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Editorial

Infectious diseases and the COVID-19 scenario in Brazil



Arboviruses including Dengue, Chikungunya, and Zika in Brazil represent a challenge for public health, considering that are no available vaccines and effective antivirals for treatment.^{1,2} Even with the possibility of underreporting, 874,093 probable cases of Dengue and 415 deaths have been reported in Brazil from January 1 through June 30, 2020.³ In this scenario, the states of Acre, São Paulo, Paraná, Mato Grosso do Sul, Mato Grosso, Goiás, and Distrito Federal stand out for presenting higher incidence rates when compared to other locations around the country. According to the General Coordination of Arbovirus Surveillance, DENV-2 was the predominant serotype in 79.8% of the samples tested in the country. During the same period, there were 48,316 probable cases of Chikungunya, and 4,666 cases of Zika reported in Brazil.³ After launching a mass immunization campaign with a fractional-dose vaccine in 2018, yellow fever was far behind with 881 suspected cases and only 18 confirmed cases reported in the 2019–2020 period.

Malária remains an important public health problem in Brazil because of the high number of cases in the amazonic region. In one year, Brazil successfully managed to reduce the number of malaria cases by 23.8%, from 193,837 in 2018 to 156,629 in 2019.⁴ This year, the country has been maintaining the reduction, with a 3% drop over the same period in 2019. Pan American Health Organization highlights the need to protect health workers during the COVID-19 pandemic, in order to maintain the progress already made in the global fight against malária.

As of September 2020, over 4 million cases of COVID-19 were reported in Brazil, with more than 125,000 deaths.⁵ Brazil has the second-highest number of confirmed COVID-19 cases in the world behind the United States. In addition, 16,638 indigenous citizens were diagnosed with COVID-19, and 543 have died according to the National Committee of Indigenous of Life and Memory.⁶ So far, the coronavirus pandemic has been causing strong impacts and uncertainty on the most diverse spheres of life and business. Universities and schools are closed, and it is not clear when they will reopen. Brazil's gross domestic product (GDP) was forecast to decrease by 5.95

percent during 2020.⁷ According to the Brazilian Ministry of Health, there were 299,693 hospitalized cases for severe acute respiratory illness (SARI) until July 2020. Considering the hospitalized cases of SARI, there were 42.9% (128,539) confirmed cases for COVID-19, 32.7% (97,997) for unspecified SARI, 22.8% (68,210) are under investigation, 0.7% (2,042) were caused by Influenza, 0.7% (2,210) by other respiratory viruses and 0.2% (695) by other etiological agents.⁸ Although current influenza surveillance data should be interpreted with caution, It looks like that influenza activity seems to be at lower levels than expected for this time of the year in Brazil.

The Unified Brazilian Health System (SUS), which already had deficiencies in care for Dengue and other diseases, had to adapt abruptly to expand the medical structure and train professionals for the COVID-19 pandemic. The impact on the public health system was pronounced by the high demand for hospitalization and health professionals, leading to the depletion of the supply of intensive care beds and pulmonary ventilators in some areas of the country. Federal government policies has not promoted social-distancing measures while indicating the antimalarial drug chloroquine as a coronavirus treatment despite a lack of evidence that it is effective. COVID-19 testing is being rolled out at an incredibly slow pace, with Brazil reporting 7,500 tests per million people, which is almost 10 times less than the US. Nevertheless, different scientific organizations, including the Brazilian Society of Infectious Diseases, released statements about the use of chloroquine and hydroxychloroquine, describing what science knows about these drugs and criticizing the government's position. Efforts to educate practitioners and the public about inappropriate uses of therapeutic drugs were strengthened. The Brazilian scientific community is speaking out and producing science related to the pandemic every day. The leaders for two of the most advanced vaccine projects (Oxford University, in partnership with AstraZeneca, and China's Sinovac with Butantan Institute) will carry out Phase 3 tests in Brazil. Both projects have technology transfer agreements that will enable the country to produce the vaccines themselves, should the tests prove conclusive. As for September 2020, in

PubMed, over 1000 publications were identified by searching terms “COVID 2019” and “Brazil” in the search field.

There is no doubt that fighting against infectious diseases depends upon the establishment of comprehensive plans, appropriate political measures, and science. Infectious diseases do not respect borders and require a global response. The availability of powerful new technology tools and ideas makes this an opportune time.

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