
PRESS RELEASE

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New data on the duration of immune protection against SARS-CoV-2 in children

A study published in the "Pediatrics" journal shows that children with mild forms of COVID-19 develop a greater and longer lasting antibody response than that of adults. The study involved 57 families affected by COVID-19, who were followed, as part of the study, by the Department of Women's and Child Health at the University of Padua.

Padua – Italy, 2 July 2021

Researchers from the University of Padua and the Italian health authority and research organization for animal health and food safety (IZSve), in collaboration with Padua Hospital, [Penta Foundation](#), Bambino Gesù Paediatric Hospital in Rome and the University Milano-Bicocca in Milan, have just published the results of an observational study that demonstrates how in asymptomatic or mildly symptomatic subjects, the antibody response against SARS-CoV-2 in children is superior and longer lasting than in adults. In particular, children aged between 0 and 3 years are able to develop neutralizing antibody titers 7-8 times higher than those observed in the adult population, up to 7-8 months after infection.

Clinical studies conducted on other infectious diseases reported that the presence of high levels of neutralizing antibodies reduce the chances of contracting the disease again. Therefore, the superior paediatric antibody response described by researchers from University of Padova and IZSve makes the hypothesis that children might be more protected than adults in the event of a second exposure to the virus plausible.

Partly supported by the European funded ORCHESTRA project, the study involved 57 families affected by COVID-19 during the first wave of the pandemic, and who received medical assistance at Padua Hospital – University of Padua as part of the long-term follow-up programme for families. The programme stems from a collaboration between the Department of Women's and Child Health, the Department of Oncological and Gastroenterological Surgical Sciences (Prof. Anita de Rossi) and the Department of Medicine (Prof. Mario Plebani). The clinic is very active and currently follows about 300 families in close collaboration with family paediatricians in the Veneto Region of Italy. The quantification of neutralizing antibodies was made possible thanks to an experimental test developed by virologists working at IZSve. Statistical analysis was carried out by researchers from the University of Milano-Bicocca, Italy (Prof. Giovanni Corrao). Input on the study results was provided by the Clinical Immunology and Vaccinology Area at Bambino Gesù Paediatric Hospital in Rome, Italy (Dr. Paolo Palma).

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*"Knowing that children develop antibodies capable of neutralizing the virus for many months is an absolutely relevant piece of evidence, given that the use of the vaccines is currently limited to people over 12 years of age. The application of vaccination in the paediatric field will depend on the full understanding of the mechanisms underlying the immune response in children and on correct communication of scientific data to the competent authorities and the community. However, we must remember that although the antibody response of children is more powerful and lasting longer than we imagined, it alone is not sufficient to guarantee full protection. This is why it is important to continue our studies by looking at the role of cell-mediated immunity", explains **Carlo Giaquinto**, Professor of Paediatrics at the University of Padua, President of the [Penta Foundation](#) and coordinator of this study.*

*"In the second half of 2021, the ruling by the EMA (European Medicines Agency) is expected on the safety and efficacy of current vaccines in very young (2-5 years) and young (6-11 years) people. Our data will be of fundamental importance in defining the methods and timing of vaccination in paediatric populations previously exposed to the virus "observes **Francesco Bonfante**, a virologist at IZSve and co-author of the article. "The current EU digital COVID certificate - adds Bonfante - will be valid for 6 months for all subjects who are not vaccinated and have recovered from COVID-19, regardless of age. Our research lays the foundation for an evaluation of the extension of the validity of the Certificate for children under 6 years of age".*

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About the article

The article is: **Mild SARS-CoV-2 Infections and Neutralizing Antibody Titers**

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<https://pubmed.ncbi.nlm.nih.gov/34158312/>

About Penta

Penta is an international independent research network dedicated to scientific research in favour of children's health. It was born in 1991 as a European network for the treatment of paediatric HIV, with the aim of undertaking independent clinical trials on antiretroviral therapies for children with HIV. To-

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date, the Penta portfolio of studies now includes other paediatric infectious diseases, such as hepatitis, tuberculosis, fungal diseases, sepsis as well as infections in pregnancy and emerging or neglected childhood infections. Through our work, which is the result of collaborations between medical professionals and researchers in more than 110 centres in 31 countries around the world, we have brought infectious diseases and the issue of antimicrobial resistance to the fore as they are key determinants of public health globally.

We are people united by a common vision, that of improving the quality of life of mothers and children, by preventing and treating infectious childhood diseases. Through our passion for research, we carry out important advocacy activities towards the right to health of children wherever they live.

For more information on Penta visit our website: www.penta-id.org

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About IZSve

IZSve, the **Italian health authority and research organization for animal health and food safety** is a health organization that works for public health by carrying out research and providing services in the areas of animal health and food safety. It plays the role of national and international reference center on specific issues for the Ministry of Health, the **World Organization for Animal Health (OIE)** and the **Food and Agriculture Organization of the United Nations (FAO)**.

About ORCHESTRA

ORCHESTRA is a three-year international research project aimed at tackling the coronavirus pandemic, led by the University of Verona and involving 26 partners (extending to a wider network of 37 partners) from 15 countries: Argentina, Belgium, Brazil, Congo, France, Gabon, Germany, India, Italy, Luxemburg, Netherlands, Romania, Slovakia, Spain, Venezuela.

The project is funded by the European Union's Horizon 2020 research and innovation programme under the ERAvsCORONA Action Plan which was developed jointly by Commission services and national authorities.

For more information visit the ORCHESTRA website: <https://orchestra-cohort.eu/>

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