

The COVID-19 pandemic brought challenges and new possibilities for Physiotherapy in Brazil: are we ready?

A pandemia da COVID-19 trouxe desafios e novas possibilidades para a Fisioterapia no Brasil: estamos preparados?

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COVID-19 is a complex multisystemic clinical syndrome that was identified in December 2019 in China after the detection of a series of cases of severe respiratory infection with clinical presentations very similar to viral pneumonia^{1,2}. The disease, caused by a new Coronavirus (SARS-CoV-2), has spread rapidly to virtually all parts of the world and, on March 11, the World Health Organization declared it a pandemic³. After five months, more than 5.7 million people were confirmed to be infected and more than 356,000 people died from the virus on several continents⁴. In Brazil, the first case was registered on February 25. Since then, the number of confirmed infections has exceeded 411,000 and the number of fatal cases has exceeded 25,000 victims, with a high lethality rate⁵.

Although the disease affects the patients in a multisystemic way, COVID-19 distresses individuals differently. While most of the infected population (about 80%) is oligosymptomatic, another part shows important clinical symptoms (15%) and about 5% of those infected develop the severe form of the disease, requiring hospitalization to correct severe hypoxemia⁶. Therapeutic interventions to correct this dysfunction are usually carried out in intensive care units (ICU), with the participation of the critical

care physiotherapist and include, in addition to drug therapy, oxygen therapy and ventilatory support (usually invasive), with potential need of prone positioning, extracorporeal membrane oxygenation (ECMO) and inhaled nitric oxide⁷⁻¹².

Given the high complexity of the severe cases of COVID-19, as well as the possibility of contagion in hospital environments, physiotherapists, as well as other professionals involved in the hospital care process, have been exposed to a great deal of physical and mental stress. Other factors that can contribute to this overload, in many institutions, are the inadequate dimensioning of the physiotherapy teams, the little availability of personal protective equipment (PPE), supplies and auxiliary devices for therapeutic intervention, as well as the large volume of information disseminated, often inconsistent and without adequate scientific support.

In this context, the Brazilian Association of Cardiorespiratory Physiotherapy and Critical Care Physiotherapy – ASSOBRAFIR, as the representative entity of the physiotherapy specialties most directly involved in the treatment of suspected or confirmed patients with COVID-19, created a Committee to advise the National Executive Board on the actions related

to the pandemic. This Committee has monitored the information regarding COVID-19, especially that related to physiotherapy, organized the information, and disseminated the official positions, which can be consulted by the whole society on the association's website (www.assobrafir.com.br/covid-19)¹³.

Through these publications, since the beginning of COVID-19 in Brazil, respiratory, cardiovascular and critical care physiotherapists have been able to access quality information, both through official communications and online activities of ASSOBRAFIR itself as well as other scientific associations and societies, and the dissemination of articles from national and international journals. In addition, the physiotherapy services of the main hospital institutions have been developed care protocols or routines based on scientific evidence, contributing to the successful treatment of patients with COVID-19 in these hospitals and those who have the opportunity to share information. Thus, although the treatment of inpatients with COVID-19 is still challenging, knowledge of the main therapeutic resources has made it possible to reduce stress, even though it remains elevated due to the aspects previously listed and the overload of the hospital system in several regions of the country¹³.

It is important to emphasize that, in the context of the pandemic, the performance of physiotherapists is not restricted to the respiratory care of COVID-19 inpatients, severe or not, but also needs to provide interventions with cardiovascular, metabolic and musculoskeletal focus, through early mobilization and therapeutic exercises or resources such as neuromuscular electrostimulation and photobiomodulation¹³. In addition to hospitalized patients, physiotherapists should be able to treat patients with the mild form of the disease and should certainly treat the large number of patients recovered from the acute phase of COVID-19, who will present chronic cardiovascular, respiratory and / or metabolic functional impairment, beyond emotional disorders¹³⁻¹⁵.

In relation to patients with the mild form (about 80% of the total), the orientation is for them to maintain home isolation and be monitored and attended by the primary health care system, preferably by teleconsultation and / or telemonitoring. Patients with comorbidities, such as frailty or chronic

cardiovascular, respiratory, metabolic or neurological diseases, will possibly need a higher level of monitoring, including face-to-face care. In such cases, physiotherapists should wear appropriate PPE, follow guides and recommendations and avoid contagion and cross-infection¹³.

Still regarding home care, physiotherapists may have contact with patients who have undergone the process of de-hospitalization, but who will continue to require invasive or non-invasive ventilatory support. In such cases, they should follow the recommendations for hospital physiotherapeutic approach, especially in relation to the management of mechanical ventilation and the maintenance of cardiorespiratory and musculoskeletal function. Precautions regarding to avoid contamination should be maintained, although outpatients should probably no longer be in the acute phase of the disease¹³.

Another aspect that needs attention from physiotherapists is their performance in relation to patients who presented severe or critical COVID-19 and survived the prolonged stay in the ICU¹⁴. The long hospital stay, the need for invasive mechanical ventilation and other deleterious events inherent to critical illness are likely to contribute to a clinical-functional course similar to that of other serious respiratory diseases, and will certainly favor the development of the post-intensive care syndrome (PICS)¹⁶⁻¹⁹. PICS is characterized by a significant impact on cardiopulmonary function, functionality, and mobility (including loss of muscle mass and function, neuropathy, ICU-acquired weakness, and balance deficit), usually associated with psychological and cognitive impairment. This syndrome can even affect patients' relatives, contributing to the development of anxiety, depression and post-traumatic stress disorder, among others. Therefore, the health system, the government and physiotherapists must be prepared to welcome, treat and rehabilitate patients with PICS secondary to COVID-19¹⁸⁻¹⁹.

Thus, physiotherapists who work in outpatient clinics must be prepared to assist survivors of severe COVID-19 with significant changes in health-related quality of life and several functional changes, such as: respiratory symptoms, reduced exercise capacity, peripheral and respiratory muscle weakness and fatigue, postural and balance impairments, skin wound, among others. It will be up to these

professionals to actively participate in the post-COVID-19 rehabilitation process, which is known to contribute to improving physical and functional capacity, self-efficacy and readiness for exercise¹⁷.

One of the positive aspects associated with periods of health crisis, such as the one we are experiencing, is the acceleration of the development of therapeutic resources. In this sense, it is worth highlighting the important role of remote consultation, monitoring and service modalities, which were recently regulated²⁰ and started to be explored as an alternative. It is possible that the improvement of these resources will integrate the possibilities of action in the near future, as the evidence related to what is conventionally called telerehabilitation is expanding. Still in the field of research and technological innovation, it is worth highlighting the role of physiotherapists in multiprofessional teams that are working to develop mechanical ventilation equipment in the national territory²¹⁻²².

As a result, the need and importance of physiotherapists on the front and rear of coping with the COVID-19 pandemic are clear. Possibly Brazilian physiotherapy had not yet experienced a period with such challenges and possibilities for projection and appreciation, like the one we are experiencing. We operate in the various pandemic scenarios (primary care, hospital care, de-hospitalization, home care, outpatient, and remote care), in addition to actively participating in research, innovation, teaching and public policy development activities. It is worth highlighting the active and differentiated participation of critical care physiotherapists with critically ill patients, reinforcing the importance of the permanence of these professionals uninterruptedly in the ICUs, totaling 24 hours a day. It is also up to the physiotherapists to document their performance and publish the results of their procedures and interventions. Most likely, the country and the world will be different after the pandemic, and the challenges imposed on physiotherapists could turn into drive towards the improvement and development of the profession and professional relationships. Yes, we are prepared for this and we will do so with social and ethical responsibility and commitment.

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