



Pulmonology in the 21st century and the mark left by COVID-19

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Two years have passed since the first case of COVID-19, a disease caused by infection with a new coronavirus known as SARS-CoV-2, was reported in the city of Wuhan, China. The numbers related to the biggest pandemic in the last 100 years speak for themselves: approximately 255 million reported cases; 5.25 million deaths, more than 615,000 of which occurred in Brazil (11.7% of the total deaths); and a contingent of people with sequelae that has yet to be properly studied. The emergence of viral variants makes it unclear whether this pandemic will be completely overcome. Fortunately, in an unprecedented feat, vaccines were developed relatively quickly and more than 8 billion doses of those vaccines have been administered. Of those, 314 million were administered in Brazil, despite the dissemination of denialist ideas and actions by the federal government, which has led to a lack of national coordination and to misinformation, as well as to the harmful, unnecessary politicization of the health crisis, to the detriment of the fight that is based on key elements such as science, efficient management, and cohesive social support.^(1,2)

Within the first few months of 2020, it was found that 10-15% of COVID-19 patients who required hospitalization developed difficult-to-treat hypoxemic respiratory failure, many of those patients evolving to severe ARDS. That presented a huge challenge. There were no guidelines for noninvasive ventilation. There was justified fear that such strategies would result in massive contamination of health care professionals on the front lines. The term “early intubation” was widely used, and, unfortunately, early intubation was common. A study of a cohort of the first 250,000 hospitalizations for COVID-19 in Brazil showed an alarming 80% in-hospital mortality rate among intubated patients.⁽³⁾

Every crisis is also an opportunity. Given the specific characteristics of COVID-19, pulmonologists were called upon to respond to and take the lead in the fight against the pandemic. Our participation has taken place on several fronts, including patient care, knowledge dissemination/sharing, interfacing with other specialties, research, and innovation, as well as in government actions, crisis management and communication with the populace.⁽⁴⁾

Pulmonologists were called upon to participate in patient care in emergency rooms, emergency departments, ICUs, and other hospital wards, in all regions of Brazil. We took on the coordination of health care clinics, defining/organizing the protocols/procedures and writing/disseminating technical guidance documents, as well as helping define structures, equipment, and processes, from oxygen therapy to extracorporeal membrane oxygenation

support, in cooperation with other specialists (intensivists, anesthesiologists, and internists), primary care physicians, physical therapists, nurses, and many others, including managers of the Brazilian Unified Health Care System and the Brazilian private health care system. We were aware of the fact that our numbers were insufficient to carry out that Herculean task. There is a lack of education and practical training in mechanical ventilation, in Brazil and in the world at large. Of the 4,671 current members of the *Sociedade Brasileira de Pneumologia e Tisiologia* (SBPT, Brazilian Thoracic Association), only 328 (7%) are on the SBPT Intensive Care Committee. That demanded the recruitment of health care professionals who were inexperienced in this field, which required pulmonologists with expertise in the area to supervise and to conduct continuing education activities or to coordinate telemedicine activities created amidst the collapse of a large part of the health care system (Figure 1).⁽⁵⁾

One highlight during this pandemic has been the continuous, profuse, and comprehensive generation of knowledge regarding COVID-19, together with the production of evidence to support protocols and to promote the optimization of outpatient and inpatient care. To date, 48 articles on COVID-19, focusing on subjects ranging from epidemiological aspects to patient rehabilitation, have been published in the Brazilian Journal of Pulmonology. The ecosystem of innovation in healthcare gained momentum with the participation of pulmonologists in interdisciplinary teams aimed at developing new devices and procedures that could mitigate the multiple waves of the pandemic. In the state of Ceará, Brazil, we developed, in a short period of time, a helmet interface that is safe and effective for administering CPAP without a ventilator. That interface was approved for sale and distribution nationwide by the Brazilian National Health Oversight Agency, reaching thousands of patients in 2021.^(6,7)

In the absence of a national education and awareness program on the COVID-19 pandemic, several personalities in the field of pulmonology were responsible for bringing information to the population and combating fake news. Pulmonologists were often the voice of evidence-based medicine in the media. For example, Dr. Margaret Dalcolmo, President-elect of the SBPT (2022-2023), received the “Makes a Difference” award from the newspaper *O Globo*.⁽⁸⁾ Among medical societies, the SBPT worked intensively with the Brazilian Medical Association, the Brazilian National Ministry of Health, international societies, and various representative bodies, innovating and creating new digital communication channels. Of note

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Figure 1. Photograph of a multidisciplinary visit at a respiratory clinic dedicated to COVID-19 patients at the Dr. Carlos Alberto Studart Gomes Messejana Hospital, in the city of Fortaleza, Brazil. In the foreground of the photograph, a patient receiving CPAP via a helmet interface watches a case discussion involving residents, physical therapists, nurses, and physicians from other specialties, performed under the supervision of the Department of Pulmonology.

is the performance of Drs. Irma de Godoy and Jaqueline Sonoe Ota Arakaki, who were the SBPT representatives on the COVID-19 Extraordinary Monitoring Committee. The Committee is a joint initiative of the Brazilian Medical Association and medical specialties; it works by consolidating information on the fight against the pandemic and by periodically providing quality guidance to citizens and health care professionals.⁽⁹⁾

It is certain that we will experience new catastrophes and pandemics in the future. The need to strengthen our specialty for the sake of health care systems is evident, and it is therefore necessary to expand training

and continuing education for health care professionals. Our role in formulating and implementing public health policies in the field of respiratory medicine needs to be strengthened, from primary care and prevention of respiratory problems to advanced life support for critically ill patients requiring mechanical ventilation and rehabilitation. For us to evolve, such actions require valuing ethics, science, technology, and innovation, combined with humanist and social commitments as non-negotiable values of our profession and specialty. We are not the same as we were two years ago. We can be better.

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