Effectiveness continues to support vaccination

Pilar T V Florentino, Thiago Cerqueira-Silva, Manoel Barral-Netto, Enny S Paixão

Although children and adolescents generally have a milder form of covid-19 than adults, some young people develop a severe illness leading to hospital admission or even death. Children can also develop complications, such as multisystem inflammatory syndrome in children and long covid syndrome.1 Furthermore, after the emergence of the omicron variant and the loosening of social distance measures, cases of covid-19 rose sharply among younger age groups, further disrupting schools and adding to cases of covid-19 in older age groups. The emergence of the omicron variant and the loosening of social distance measures, cases of covid-19 rose sharply among younger age groups, further disrupting schools and adding to cases of covid-19 in older age groups. The evidence to date still leaves important unanswered questions, however. Is covid-19 vaccination truly less effective for children than other age groups? If so, what could explain this discrepancy? A few points must be considered when interpreting effectiveness studies in children. Firstly, studies in children can be difficult owing to the specific characteristics of covid-19 in this age group. For example, children with SARS-CoV-2 infections tend to have mild or no symptoms; this could lead to many undetected infections and an underestimate of vaccine effectiveness. Secondly, children are far more likely than adults to become infected with other respiratory viruses, perhaps leading to missed diagnoses and misdiagnoses. A third and critical limitation is the low rate of severe disease and death in this age group, leading to a lack of power in analyses of these outcomes and wide confidence intervals around estimates in studies of children under 12.

Finally, debate persists around whether the reduced dose of mRNA vaccines (Pfizer-BioNTech and Moderna) given to children under 12 years could lead to lower levels of protection. Some preliminary data showed lower effectiveness from the reduced dose (10 μg) of mRNA vaccine (Pfizer-BioNTech) administered to children compared with adolescents aged 12 years receiving a full dose (30 μg).0 However, vaccine effectiveness in children seems to be lower than in adults (against mild or severe disease), even for those given inactivated virus vaccines that contain the same dose for both adults and children.1–7

The scientific community is still debating how best to study the effectiveness of covid-19 vaccine in children, but some level of protection against mild and severe outcomes has been established. The safety of covid-19 vaccines in this age group is well supported, although results for rare outcomes are still under investigation, and surveillance must continue.10–13 Although more research is needed on vaccines’ effectiveness at reducing transmission in the context of emerging variants, sufficient scientific support exists for public health authorities to continue to promote vaccines to children and adolescents. Further real world studies will help to answer the remaining questions surrounding vaccine effectiveness in this age group. Meanwhile, in addition to vaccines, non-drug interventions remain central to containing the burden of disease at the community level.14

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