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RESEARCH LETTER

PCR testing in domestic flights to Galapagos Islands during the COVID-19 pandemic: an effective public policy to control SARS-CoV-2 spread in remote and vulnerable populations

AUTHORS


Diana Morales-Jadan[1] MSc, PhD Student


Bernardo Castro-Rodriguez[2] PhD Student


Angel Sebastian Rodriguez[3] MSc, Laboratory Technician


Esteban Ortiz-Prado[4] MD, PhD, Professor


Miguel Angel Garcia-Bereguiain[5] PhD, Professor *

CORRESPONDENCE

*Prof Miguel Angel Garcia-Bereguiain magbereguiain@gmail.com

AFFILIATIONS

[1, 2, 3, 4, 5] One Health Research Group, Universidad de Las Américas, Quito, Ecuador

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Dear Editor

Our article 'Massive testing in the Galapagos Islands and low positivity rate to control SARS-CoV-2 spread during the first semester of COVID-19 pandemic: a story of success for Ecuador and South America' has recently been published in *Rural and Remote Health*[1]. In the report of our study, we described the successful management of the COVID-19 pandemic in 2020 in the

Galapagos Islands compared to the devastating situations in Ecuador and other South American countries[2]. Travel restrictions were easily implemented due to the geographical isolation of the Galapagos Islands[1]. Moreover, a SARS-CoV-2 testing facility was built on site for the 25 124 inhabitants in the early stages of the COVID-19 pandemic (April 2020)[3,4]. Thus, Galapagos Islands was able to keep the SARS-CoV-2 PCR test positivity rate close to the 5% recommended by the WHO during 2020, a unique achievement within South America. This translated to the lowest cumulative mortality rate for all Ecuadorian provinces in 2020, almost 10 times lower than the national average[1].

The good management of the COVID-19 pandemic allowed the Galapagos Islands to open to tourism since July 2021. Again, having a SARS-CoV-2 testing facility in site was important as the countries of origin of most tourists were requesting a negative PCR test 24–48 hours prior to flight. However, the Galapagos Islands authorities were concerned to not only support tourism but also protect the local population. In that sense, from 31 August 2021 a negative PCR test 72 hours before travelling was requested in those domestic flights coming from Quito and Guayaquil, for both Ecuadorians and international visitors[5]. Moreover, any certified COVID-19 testing laboratory was requested to submit on a daily basis to the regional government of Galapagos the list of individuals tested that declared the intention to travel to Galapagos. By this means, any false COVID-19 test certificate was prevented as the list of tested passengers was checked prior to boarding.

Although requesting a negative PCR test was common for international flights, improving this policy for local flights was exceptional. To our knowledge, it was only implemented in large and highly populated countries such as Turkey, Indonesia and India. In the context of Latin America, compared to the Galapagos Islands, Rapa Nui island was closed to tourism from March 2020 to May 2022, and this long lockdown had catastrophic consequences for the local economy, which is highly dependent on tourism, as in the Galapagos Islands[6].

From the experience of our SARS-CoV-2 testing facility at Universidad de Las Américas, this COVID-19 control policy was successful. During 2021, we reported to the regional government of Galapagos the PCR results of 351 individuals who requested testing prior flying to the islands. We detected 24 SARS-CoV-2 positive cases, 6.84% of the total population tested. It is important to point out that only 2 of those 24 positive individuals were symptomatic, so other prevention measures, such as checking passenger temperature, would have been unreliable. Moreover, 4 of those SARS-CoV-2 individuals had viral loads of over 10^7 copies/mL and could potentially lead to superspreading events. Overall, those results could be interpreted as follows: on a single day, two flights arriving to Galapagos would carry around 25 infected individuals, including some superspreaders, who could infect other passengers first, and other people on the islands. Without PCR requests on domestic flights to Galapagos after tourism was opened in 2021, the COVID-19 pandemic would have been out of control in the islands – with devastating consequences considering the weakness of the Galapagos public health system[1].

In a comprehensive analysis of the various regions in Ecuador, the Insular region, which includes the Galápagos Islands, clearly stands out. Despite the pervasiveness of COVID-19 in continental Ecuador in 2020 and 2021, the islands registered the lowest excess death rate in the nation for 2021, echoing its similarly low rate from the previous year. Specifically, this region's rate was approximately 13.1 per 100 000 people, which is significantly less than the Ecuadorian national average of 242.4 per 100 000. This suggests that the preventive policies implemented in the Galapagos Islands have been consistently effective, resulting in a mortality rate that is approximately 18.5 times lower than the country's average[7].

The Galapagos Islands were a model of successful COVID-19 management from the developing world, not only during 2020 as we reported[1] but also throughout 2021 when non-pharmaceutical interventions relaxed worldwide. The Galapagos experience can teach important lessons to the local, regional and international public health community: even in communities where resources may be limited, the intersection of academia, local governance, and proactive strategies can dramatically uplift health outcomes and safeguard populations. The unwavering commitment to protecting both inhabitants and visitors has solidified the islands' stance as a paragon for public health management in the face of global adversity.

Diana Morales-Jadan, Bernardo Castro-Rodriguez, Miguel Angel Garcia-Bereguiain, Angel Sebastian Rodriguez, Esteban Ortiz-Prado, One Health Research Group, Universidad de Las Américas, Quito, Ecuador

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