

COMMENTARY

COVID-19 is a challenge for dental education—A commentary

Francesco Bennardo  | Caterina Buffone | Leonzio Fortunato | Amerigo Giudice

School of Dentistry, Department of Health Sciences, Magna Graecia University of Catanzaro, Catanzaro, Italy

Correspondence

Francesco Bennardo, School of Dentistry, Department of Health Sciences, Magna Graecia University of Catanzaro, Viale Europa, 88100 Catanzaro, Italy.
Email: francesco.bennardo@unicz.it

Abstract

The COVID-19, which appeared to originate in China in December 2019, has spread worldwide pandemically. In this commentary, authors described this new challenge for dental education using the recent literature and experience gained in the Italian University of Catanzaro.

KEYWORDS

challenge, COVID-19, dental school, education

1 | INTRODUCTION

A novel coronavirus (severe acute respiratory syndrome coronavirus 2, SARS-CoV-2; formerly 2019-nCoV) emerged in Wuhan (Province of Hubei, China) in late 2019 and spread across the globe. SARS-CoV-2-related disease, called coronavirus disease-2019 (COVID-19), might result in death due to alveolar damage and lung fibrosis that lead to progressive respiratory failure.¹ Similarly to other β -coronavirus, SARS-CoV-2 was probably hosted by bat, and other Asian mammals, and transmitted to humans.² The World Health Organization declared COVID-19 pandemic on 12 March 2020. At the time of writing this article, 4248 389 infections and 292 046 deaths were confirmed all over the world. In Europe, Italy is one of the countries with the greatest diffusion of COVID-19 with 222 104 cases and 31 106 deaths.³

COVID-19 symptoms include fever, cough, anosmia, dysgeusia and dyspnoea (up to respiratory failure). Clinical management is mainly symptomatic treatment. Severe cases require respiratory assistance with organ support in intensive care. No specific antiviral treatment exists, but antiviral, antimalarial and biological drugs are administered in clinical trials.^{4,5}

Several authors described the impact of COVID-19 in dental practice⁶⁻⁹ but only Meng et al provided recommendations for dental education.¹⁰ The biggest challenge concerns the measures to be taken to ensure the continuation of dental education activities during the infection containment phase. Dental schools and affiliated hospitals are a potential contagion site. The experience of Asian Universities with SARS must guide our choices to

avoid unnecessary aggregation of people and associated risk of infection.¹¹

2 | OUR EXPERIENCE

Since March 9, in our University (Magna Graecia University of Catanzaro) graduate and post-graduate students were banned from coming to the dental school and hospital. Administrative and secretarial activities were only accessible online. Examinations moved on the web: intermediate and summative examinations have been performed online and the graduation sessions. The beginning of the spring semester has been postponed to April 3, to allow Professors time to record video lessons to be uploaded online on the e-learning platform of the University and to become acquainted with this platform.

A Decree of the Ministry of University and Research regulated the procedures for carrying out clinical training activities through distance learning for Health Professional Schools.¹² Part of clinical training activities of dental students will be carried out through presentation of case reports by tutors, reading and critical review of scientific articles, interactive learning tutorials based on clinical cases and update training in cross-infection control.

At this stage, our dental clinic remained available only for the treatment of dental emergencies, all appointments were rescheduled. It will probably still be some time before education activities on patients can start again. The Italian University Education System provides that the course of study leading to the graduation in

dentistry is divided into 6 years (the first 5 with teaching and clinical rotations, the sixth year with only clinical rotations). The students of the last year have always been engaged in the spring semester in the preparation of the graduate thesis. The other students will have to recover the clinical rotation activities during the next semester, but before restarting they must be able to correctly use the personal protective equipment (PPE) in order to protect themselves and avoid a new spread of the infection.

After a month of distance education, we can draw a first balance of our experience:

- online examinations are probably not the ideal way to evaluate students in health education, as it was possible to verify the students' skills only theoretically;
- e-learning has been appreciated by students and professors, also in terms of teacher-student interaction;
- clinical training cannot be totally replaced by remote activities, and therefore, these assets will have to be recovered in the next semester;
- distance learning has proven effective in limiting COVID-19 infections in our University.

At the end of this semester, it will be possible to assess the impact of COVID-19 on dental educations through questionnaires to students and teachers and comparing educational results with those of previous years.

3 | DISCUSSION

Over the past years, numerous studies have analysed the effectiveness and acceptability of e-learning in dental education with good results.^{13,14} Whilst for post-graduate students blended learning is universally adopted in dental schools almost over the world, face-to-face learning was the main method for undergraduate students of dental schools.^{15,16} Development in innovative pedagogical approaches with new technologies helped to create an active and interactive learning environment that was welcomed by dental students.¹⁷ It is reported in the literature that dental students have generally positive attitudes towards e-learning.¹⁸ Smart devices allow students to follow lessons anytime and anywhere. Furthermore, students should be encouraged to learn independently from the scientific literature and to access the resources made available online by dental scientific societies (clinical videos, webinars, etc).¹⁹

Universities with limited resources can take advantage of free software for education, such as G Suite for Education (Google LLC) and Microsoft Office 365 Education (Microsoft Corporation), which allow interaction with students through numerous applications for meetings, file sharing, etc.

Furthermore, as suggested by Wong et al in 2004 after SARS outbreak, Universities should be prepared to provide psychological services to students, teachers and administrative staff who may need it.²⁰

However, the use of SARS-CoV-2 diagnostic tests for patients, healthcare professionals and dental students could allow the sustainable resumption of clinical activities in the next weeks.²¹

4 | CONCLUSION

The COVID-19 pandemic is likely to change dentistry and our training approach for the following years, with the need to reduce all situations potentially associated with risk of infection. Blended learning will probably be a cornerstone of future dental education. Clinical rotations will need to be reorganised according to guidelines for dental treatments and safety of dental team. The availability of PPE could also affect the way in which a clinical internship occurs. It will be interesting to evaluate in the future the pedagogical effects of the sudden change in educational method caused by the COVID-19 pandemic. We wish to shortly go back to routine dental education, but we cannot exclude that the entire profession might change significantly in the next years. Our hope is to be able to adequately train the dentists of the future.

CONFLICT OF INTEREST

The authors declare that they have no competing interests related to this study. No financial support was received for this study.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analysed in this study.

ORCID

Francesco Bennardo  <https://orcid.org/0000-0002-6528-2681>

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