

VAC_09 - Observational study of immunogenicity, effectiveness and reactogenicity in 6 months to 17 years age group of vaccines against COVID-19

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Introduction: Vaccines are essential for the prevention and control of several diseases, in addition to monitoring the immune response generated by them. The immune response generated by vaccination against SARS-CoV-2 in children and adolescents is not defined in relation to the intensity and duration of a protective immune response in the medium and long term, which may point to the need for reinforcements and decisions in public health.

Objectives: Therefore, the study aims to evaluate the immunogenicity, effectiveness and reactogenicity of vaccines against COVID-19 in an age group from 6 months to 17 years old.

Methodology: For this, blood samples were obtained from the participants at times before vaccination, 1 month, 3 months and 6 months after vaccine administration and were followed by a virtual platform for monitoring post- vaccination reactions and symptoms of COVID-19. Swab samples collected from COVID-19 positive individuals were sequenced by NGS. Total antibodies were measured by ELISA and neutralizing antibody assays were performed by PRNT and VNT with ancestral lineage and variants of concern. The cellular response was evaluated by flow cytometry for the quantification of systemic soluble biomarkers.

Results: Preliminary results in the follow-up of 669 participants showed that the CoronaVac vaccine (Sinovac/Instituto Butantan) was able to significantly induce the production of total IgG antibodies against SARS- CoV-2 and the production of neutralizing antibodies against the ancestral lineage and variant Omicron. In addition, a robust cellular response was observed with wide release of pro-inflammatory and regulatory mediators in the early post-immunization moments. Adverse events recorded so far have been mild and transient except for two serious adverse events reported on VigiMed, left ocular edema and severe abdominal pain, both monitored by the clinical team. The 1-year post-vaccine monitoring of this age group will also be performed.

Conclusion: With this, we conclude that the immune response induced by the CoronaVac vaccine is expressive in children and adolescents, with high seropositivity rates in all evaluated parameters, proving to be a safe and effective immunizer.

Keywords: vaccine, SARS-CoV-2, Covid-19