To: Editor, The Angle Orthodontist.

Re: COVID-19 affecting our world. Steven J. Lindauer; *Angle Orthod*. 2020; 90: 467.

This letter is concerning your editorial published about COVID-19 (SARS-CoV2) that is currently affecting our world and about the impact that this crisis will have on orthodontic research. What can we expect for the future? We agree that the COVID-19 pandemic is a iolting and catastrophic event, one that could easily be the most disruptive occurrence to human society and orthodontic practice in our time. It has had an unprecedented impact on all aspects involving the human race, including dental practice and education. Dental schools and private practices have stopped their normal activities and, for now, it is still not predictable when a safe return date will be set by health authorities. Based on this scenario of disruption of all research and its progress, what is expected to occur with orthodontic studies? What should we do?

The severe acute respiratory syndrome Coronavirus 2 (SARS-CoV-2) had its initial epicenter in Wuhan, Hubei province of China in late 2019. The disease has spread worldwide and has resulted in over 597,583 deaths worldwide and over 77,851 deaths in Brazil as of July 19, 2020.¹

In Brazil, the authorities suggested starting quarantine early, in March, when the first cases of COVID-19 were confirmed and before the virus had significantly spread through all areas of the country. Orthodontic procedures, considered elective, were deemed nonessential and were postponed. Following the WHO recommendations, dental treatments were restricted only to emergent care.² At this point, and considering the spread of the disease in Brazil, the question posed by researchers is "How to conduct research in universities at this time when Brazil is considered the new disease epicenter?"

At the current time, there are many uncertainties concerning SARS-CoV-2 management, especially in the dental profession. The interruption of clinical care for such a prolonged duration has been a challenge and difficult to manage. Concerning research development, inability to provide follow-up may lead to sample loss, treatment abandonment, deterioration of materials, among other disruptions. All of this impairment will certainly impact research results and publication in the short and long term. Indeed, undergraduate and graduate programs will be seriously affected because students may not be able to complete their research assignments. Decreased availability of financial support for orthodontic research is another problem, since most agencies are, understandably, financing studies related to COVID-19.

In order to adapt to the new scenario, we have been using remote learning technology to continue teaching undergraduate and graduate courses, telemonitoring to manage patient care, follow-up, and to resolve patient emergencies. The question is: "Is telemonitoring able to satisfy the necessary rigor of orthodontic research validation?"

This unprecedented global problem continues without a timeline of when we will be able to return to regular routines. Lack of information fuels excessive fear and creates an environment of anxiety and depression, increased by what is expected to be a long-lasting recession caused by the stagnation of economic activities in a developing country such as Brazil.^{3–5}

The pandemic causes a physical barrier, blocking the conduct of many clinical research studies; however, there is hope that some of these barriers can be overcome through technology. Our vulnerability facing this situation reinforces our strength to innovate and develop safe protocols to provide care for our patients and continue our academic activities. Hopefully, this prolonged learning period will prepare those involved with academic appointments to face any future global crises.

Thais Maria Freire Fernandes, Ana Cláudia Castro Ferreira Conti, Paula Vanessa Pedron Oltramari Department of Orthodontics, University of North Paraná (UNOPAR), Londrina, Brazil

REFERENCES

- 1. WHO COVID-19 Dashboard. Available at: https://www.covid19.who.int. Accessed July 19, 2020.
- American Dental Association. Coronavirus frequently asked questions. Available at: https://success.ada.org/en/ practice-management/patients/coronavirus-frequentlyasked-questions. Accessed July 24, 2020.

- Asmundson GJ, Taylor S. Coronaphobia: fear and the 2019nCoV outbreak. *J Anxiety Disord*. 2020;70:102196. doi: 10. 1016/j.janxdis.2020.102196
- 4. Bao Y, Sun Y, Meng S, Shi J, Lu L. 2019-nCoV epidemic: address mental health care to empower society. *Lancet.*

202022;395(10224):e37-38. doi: 10.1016/S0140-6736(20)30309-3

5. Acikgoz O, Gunay A. The early impact of the Covid-19 pandemic on the global and Turkish economy. *Turk J Med Sci.* 2020;50:520–526.