



## Editorial

### Covid-19 vaccination in 2021 and future challenges

Rodrigo Feliciano do Carmo<sup>1</sup>

<sup>1</sup>Colegiado de Ciências Farmacêuticas, Universidade Federal do Vale do São Francisco (UNIVASF), Petrolina, Brasil.

The year 2021 was marked by the beginning of the vaccination campaign against Covid-19 in Brazil. On January 17, 2021, the National Health Surveillance Agency (Anvisa) approved the emergency use of the Coronavac (Sinovac/Butantan) and Oxford/Astrazeneca vaccines in Brazil. On the same day, a health professional in the city of São Paulo already received the first dose of the immunization Coronavac, just over a month after the first dose in the world was administered in the United Kingdom with the Pfizer/BioNTech vaccine. Since then, thousands of people around the world have been immunized, which has contributed to the significant reduction in the number of deaths around the globe and the relief of health systems.

Despite the great advances in the vaccination campaign against Covid-19 in Brazil in 2021, ending the year with 67.5% of the population fully vaccinated (1), the year 2022 begins with an increase in the number of cases and hospitalizations for severe acute respiratory syndrome (SARS) caused by the expansion of the Omicron variant of the new coronavirus and the influenza virus H3N2 (Darwin) in national territory.

In 2021 Brazil faced its worst moment of the pandemic, reaching a peak of 4,000 deaths and more than 90,000 daily cases between April and June (2). The increase in cases coincided with the relaxation of social distancing measures and the circulation of the Gamma variant, with greater transmission capacity and possible association with more severe forms of the disease (3). With the advance of vaccination, the country registered less than 100 deaths and 3,000 cases per day in December (2). Meanwhile, Europe and the United States suffer from another wave of cases and hospitalizations, now caused by the Delta variant and the recently discovered Omicron variant, which has a high transmission capacity even in vaccinated individuals (4).

The spread of the Omicron variant in Brazil, associated with the relaxation of social distancing measures and end of year festivities, in addition to the co-circulation of the H3N2 influenza virus, leads us to believe that the year 2022 will be another challenging year for the Brazilian health system. The moving average of cases in the first weeks of the year already records an increase of more than 600% of new cases of Covid-19, when compared to the last weeks of December 2021. A recent African study showed that efficacy against hospitalisation was reduced from 93% in the pre-Omicron period to 70% in the Omicron period (5). Furthermore, the decrease in vaccine efficacy 6 months after the second dose reinforces the need for booster administration to curb the number of new cases in the country.

Therefore, the loss of effectiveness of the vaccines over time, associated with the emergence of new variants of the virus, leads us to believe that the pandemic is still far from over, and that booster doses of the vaccine with the presence of new variants in its composition will be needed regularly, as happens in vaccination campaigns against influenza virus. For the coming months it is of fundamental importance to monitor the behavior of Covid-19 in the national territory, reinforcing the testing of suspected cases,

adopting restrictive measures for agglomerations, and accelerating the application of the booster dose of the vaccine to contain the spread of the virus and avoid a collapse in the health system.

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Corresponding Author:

Rodrigo Feliciano do Carmo

Email: [rodrigo.carmo@univasf.edu.br](mailto:rodrigo.carmo@univasf.edu.br)



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