Vaccinating Children and Young People: What are the issues?

August 2021

Giulia Sesa[1,2], Alison McCallum[1,3], Jose M Martin-Moreno[1,4,5], Manfred Green[1,6], Nadav Davidovitch[1,7], Judit Simon[1,8], Katarzyna Czabanowska[1,2], John Middleton[1,9,*]

[1] ASPHER COVID-19 Task Force
[2] Department of International Health, CAPHRI, FHML, Maastricht University
[3] Usher Institute, University of Edinburgh, UK
[4] Department of Preventive Medicine and Public Health and INCLIVA, University of Valencia, Spain
[5] ASPHER Honours' Committee co-Chair
[6] University of Haifa, Israel
[7] School of Public Health, Ben Gurion University of the Negev, Israel
[8] Center for Public Health, Medical University of Vienna
[9] ASPHER President
* Corresponding Author: john.middleton@aspher.org

In the past few months, the vaccination rollout in several European and non-European countries has expanded to include children and young people between 12 and 15 years of age. Studies suggest a comparable immune response to the Comirnaty vaccine among individuals between 12-15 and 16-25 years, suggesting the vaccine's efficacy among this age group.[1] Common side-effects include those experienced by older adults, namely fever, tiredness, swelling, redness, pain, headache, chills, nausea, and muscle pain.[1,2] These are usually mild and people recover within days after vaccination.[1] Rare cases of pericarditis and myocarditis have occurred among males vaccinated with Comirnaty, including the 16-19 age group, almost entirely after the second dose of vaccine.[2] Myocarditis can occur without an obvious trigger, but is more often recognised as a complication of acute infection, either directly or as an auto-immune response.[3] No clear evidence exists linking such events to vaccination for individuals below the age of 16.[1]

In relation to post-vaccination myocarditis, the CDC and the American Academy of Pediatrics have concluded that myocarditis and pericarditis occur in mild forms among young individuals and that these tend to recover with no or minimal treatment.[4] While there will be specific exceptions on clinical grounds, the benefits of vaccination outweigh the risks in the ¨*current context and in scenarios with substantially lower case incidence rates*¨ despite many young people being at lower risk of contracting COVID-19.[1,2] Although a smaller proportion of young people than adults experience severe initial forms of COVID-19, long COVID still

affects them.[5] Benefit-risk considerations could be explained by various factors. Firstly, CDC notes the absence of vaccine-related deaths and severe adverse-events among the over 9 million individuals immunised under 18.[4] Secondly, vaccinating younger age groups may reduce the transmission of COVID-19 within the community by asymptomatic or paucisymptomatic individuals, protecting vulnerable young people and adults and potentially contributing to the achievement of herd immunity, given the rates of vaccine hesitancy.[4] Thirdly, vaccinating children benefits them educationally and socially, by limiting disruption to education. It also reduces the risk and pace at which novel variants would spread through susceptible groups.[6] *¨It's possible that more-transmissible variants will develop a way to push through whatever it is in a young person's immune response that makes them more resistant to infection¨*.[6]

To date, different approaches to the immunisation of children and young people against COVID-19 have been taken in Europe and globally. Countries now introducing such programmes need to take account of the potential inequalities in coverage that would compromise the benefits of immunisation. It is essential, therefore, that young people are involved in the design of the programme, and in the decision to immunise. This reflects GDPR recognition of the competence of young people aged 13 and over regarding their confidentiality and medical records.[7]

We summarise below the countries currently undertaking COVID-19 immunisation for those aged over 12 years. All countries are in a dynamic state concerning the evaluation of COVID-19 immunisation for children and young people.

In May, the EU authorised COVID-19 vaccines for 12-15 year olds.[8] Only France, Italy, Czech Republic, Slovakia, Austria and the Netherlands have begun vaccinating individuals in this group.[8,9,10,11] Germany delivers COVID-19 vaccines only to children with specific pre-existing medical conditions.[8] In May, Hungary began vaccinating individuals between the ages of 16 and 18.[9] In the UK, The Joint Committee on Vaccination and Immunisation (JCVI) recommended vaccinating children between the age of 12 and 15 with learning difficulties, severely weakened immune systems, Downs syndrome, and severe neuro disabilities or those living with individuals with suppressed immune systems.[8,9] They extended this recommendation on August 4th, to cover all 16-17 year olds.[12] San Marino and Switzerland have authorised COVID-19 immunisation for all individuals above the age of 12.[9] Israel and the United Arab Emirates (UAE) have broadened their vaccination rollout to include children above 12.[9] Israel is urging children's immunisation given the surge of cases linked to the Delta variant.[9] In the Asia-Pacific region, Hong Kong, Singapore, Japan, the Philippines, New Zealand, and China have approved vaccination for children, with China starting at age 3.[9] Indonesia has recommended the Sinovac vaccine for those between the age of 12 and 17.[9] Chile, Mexico, Brazil, the United States (US), and Canada have approved the use of the PfizerBioNTech vaccine for children above 12.[9] The US plans to expand the vaccination rollout for individuals above the age of 4 during the winter.[9]

Ethical issues surrounding the vaccination of children and young people remain prominent. Careful consideration of the principles of vertical equity, distributional justice and proportionate universalism are required. For instance, is the strategy of vaccinating healthy children in high

income countries more appropriate than prioritising high risk groups or unvaccinated adults worldwide? **ASPHER, as Europe's representative organisation for Schools of Public Health, is deeply concerned by the absence of a secured global supply of vaccines to address the immediate requirement for vaccination of health workers and vulnerable adults.**

ASPHER calls for the rapid immunisation of vulnerable children and young people following the UK, Germany, and Finland vaccination plans.[13]

ASPHER recommends vaccinating children and young people who live with individuals with a weakened immune system and commends the efforts to identify and support young carers.

ASPHER recognises the value of vaccinating children and young people in areas with higher rates of exposure and susceptibility to the consequences of COVID-19 that reflect the structural inequalities in otherwise wealthier countries. We commend efforts to reduce inequalities due to COVID-19 infections and the disproportionate impacts of the virus on those communities.[14] We also recognise that many communities facing a greater rate of exposure to COVID-19 also have a higher proportion of people from younger age groups.[15] Without vaccinating children and young people, these communities would be left with significant pockets of susceptible individuals.

ASPHER recognises the value of vaccinating children with the aim of reducing the requirement for repeated periods of quarantine following contact with positive cases and the negative material, social and educational consequences.[16]

ASPHER also stresses the importance of close surveillance of COVID-19 cases and ring vaccination of children and young people in higher risk settings and communities. For instance, by vaccinating children and young people who have been in close contact or in proximity to a COVID-19 positive individual.[17,18]

ASPHER supports international calls for the mandatory supply of vaccines through the COVAX mechanism by immediate donation and distribution. Country contributions should be on a proportionate basis and in line with the WHO contributions they make on a GDP per capita basis.

ASPHER supports the vaccine waiver implementation, articulating proper agreements under international trade law (based on the Doha Agreement on HIV drugs 2000). ASPHER believes there is enough manufacturing capacity to produce the needed vaccines for global immunisation. We will continue to advocate and support calls for TRIPS waivers, technology transfer agreements, and increasing vaccine production capacity by optimising licensing, additional training and oversight of those places already competent in vaccine and drug manufacture, particularly in low and middle income countries (LMIC).

ASPHER calls for an end to vaccine poverty through full implementation of the Missing Out on Vaccination (MOV) programme designed to address barriers to vaccine access at global and local level and the need for clear, consistent, and inclusive communication strategies to counteract disinformation, address concerns and minimise vaccine hesitancy.

References:

1. Pinho AC. First COVID-19 vaccine approved for children aged 12 to 15 in EU [Internet]. European Medicines Agency. 2021 [cited 2021Aug1]. Available from: https://www.ema.europa.eu/en/news/first-covid-19-vaccine-approved-children-aged-12-15-eu
2. CDC. COVID-19 vaccines for children and teens [Internet]. Centers for Disease Control and Prevention. Centers for Disease Control and Prevention; 2021 [cited 2021Aug1]. Available from: https://www.cdc.gov/coronavirus/2019-ncov/vaccines/recommendations/adolescents.html
3. CDC. Myocarditis and Pericarditis following Mrna COVID-19 Vaccination [Internet]. Centers for Disease Control and Prevention. Centers for Disease Control and Prevention; 2021 [cited 2021Aug18]. Available from: https://www.cdc.gov/coronavirus/2019-ncov/vaccines/safety/myocarditis.html
4. Gurdasani D, Bhatt S, Costello A, Denaxas S, Flaxman S, Greenhalgh T, et al. Vaccinating adolescents in England: A risk-benefit analysis. 2021;
5. Lewis D. Long covid and kids: Scientists race to find answers [Internet]. Nature News. Nature Publishing Group; 2021 [cited 2021Aug6]. Available from: https://www.nature.com/articles/d41586-021-01935-7
6. Ledford H. Should children get COVID vaccines? What the science says [Internet]. Nature News. Nature Publishing Group; 2021 [cited 2021Aug6]. Available from: https://www.nature.com/articles/d41586-021-01898-9
7. European Parliament, Council of the European Union. REGULATION (EU) 2016/679 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation). 2016;
8. Gallagher J. Covid: Which children are being vaccinated and why? [Internet]. BBC News. BBC; 2021 [cited 2021Aug6]. Available from: https://www.bbc.com/news/health-57888429
9. Morland S, Cherfan O, Portala J, Davis C, Marchioro L. Factbox: Countries vaccinating children against COVID-19 [Internet]. Reuters. Thomson Reuters; 2021 [cited 2021Aug6]. Available from: https://www.reuters.com/business/healthcare-pharmaceuticals/countries-vaccinating-children-against-covid-19-2021-06-29/
10. Očkování proti Onemocnění covid-19 [Internet]. Aktuální informace o COVID-19. [cited 2021Aug11]. Available from: https://koronavirus.mzcr.cz/ockovani-proti-covid-19/
11. Koronavírus a Slovensko. [cited 2021Aug11]. Available from: https://korona.gov.sk/
12. JCVI statement On COVID-19 vaccination of children and young people aged 12 to 17 years: 4 AUGUST 2021 [Internet]. GOV.UK. 2021 [cited 2021Aug18]. Available from: https://www.gov.uk/government/publications/jcvi-statement-august-2021-covid-19-vaccination-of-children-and-young-people-aged-12-to-17-years/jcvi-statement-on-covid-19-vaccination-of-children-and-young-people-aged-12-to-17-years-4-august-2021
13. Wong B, Ramsay ME, Ladhani SN. Should children be vaccinated against Covid-19 now? [Internet]. Archives of disease in childhood. U.S. National Library of Medicine; 2021 [cited 2021Aug19]. Available from: https://pubmed.ncbi.nlm.nih.gov/33402324/
14. World Health Organization. WHO SAGE values framework for the allocation and prioritization of COVID-19 vaccination, 14 September 2020. World Health Organization; 2020. Available from: https://apps.who.int/iris/handle/10665/334299.
15. Soltan MA, Varney J, Sutton B, et al. COVID-19 admission risk tools should include multiethnic age structures, multimorbidity and deprivation metrics for air pollution, household overcrowding, housing quality and adult skills. BMJ Open Resp Res 2021;8:e000951. doi:10.1136/ bmjresp-2021-000951.
16. Deguen S, Lopes H. ASPHER Second Statement on "Children and COVID: Closing or keep opening the schools: the consequences" June 2021
17. Xu W, Su S, Jiang S. Ring vaccination Of covid-19 vaccines In Medium- and high-risk areas of countries with low incidence of SARS-CoV-2 infection. Clinical and Translational Medicine. 2021;11(2).
18. Lofgren, E.T., J. Rogers, M. Senese, N.H. Fefferman. 2008. Pandemic Preparedness Strategies for School Systems: Is Closure Really the Only Way? Annales Zoologici Fennici, 44(6): 449-458.