


Letter to the Editor

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The Role of Vaccination in Preventing Deaths During the Omicron-driven Tsunami in Brazil

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Brazil is one of the countries with the highest number of cases and deaths from COVID-19 worldwide. Until February 26, 2022, 28 000 000 cases and 649000 deaths from the disease were confirmed. Since the beginning of the pandemic, the country has already experienced 2 waves of COVID-19; the first in 2020 was associated with the circulation of lineages B.1, B.1.1.28, and B.1.1.33, while the second in 2021 was due to community transmission of the SARS-CoV-2 Gamma variant of concern (VOC).¹

During the first wave of COVID-19, Brazil had a peak in the number of deaths from the disease between epidemiological weeks 27 and 30 (from June 28 to July 25, 2020), totaling 29379 deaths. In the second wave, the peak of deaths was observed between epidemiological weeks 13 and 16 (from March 28 to April 24, 2021) with 78942 deaths. The crude fatality rates (CFR) calculated for these 2 periods of the pandemic in the country were 2.7% and 4.3%, respectively. By July 2021, as a result of the advance in the vaccination campaign especially among individuals over 60 years of age, Brazil had recorded a significant reduction in the number of cases and deaths from COVID-19, even with community transmission of the VOC Delta. Between the epidemiological weeks 27 and 52 (from July 4, 2021 to January 1, 2022), vaccination coverage in the country increased from 12.9% to 67.5%, while the number of deaths decreased from 9 306 to 681 (reduction of ~ 93%). The CFR for COVID-19 in the last epidemiological week of 2021 was 1.2%.

However, as of January 2022, Brazil has faced a tsunami of COVID-19 cases attributed to community transmission of the Omicron variant, with a record of *circa* 3 500 000 cases between epidemiological weeks 5 and 8 (from January 30 to February 26, 2022). Despite the substantial increase in the number of cases in this third wave of COVID-19, 22389 deaths from the disease were recorded in the same period and the CFR was 0.6%. Even with several setbacks during the vaccination campaign in Brazil,² vaccination coverage against COVID-19 reached ~73% in epidemiological week 8 of 2022 (Supplementary Material). Currently, the country has started a new stage of the vaccination campaign against COVID-19 with the inclusion of children from 5 to 11 years old. There are more than 20 million children to be vaccinated in order for the country to reach vaccination coverage close to 80%.

Considering a hypothetical scenario with low vaccination coverage and CFR ranging from 2.7% to 4.3% as observed during the first 2 waves of the pandemic, Brazil could have registered between 95,295 and 151,765 deaths from COVID-19 during the 1-month interval with the emergence of the VOC Omicron. This hypothetical scenario would represent a number of deaths 4 to 7 times greater than the confirmed one. Despite Omicron being associated with significantly less severe outcomes, the Brazilian scenario could be catastrophic. The vaccination coverage achieved in the country has proved to be fundamental in preventing deaths associated to COVID-19. It has been found that most deaths during Omicron predominance in the U.S.³ and Brazil (<https://exame.com/brasil/nao-vacinados-contr-a-covid-sao-responsaveis-por-internacoes-diz-queiroga/>) have occurred among the elderly and unvaccinated individuals.

Although studies evaluating the effectiveness of different vaccines against the Omicron variant and the importance of booster doses are still incipient,⁴⁻⁶ accumulated evidence has shown that vaccines against COVID-19 are presented as the most effective, safe, and economical measure in preventing severe cases and deaths, as well as in protecting health systems.

Supplementary material. To view supplementary material for this article, please visit <https://doi.org/10.1017/dmp.2022.146>

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