

# Vaccine effective for elderly in Brazil facing COVID-19 Gamma variant

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The AstraZeneca vaccine, which is being widely used in Brazil and elsewhere in response to an epidemic wave of the SARS-CoV-2 Gamma variant, affords significant protection to the elderly when the vaccine's

full two-dose schedule is completed.

New research by the Yale School of Public Health and a host of Brazilian and international scientists analyzed how adults aged 60 years old and older in the state of Sao Paulo, Brazil, responded to either just one dose of the [vaccine](#) or the full two-dose regimen during extensive transmission of the Gamma variant (also known as P.1). This variant has caused widespread sickness and death since it emerged in Brazil last year and has since spread to other countries in South American and beyond.

"These findings have major implications for policy in many countries that have spaced out vaccination and especially those in South America that are undergoing large Gamma associated epidemics." said Julio Croda, adjunct associate professor at the Yale School of Public Health, a researcher at the Oswaldo Cruz Foundation in Brazil, and the study's principal investigator. Known as ChOxD1, the vaccine is used worldwide for COVID-19.

The [study results](#) are posted on MedRxiv as a preprint paper.

The team conducted the [case control study](#) between January 17 and July 2, 2021, analyzing COVID-19 outcomes among 61,164 people who received either one of the vaccine, two doses or no vaccine doses at all. The Brazilian government initiated its vaccination campaign in January with the ChOxAd1 vaccine, using a three-month dose-spacing strategy in order to vaccinate as many people as possible while faced with a limited vaccine supply. This strategy has been endorsed by the World Health Organization.

The researchers found that a single dose of the vaccine among the elderly conferred protection against COVID-19, but its effectiveness was modest. One dose had an overall effectiveness of 33% against symptomatic illness and reduced hospitalizations by 55% and deaths by

61%.

In contrast, a second dose of the AstraZeneca vaccine was found to provide significantly higher protection. A complete two-dose regimen provided an overall effectiveness of 78% against COVID-19 and reduced hospitalizations by 88% and deaths by 94%.

"The good news is that the ChAdOx1 vaccine was highly effective in protecting the elderly during an epidemic where the Gamma variant caused more than 80% of the cases" said Albert Ko, the Raj and Indra Nooyi Professor of Public Health at the Yale School of Public Health and the study's co-principal investigator. "However, unlike the experience with ChAdOx1 in other settings, two doses are needed to reach optimal levels of protection in this vulnerable population and in the setting of extensive Gamma variant transmission."

The findings have significant implications for Brazil as well as other countries in South America, which have been particularly hard hit by the pandemic and need to prioritize vaccine supply given current shortages on the continent.

**More information:** Otavio T. Ranzani et al, Effectiveness of the CoronaVac vaccine in the elderly population during a Gamma variant-associated epidemic of COVID-19 in Brazil: A test-negative case-control study, (2021). [DOI: 10.1101/2021.05.19.21257472](https://doi.org/10.1101/2021.05.19.21257472)

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