

# Adaptation and academic production in times of social distancing: experience report

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## ABSTRACT

This article aims to report the experience of Dentistry students about their adaptations to digital means of teaching and academic production during the interruption of classes and measures of social distancing in the face of the new coronavirus pandemic in 2020. In this context, seeking continuity in their extracurricular training, the academics participated in on-line journeys, with the presentation of works through the videoconference tool; monthly meetings in university extension projects promoted by the coordinating professors of the extension actions; they participated in national and international webinars on topics relevant to risk controls and changes in dental practice in the days of COVID-19; they elaborated, submitted and published scientific articles in indexed journals and they took distance qualification courses through UNASUS website. Teaching and academic production, previously only practiced by traditional means, gave space to a new reality for the entire academic community, making students and professors always seek innovations in the teaching-learning process, inclusion of digital tools and means of qualification to accompany the consequent changes in the current parameter of social distancing.

**Descriptors:** Dentistry. Education, Higher. Social Isolation.

## 1 INTRODUCTION

COVID-19 is a virus infectious disease caused by a pathogen named 2019-novel Coronavirus (2019-nCoV)<sup>1,2</sup>. This pathogen belongs to a virus family already known by the scientists around the world and by the end of 2019 started spreading from Wuhan, the Chinese region where the first cases of infected

people were found, to the entire globe<sup>3-6</sup>. Its remarkable symptoms are fever, difficulty to breathe, nausea, diarrhea, dry cough and most recently it was observed that the infection of 2019-nCoV is able to bind to salivatory glands' angiotensin-2 converting enzyme receptors and due to it infected patients present taste and smell loss<sup>7-9</sup>.

The transmission routes of coronavirus can occur by the contact with body fluids, mainly saliva droplets of an infected person when sneeze or cough next to health people<sup>10</sup>. But that is not the only way to spread the virus. The infection of 2019-nCoV can also happen when someone touches infected objects and then raise his hands to face, in a directly contact to the eyes and nose. 2019-nCoV incubation period can range from 7 to 14 days, which is the time official health services encourage infected people to keep social distancing and monitoring the cases<sup>1,11,12</sup>.

In face of these particular features of COVID-19 routes of transmission, dental professionals are at the high risk of infection, due to the unique dental practice and office settings<sup>13</sup>. In Dentistry, the risk of infection transmissions between professional to patient or patient to professional is high, because there is a close contact with body and oral fluids, such as saliva and blood, during dental procedures, as well as the management of instruments that may be contaminated<sup>13-15</sup>. Besides, the use of high speed, ultrasound and others equipment that aid dentists to realize clinical procedures produce aerosols and saliva droplets, making the dental office a high-level contaminated place and possible route of transmission for coronavirus and others infections<sup>16</sup>.

However, it is not only professionals of Dentistry who are exposed to the high risks of coronavirus infection. Undergraduate students are also exposed to the pathways of transmission of this pathogen, since Dentistry education requires a large workload from students focused on dental laboratories and clinics by giving dental care to patients<sup>17</sup>.

In this context, dental education faces challenges to adapt to the changes resulting from the practices of social distancing adopted by 90% of Brazilian federal universities<sup>18</sup>. As a

way to circumvent these obstacles to traditional teaching, some universities in the country have adopted changes, even if provisionally, in their curricular structure, starting to offer teaching remotely to the detriment of face-to-face interaction in traditional classrooms<sup>19</sup>.

This article, therefore, aims to report the experience of Dentistry students about their adaptations to digital means of teaching and academic production during the measures of social distancing adopted by most Brazilian universities of dental education in 2020.

## 2 EXPERIENCE REPORT

During 2020, in which the measures of social distancing imposed by the dissemination of the new Coronavirus persisted, dental education faced significant challenges for its continuity in Brazil<sup>20</sup>. One of these challenges was the need for dental education to fulfill a vast workload of clinical practices for the training of its students - the minimum workload for graduation is 4.000 hours<sup>21</sup>, which it would require the meeting of many students in outpatient settings and dental clinics in person, which could not be replaced by care provided remotely, as is done in some Medical courses in the country, through the telehealth modality<sup>22</sup>.

In this context, remote teaching emerges as a tool for reflection and innovative potential for the dental practice during the undergraduate years of many Brazilian students<sup>19</sup>. However, digital inclusion measures and training courses for professors become necessary. According to the V National Survey of the Socioeconomic and Cultural Profile of Graduates of Higher Education Institutions, half of Brazilian students come from low-income families, they do not have access to the internet and they lack adequate physical spaces to study in their homes<sup>23</sup>. In addition to this social discrepancy is the difficulty of the teaching staff to adapt to

new teaching tools and technologies, since a large part opts for traditional methods of face-to-face teaching<sup>24</sup>. In this sense, during 2020, the State University of Piauí (UESPI) trained students and professors for the virtual environments used for the practice of remote teaching.

Virtual environments such as Google Meet are widely used tools in remote teaching and they do not only enable collaborative learning but they are also used for video conferencing meetings, on-line lectures, case studies and learning tutorials based on clinical problems, encouraging self-learning<sup>19,25</sup>.

Scientific events also took place on these on-line platforms, such as the Academic Dentistry Journey of the Federal University of Piauí and the Academic Dentistry Journey of Parnaíba, organized by students and professors from the State University of Piauí. In both events, in addition to bringing and discussing relevant aspects of the most diverse specialties of Dentistry, they offered spaces for their participants to present scientific works, through videoconferences by the meeting platform Google Meet. The works presented in these academic journeys were, respectively, “*Containment of biohazards in dentistry during covid-19 outbreak*” and “*Adaptation and academic production in times of social distancing - experience report*”, with the last work awarded in the category of Report of Experience.

In order to encourage a multidimensional vision, in which the political, social and human are present, extension practices have a great impact on the academic training of the student<sup>26</sup>. Therefore, university extension is a practice that connects higher education to the social demands of the population in which it is inserted, enabling the professional citizenship education and solidifying it, even more, with

society as an intermediary for the production of relevant knowledge for overcoming the socioeconomic inequalities that exist throughout the Brazilian territory<sup>27</sup>. The university extension occupies a prominent place in the training of health professionals, as it enables a constant search for balance between the social demands required by the community and the innovations that arise from the academic environment.<sup>27,28</sup>. Taking advantage of these academic innovations, such as the use of videoconferencing platforms for interaction between students and professors, and internet access, monthly online meetings were held throughout 2020, by videoconference platforms, for students and professors at the Faculty of Dentistry of the State University of Piauí that participate in the actions of university extensions promoted by coordinating professors.

Among these extensions, the “UESPI Odonto” project stands out, which provides guidance on oral hygiene to families of needy children in day care centers assisted by the social project of the Diocese of the city of Parnaíba, in the state of Piauí. In on-line meetings, extension students exchanged experiences about new approaches to health education, in addition to planning, preparing and making playful material that helped them in caries prevention activities and supervised brushing with the children of the project<sup>29</sup>.

The Brazilian Association of Dental Education (ABENO), as well as the Association for Dental Education in Europe (AADEE) and the American Dental Education Association (ADEA), claim that remote teaching is a temporary alternative for education in Dentistry while the pandemic situation caused by the new coronavirus persists<sup>30</sup>. Some Brazilian universities made use of webinars to guide and exchange experiences between students and

professors about new biosafety behaviors that should be adopted in the clinical-dental scope, aiming to prevent contagion by the new coronavirus. Between August and October 2020, the Faculty of Dentistry of the Federal University of Goiás (FO/UFG) promoted the first Cycle of Webinars entitled “COVID-19 and Dentistry”, which consisted of a series of seven on-line conferences. These conferences addressed topics of relevance in the dental context from discussions between professors from FO/UFG and guests. Within the same context, the Faculty of Dentistry of Piracicaba of the State University of Campinas in partnership with the University of Illinois at Chicago (UIC) in the United States, promoted the webinar entitled "International collaborations in the COVID period" in which professors from both educational institutions discussed the clinical behaviors adopted in clinic-school for health maintenance of the entire team of professors, assistants and students in view of the high risk of contamination by the new coronavirus.

Conducting a study and publishing its results is of crucial importance to the academic community. When the results of a study are not published, other researchers will not have access to the evidence generated, they will not be able to aggregate ideas and build up on them, and scientific knowledge, therefore, will not be able to grow or develop<sup>31</sup>. Thus, seeking continuity in their extracurricular training during measures of social distancing and contributing to the academic community, scientific articles were prepared, submitted and published in indexed journals on risk control practices of COVID-19 within the dental clinic, as well as studies of properties of dental materials applied to Endodontics and its techniques and conducts<sup>16,32</sup>.

The temporary interruption of face-to-face

teaching and dental care to patients in school clinics is a major obstacle never faced before in education in Dentistry<sup>20</sup>. As a way to overcome the distance from clinical practices and their experience by providing dental care to the community, participation in training courses available free of charge was encouraged through the website of the Open University of the Unified Health System (UNA-SUS) in partnership with the Federal University of Pelotas (UFPel) in Rio Grande do Sul, entitled "Common Dental Situations in Primary Health Care", with the aim of providing Dentistry students with improvement on common dental situations in Primary Health Care (PHC). This self-learning course provides training using interactive clinical cases that focus on the development of clinical reasoning and deepening of knowledge in relation to different population groups. The themes of the clinical cases include oral health of children, adults, pregnant women, the elderly and the prevention and control of dental caries, periodontal disease, oral cancer, systemic diseases with oral involvement and dental emergencies. Interactive tools such as scores, calculators and scales were made available to support the assessment of the health situation. As a form of learning assessment, during the course tests were performed after each of the topics that constituted the content grid and the performance in the development of clinical cases were also used as a form of assessment.

### **3 FINAL CONSIDERATIONS**

Teaching and academic production, previously only practiced by traditional means, gave space to a new reality for the entire academic community, making students and professors always seek innovations in the teaching-learning process, inclusion of digital tools and means of qualification to accompany

the consequent changes in the current parameter of social distancing.

Dental education institutions across the country must also keep up with the changes in the current remote learning scenario, permanently adopting technological tools in their classrooms.

After the end of the academic production activities for the year of 2020, Dentistry students can affirm that a differentiated education, whether through practical classes in person or predominantly virtual, with participation in scientific events, presentation of academic works, monthly meetings for discussing extension practices, dissemination of knowledge through the publication of scientific articles and training in open access websites, proved to be very effective and dynamic.

As positive points, the use of technologies allowed students to exchange information in different areas of Dentistry with professionals and academics from other regions not only in the country, but also in the world, one of its main advantages being the reduction of distances and effectively remedying the problematic absence of congresses or other scientific meetings that needed, rather, of a face-to-face audience gathered in closed places. The continuity of scientific-academic production also occupied a prominent place as a positive way to circumvent the students' distance from traditional classrooms, as this practice helped in the development of their critical training.

However, the practice of these virtual teaching and production innovations by academics also encountered challenges. The theoretical content required by certain disciplines can provide tiring on-line encounters, but the teaching qualification for the use of active methodologies strategies allows to overcome this difficulty. In this context, higher education institutions, such as the State

University of Piauí, offer courses to professors and students that help them to have a better use of learning in virtual media, making the experience in this new teaching environment more pleasurable. Therefore, during the year of 2020, overcoming the difficulties faced, students and professors discussed in a more dynamic way the topics covered, as an effective and real way of learning in virtual classrooms.

Therefore, it is shown that teaching and academic production can be adapted and included to the new reality of remote education during prevention measures of strong impact on dental education.

#### **ABSTRACT**

#### **Adaptação e produção acadêmica em tempos de distanciamento social: relato de experiência**

O presente artigo objetiva relatar a experiência de estudantes de Odontologia acerca de suas adaptações aos meios digitais de ensino e produção acadêmica durante a interrupção das aulas e das medidas de distanciamento social diante da pandemia do novo coronavírus em 2020. Nesse contexto, buscando a continuidade em suas formações extracurriculares, os acadêmicos participaram de jornadas on-line, com apresentação de trabalhos por meio da ferramenta de videoconferência; encontros mensais em projetos de extensões universitárias promovidos pelos docentes coordenadores das ações extensionistas; participaram de webinários nacionais e internacionais com temas pertinentes aos controles de risco e mudanças na prática odontológica em tempos de COVID-19; elaboraram, submeteram e publicaram artigos científicos em periódicos indexados e fizeram cursos de qualificação a distância pelo portal UNASUS. O ensino e produção acadêmica, antes somente praticados pelos meios tradicionais, deram espaço a uma nova realidade para toda a comunidade acadêmica, fazendo com que alunos e professores busquem sempre inovações no processo ensino-aprendizagem, inclusão de ferramentas digitais e meios de qualificação para acompanharem as mudanças consequentes do

atual parâmetro de distanciamento social.

**Descritores:** Odontologia. Educação Superior. Isolamento Social.

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