

COVID-19 Pandemic and Dental Research: the Two Sides of the Aftermath

The COVID-19 Pandemic changed many aspects of our daily life. In the words of my daughter, we just felt like living a modern version of Rapunzel's story by being locked in our houses. Changes we rapidly adapted; some of them like the social distance and the use of face masks are expected to be abandoned gradually, while other aspects like the international monitoring of emerging diseases and the reinforcement of health systems will now be a worldwide priority. However, little is discussed about the impact of the pandemic in the different research fields of dentistry. During the convulsed days of 2020 and 2021; the continuity of research programs wasn't a priority, or in certain cases it was unfeasible to continue with no affection. Now, when the pandemic seems to be routed for an end, it's time to analyze the repercussions and the new challenges to deal with.

The direct impact of pandemic was perceived when the closure of institutions and research facilities were included as contention protocols by most of the countries. Immediately, the interruption of academic programs was unavoidable, and many graduation projects and thesis were abruptly suspended. For *In Vitro* projects, the expiration of many reagents was expected; while for clinical trials, the recruitment of patients and the logistic of the experiments was simply impossible. The availability of budgets and new research grants were ceased, and it wasn't clear when it will be possible to go back to laboratories and classrooms. Like research activities, most of the scientific summits and international research meetings were suspended, and millions of dollars were lost. For dental researchers, the experience to share their results to a live audience was cancelled, obligating them to migrate to virtual platforms without any training. All these affections changed the way how research was perceived, and no solutions were expected in the short-term.

But not everything was unfortunate. From a positive point of view, new opportunities also bloomed in the middle of crisis. The abrupt incorporation of the virtual tools made easier the communication between research groups, and now, hundreds of people were able to participate in the same conference or workshop from their own houses. The urgent need of vaccines changed the standard protocols for translational

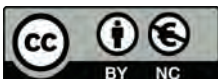
research, and simultaneous phases of clinical trials were developed to obtain a new drug in record time. This was particularly evident when pharmaceutical companies, universities and governments shared their knowledge to improve the diagnosis and treatment of COVID-19; to increase the understanding of risk factors and to keep a meticulous monitoring of the clinical course of the disease. Particularly outstanding was the fact that most of the editorials and scientific databases gave free access to all the information related with the pandemic.

Considering both sides, something is very clear: dental research will not be the same after COVID. In the near future, the next clinical trials will have to consider COVID-19 during the inclusion of patients, especially when possible side effects may bias the gathered information. Also, it is imperative to analyze if the same fast strategy used for the vaccine's development can be applied for new emerging drugs, or, if this practice must be avoided when possible. Institutions and research facilities must work together to restore the protagonist role of research in our daily academic life, promoting new projects and collaborations. Moreover, it's imperative to keep in mind that some financial and academic boundaries can be ignored for the health of people. The absence of clinical research can't be underestimated... and this void of knowledge must be filled as soon as possible, with fresh protocols contextualized in the new post-pandemic conditions.

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