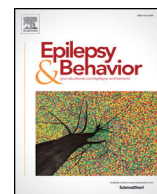




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## Letter to the Editor

## Doctors race to understand epilepsy in the time of COVID-19



## To the Editor

We enjoyed reading the recent article entitled, "Epilepsy self-management during a pandemic: Experiences of people with epilepsy" by Miller and colleagues published in your esteemed journal [1]. Although these data are extremely interesting, we have to be very careful when discussing them. Firstly, it is evident to all scientists that the new coronavirus (severe acute respiratory syndrome coronavirus 2 [SARS-CoV-2]) infection has become a worldwide pandemic and a global health threat that mobilized healthcare workers in all disciplines [2]. Despite ongoing advances, careful clinical, diagnostic, and epidemiological studies are still necessary to acknowledge manifestations and the burden of neurological disease caused by SARS-CoV-2 [3], including epilepsy [4]. Because of the clinical importance of these considerations, we would like to add some thoughts that may open the debate about the possible increase in cases of sudden unexpected death in epilepsy (SUDEP) during this current serious pandemic.

In fact, the SARS-CoV-2 pandemic that hit the central Chinese city of Wuhan in late December 2019 and subsequently spread rapidly to all provinces of China and all countries worldwide has had a negative impact on global public health [5]. Severe acute respiratory syndrome coronavirus 2 is characterized by a high contagiousness. In this sense, in 85% of cases, it causes subclinical or mild disease, but compared with flu, it easily causes more respiratory complications (e.g., severe pneumonia [ground glass opacities] and interstitial pneumonia) in 10–15% of cases [5]. Moreover, 5% of infected patients require intensive care unit (ICU) admission [5]. During these catastrophic scenarios, lethality is estimated at around 0.7–7% [5,6]. On the basis of knowledge of other coronaviruses, the contagiousness of SARS-CoV-2 is higher, but the mortality is decidedly lower compared with the severe acute respiratory syndrome (SARS) of 2002 and the Middle East respiratory syndrome (MERS) of 2012, both of them related with higher mortality (9.5% and 34.4%, respectively) [5,6]. Furthermore, it has been suggested that for patients with severe or critical illness, besides the respiratory supportive treatment, a more careful assessment and the treatment of various affected organs are important [6]. Thus, the neurological implications of SARS-CoV-2 infection have received special attention [3], and neuroscientists have established consensus recommendations on how to provide the best possible care for people with epilepsy during the novel coronavirus 2019 era [1,7–10]. In this context, although the medical team's first reaction was to limit access to clinics and neurological centers to preserve patients with epilepsy from being infected [10], some interesting proposals regarding healthcare facilities logistics, medical procedures and treatment (ensuring a regular supply of antiepileptic drugs), and telemedicine have also been discussed among various epileptologists operating in different regions of the world [4,7–

11]. Considering this last aspect, the SARS-CoV-2 crisis has obliged physicians to adopt telemedicine in a very accelerated way to maintain essential care for patients with epilepsy during the pandemic [11,12]. On the other hand, the discussion about SUDEP and the possibility of the occurrence of a greater number of cases of premature death among individuals with epilepsy has not been receiving special attention during application of telehealth. Thus, an interesting recent study evaluated experiences of adult and pediatric epileptologists about the use of telemedicine after emergent implementation during the new SARS-CoV-2 pandemic. In brief, the authors clearly demonstrated that certain topics, such as SUDEP, were felt to be more appropriate to discuss face to face [11].

In this sense, while the current pandemic does not allow a personal conversation about SUDEP in a safe and effective way, it is our obligation to urgently establish new measures for this purpose since SUDEP has become a global conversation with clinicians, scientists, and the community working together to develop strategies that can reduce deaths [13]. Obviously, SUDEP is one of the most important direct epilepsy-related causes of death, with an incidence in adults of 1.2 per 1000 person-years [14]. Importantly, it has been clearly demonstrated that generalized tonic-clonic seizures (GTCSs) are the leading risk factor for SUDEP, particularly when GTCSs are uncontrolled despite polypharmacy with several antiepileptic drugs [14]. In the current perspective, it is already known that the incidence of SARS-CoV-2 is higher in patients with active epilepsy than in the general population and that epilepsy could be considered an independent risk factor for fatality in hospitalized patients with SARS-CoV-2 [15]. Quite important, we are totally in agreement that it is extremely necessary to constantly provide information to patients with epilepsy and their families to prevent them from getting infected with SARS-CoV-2 [4]. In addition, although there are some studies observing that infection or viral infectious disease might increase the risk of SUDEP, however, there are still no data on the association between SARS-CoV-2 and SUDEP [4,16,17].

As a whole, it is time to act. Clearly, we are experiencing a pandemic that is already transforming the world in several aspects, such as, economic, political, scientific, social, cultural, environmental, and health. In fact, most of us are not prepared to deal with SARS-CoV-2 infection especially when it is associated with patients with critical illness, including patients with epilepsy. Finally, we are fully convinced that the entire healthcare systems must stay together worldwide to manage complications in cases of SARS-CoV-2.

## Acknowledgments

Our studies are supported by the following grants: FAPESP (Fundação de Amparo à Pesquisa do Estado de São Paulo), CNPq (Conselho Nacional de Desenvolvimento Científico e Tecnológico), and Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES).

## Declaration of competing interest

The authors report no conflicts of interest.

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