

Brazilian study finds COVID-19 cases and deaths higher in areas with electoral support for President Bolsonaro

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In a study to be presented at this year's European Congress of Clinical Microbiology & Infectious Diseases (ECCMID) in Lisbon, Portugal

(23-26 April), researchers from Sociedade Mineira de Infectologia and Associação Mineira de Epidemiologia e Controle de Infecções show a correlation between the Brazilian President Jair Bolsonaro's denialist attitude to COVID-19 and higher COVID-19 incidence and mortality.

The study, involving 853 counties in Minas Gerais (the second most populous state located in southeastern Brazil), finds that in Bolsonaro-voting counties, COVID-19 cases and deaths were substantially higher than in counties where Bolsonaro lost the 2018 presidential election vote.

"The role of politics had a critical impact on COVID-19 responses to the pandemic in Brazil from the outset," said Dr. Carlos Starling from Sociedade Mineira de Infectologia. "President Jair Bolsonaro has denied COVID-19 severity, promoted treatments without evidence of efficacy, and discouraged social distancing, the use of masks, local lockdowns and other protective measures, which has likely resulted in higher infection rates and deaths from COVID-19 among his supporters." The death toll from COVID-19 in Brazil has passed 659,000, the third highest reported toll of any country in the world.

In this study, researchers investigated the effectiveness of COVID-19 vaccines in reducing virus transmission and deaths from COVID-19 in 853 counties in Minas Gerais. They also explored the impact of the President's denialist attitude to COVID-19 on [vaccine](#) uptake and COVID-19 cases and deaths, based on whether Bolsonaro had won or lost the 2018 presidential election in these counties.

Using data on confirmed cases of COVID-19 and deaths, vaccination rates, and 2018 election results from official government websites, the researchers calculated the COVID-19 incidence rate (new cases per 100,000 residents in the last 14 days) and mortality rate (deaths per 1,000,000 residents in the last 14 days) for each county between 21 January, 2021 (when vaccination started in Brazil), and 10 November,

2021.

Results showed that by 10 November 2021, over half the population (more than 55%) in most counties (682/853) had been fully vaccinated with either AstraZeneca (41%), Pfizer (32%), or Coronavac (28%).

Overall, the analyses found that the vaccination rate between January and November was similar among counties. As the percentage of the population fully vaccinated against SARS-CoV-2 increased over time, COVID-19 incidence and mortality rates consistently declined.

However, in counties where Bolsonaro won the electoral vote, the COVID-19 incidence rate was 30% higher (7.6%; 1,284,454 cases/16,961,800 residents of 445 counties) than in counties where he lost the vote (5.6%; 249,704 cases/4,450,502 residents of 408 counties).

Moreover, the COVID-19 death rate was 60% higher in counties with the highest electoral support for Bolsonaro compared to those with the least support (212 deaths from COVID-19 per 100,000 inhabitants vs. 132 deaths from COVID-19 per 100,000 inhabitants).

Researchers also performed a more detailed evaluation comparing the impact of vaccination on COVID-19 incidence and [death rates](#) in 33 counties with more than 100,000 residents, and discovered a negative correlation between vaccination and COVID-19 cases and deaths in all 33 counties (i.e., counties with the lowest vaccination rates had the highest case [incidence](#) and mortality rates), except for five cities where there was a negative but non-significant correlation between the full vaccination rate and the death rate.

"It's likely that thousands of lives have been lost unnecessarily because President Bolsonaro dismissed COVID-19 as 'a little flu' and rallied against lockdowns, school closures and other protective measures," say

Dr. Braulio Couto Associação Mineira de Epidemiologia e Controle de Infecções. "However, our results indicate that the Brazilian people have great trust in vaccines, and Bolsonaro's falsehoods and doubts about COVID-19 vaccines did not prevent mass vaccination, with the increasing vaccination rate over time consistently reducing COVID-19 cases and deaths."

The authors note that this is an ecological observational study and cannot prove that Bolsonaro's denialist stance caused extra cases or deaths from COVID-19, but only suggest the possibility of such an effect. The authors point to several limitations, including the ecological fallacy—that relationships that exist for groups are assumed to also be true for individuals—and they cannot rule out the possibility that other unmeasured factors like education levels and household income may have affected the results.

Provided by European Society of Clinical Microbiology and Infectious Diseases

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