinical trials are under way to approve appropriate vaccines for children under 16, the last group in the country to be offered a jab.

But while experts note that children are not as likely to transmit the virus and are not a major reservoir of infections, the medical profession said that inoculating this cohort is vital for the community to achieve herd immunity.

However, the kind of vaccine they will receive remains an open question.

The Pfizer-BioNTech jab is not currently recommended for those under 16, while the Moderna vaccine cannot be approved for those under 18 until more safety and efficacy data is available, noted the Ministry of Health.

Both vaccines have begun trials in children aged 12 and above, with

the Pfizer-BioNTech dose achieving a 100 per cent efficacy rate in 2,260 adolescents from 12 to 15 years old.

Similarly, Moderna has begun trials with 3,000 people aged 12 to 17, half of whom are receiving two shots four weeks apart, while the other half are getting a placebo. The results are expected around the middle of this year.

Both vaccine companies have also begun trials on children under 12.

Sinovac Biotech's Covid-19 vaccine is said to be safe and able to trigger immune responses in children and adolescents, according to preliminary results from early and mid-stage trials conducted among three- to 17-year-olds.

The Sinovac shot has not yet been approved by the Health Sciences Authority, although Singapore has already received about 200,000 doses of it.

Associate Professor Sylvie Alonso, who is from the National University of Singapore's (NUS) Yong Loo Lin School of Medicine and co-director of the school's Infectious Diseases Translational Research Programme, said that the human immune system is very

immature and not fully functional from birth until around the age of 11 to 12.

"Therefore, for this younger demographic (below the age of 11), efficacy and reactogenicity, which includes local and systemic reactions to the vaccine, may be significantly different from what is observed in adults," she said.

This means the dose or its formulation may have to be adjusted so that the vaccine is suitable and optimal for this younger demographic, Prof Alonso said.

Professor Paul Tambyah, president of the Asia-Pacific Society of Clinical Microbiology, said that children tend to have more severe allergies than adults do, which could make known side effects of Covid-19 vaccines, such as allergic reactions, more dangerous for them.

He cited a 2018 study that found more cases of food anaphylaxis in children than in adults, while cases of drug anaphylaxis were more prevalent in adults than in children.

He noted, however, that many children have asthma that they "grow out of", and food allergies that tend to fade with age.

Thus, he said, "it would be important to understand the risk of severe allergic reactions in children before the widespread roll-out of the vaccine to them".

VACCINATING CHILDREN FOR HERD IMMUNITY

While vaccinating children might raise initial concerns, experts said that doing so will still be necessary to achieve herd immunity.

Professor David Matchar of the Duke-NUS Medical School said that about 80 per cent to 90 per cent of the population needs to be immune to the virus to prevent a new Covid-19 case from leading to broader transmissions, though this depends on the transmissibility of the virus and the level of interactions between people.

"Children under 16 represent about 12 per cent of the population, and with some older individuals not being vaccinated, it is unlikely that Singapore would reach... herd immunity without (vaccinating) kids," he said.

Professor Teo Yik Ying, dean of the NUS Saw Swee Hock School of Public Health, said that achieving herd immunity does not depend only on the percentage of people vaccinated in the population, "but the type of activities and movement patterns in the community".

"If people-to-people interactions are reduced because of safe management measures... we can achieve herd immunity at a lower rate of vaccination uptake," he said.

"However, if we are hoping to return to pre-Covid days, then we do need to achieve a much higher vaccination take-up rate."

Prof Alonso said it may be possible for the virus to mutate so that it easily infects children who are not vaccinated, but she noted that this may not be accompanied by increased severity of the disease.

Prof Matchar said: "In theory, not vaccinating kids could promote the development of new mutations and a more prolonged pandemic among everyone, including adults."

However, this would be the "worst-case scenario" if children are not vaccinated along with adults, he said.

He noted that if vaccination rates are high among adults and the population continues to be on guard through mask wearing and social distancing, further mutations can be slowed sufficiently to minimise outbreaks.

This could also give time for vaccines to be changed to tackle new mutations.

Then vaccinating children becomes less urgent, Prof Matchar added.

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A 16-year-old girl receiving her first dose of the Pfizer-BioNTech vaccine last week in New Hyde Park village in New York. The Pfizer jab is not currently recommended for those under 16, while the Moderna shot is not approved for those under 18, but both vaccine makers have begun trials in children aged 12 and above, and under 12. PHOTO: REUTERS