

COVID-19 and Medical Education: A Window to New Opportunities

COVID -19 e Educação Médica:

Uma Janela para Novas Oportunidades

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Coronavirus disease 19 (COVID-19) pandemic, caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), emerged in China in late 2019. Its fast spread worldwide has caused over 170 million documented cases as of the 1st June 2021, with 3.5 million deaths.¹ The growing number of COVID-19 cases, combined with an unprecedented pressure on frontline health workers and limited access to healthcare services by the population has culminated in an excess mortality² in Portugal. However, the COVID-19 pandemic has had other consequences.

Several sectors of society including social, political, financial, and educational have suffered significant disruptions.

Medical education in its full spectrum from undergraduate to residency programs has been enormously affected. During the first lockdown, medical schools closed their physical doors to students. All in-person training was interrupted, meetings and conferences were conducted digitally³ and web platforms such as GotoMeeting, Zoom or Webex Meet became the new way to connect and learn in the medical scenario.⁴

Social distancing was crucial. Additionally, in medical schools, shortage of SARS-CoV-2 tests and personnel protective equipment and the imperative need to shorten presential medical

teams to reduce the risk of virus transmission deemed the student's attendance prohibitive in the clinical setting at the time. Urgent measures were taken to prevent an interruption on the school year ongoing.

Online education was the new standard. From asynchronous learning (recorded videos) to the use of virtual classrooms and video conferences in a synchronous modality,⁵ these have contributed to a speedy transformation of the medical education paradigm. In preclinical years, lecture halls and small classes were replaced by online teaching. In clinical years, small group classes with problem based clinical vignettes and clinical simulators with virtual patients were added. These contributed to the development of clinical reasoning and knowledge. Still, students missed the chance to integrate medical teams, to learn from role models, to practice medical interviews and physical examinations with patients. In the current academic year, students have slowly returned to hospital wards in smaller groups, real life patient interface was re-integrated in the clinical clerkships of medical students. Still, the impact of COVID's pandemic in clinical year's students is significant. Choi *et al*⁶ conducted an online survey on final year medical students, concluding in significant disruption on the confidence and preparedness towards the first year of foundation training.

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Examinations have also been challenging. Online multiple-choice assessments, presential exams through web platforms, hands-on patient's medical history replaced by clinical vignettes discussion are examples of methods to assess students.

As for the junior doctors in training the pandemic brought new responsibilities. The focus changed from the specialty to the need to support medical teams where needed, such as general emergency departments, COVID and non-COVID medical wards and intensive care units. In the case of surgical specialties, elective procedures were postponed and only the more urgent and complex interventions were performed, by the more senior surgeons, limiting even more the training of interns and fellows. Still, the sense of duty and the consciousness that this was also a unique possibility to be in clinical training during an exceptional pandemic brought new clinical experiences as well as the acquaintance of soft skills, crucial in teamwork.

A note should be added on the mandatory surveillance of signs of anxiety or sleep disturbances among medical students and trainees. The intense workload, the fear of being infected with SARS-CoV-2 during exposure to patients,⁷ the increased digital exposure during webinars, online lectures, tele consults, financial shortage, uncertainty in the future as well as social isolation can significantly imbalance the mental equilibrium.⁵

Flexibility, adaptability and soft skills, and digital innovation are probably three very positive key elements that this pandemic forcefully imposed into our learning system. Still, ongoing and long-term evaluation and reflection on these changes are essential to understand which should be integrated into the new standard of future medical education. However, we should never forget the basic values and principles that represent the solid foundations of Medicine, that under no circumstances should be neglected or shadowed by the fantastic tools and technologies that sometimes seem to take over the stage of medical practice, and always keeping in mind what Hippocrates already taught us almost 2500 years ago "Wherever the art of medicine is loved, there is also a love for humanity."

The balance and implications of all the adaptations that had to be done during this period, covering the full spectrum of medical education, are still unclear and will certainly be done in due time, but what is already clear is that nothing will (or should) be the same after this period. These moments should be used also to reflect on some of the ineptitudes of the past, taken by the inertia of time, that have been shaken by the absolute need to change and adapt. This is the time to take the opportunities that have been offered. A good example has been the need to reduce the ratio student:tutor and one of the main positive consequences has been the speed at which new platforms and digital tools have been developed. This will certainly have an impact on the way future educational programs will be designed, new assessment models will be implemented and even the way medicine will be taught.

This is also the moment to reinforce substantially the support that should be provided to the medical schools to ensure the next generations will be prepared according with the best standards and are ready for any challenge they will have to face. One of the things this pandemic has shown very clearly is how important it is for a country to have an educated, advanced and well prepared health care community. It is our responsibility as medical scientific community to continue to provide all the evidence needed to ensure it is understood how critical it is to have a strong medical education to ensure the future of a healthy society. Therefore, let's not waste this unique opportunity that nature is offering us to reshape the future of medical education.

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