

Online Learning Modalities in Dental Education during COVID-19 Pandemic

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ABSTRACT

Remote learning on digital platforms has replaced conventional learning to alleviate the effects caused by the pandemic. Dental educational institutions had opted for alternative methods to continue with the academics to allow students to pursue their education even with the physical shutdown of schools worldwide. Embracing various challenges, remote learning has been implemented since over a year in many dental schools in Nepal. Although still practiced in many educational institutes, the efficacy of these new modalities, however, remains in doubt, especially in medical/dental field, where practical and clinical practice is concerned.

Keywords: COVID-19 pandemic, dental students, medical students, online classes.

INTRODUCTION

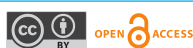
The ongoing COVID-19 pandemic has taken its toll in every sector of livelihood of mankind with the death count caused by SARS-CoV-2, exceeding numerous former epidemics. The World Health Organization declared the outbreak a Public Health Emergency of International Concern on 30 January 2020,¹ and a pandemic on 11 March 2020.² The unparalleled scenarios caused by the virus lead well over 100 countries globally to impose either a full or a partial lockdown by the end of March 2020. Consequently, many aspects be it political, social, economic, industrial or environmental; were affected. Education sector wasn't spared either. Many dental and medical schools and learning institutions completely discarded physical classes and opted out for other alternatives. As a result, education changed dramatically, with the distinctive rise of e-learning, whereby teaching is undertaken remotely on digital platforms.

Scenarios in Nepal

UNESCO (2020) estimated that nearly nine million

students in Nepal had been affected due to school/university closures due to the pandemic, as of the second week of May; 2020.³ Online classes in Nepal prompted a learning curve not only for the students, but also for their parents and the tutors. A Kathmandu based educator and principal of a secondary school from capital itself mentioned in her interview with UNICEF Nepal how challenging it had been to traverse towards digital methods for teaching and learning and some of her tutors hadn't even used email prior.⁴ One can anticipate similar or more so worse conditions in the suburban and rural areas of Nepal where people have not been well acquainted with the charm of technology. Today, over a year since many schools launched virtual classes; there have been a lot of adjustments and improvements made, based on "trial and error". However, a lot of obstacles still encumber effective learning via screens. Running online classes does not seem to be feasible for most rural schools in Nepal and this had led to a biased and unequal modality for access to education. Only 56% of the Nepalese population is estimated to have access to internet.³ Accessibility to a stable internet connection and electronic gadgets is yet a privilege enjoyed only by some. Difficulty in retaining student's focus, impaired external (board level exams) as well as internal assessments and screen fatigue both for teachers and students are additional shortcomings. Despite the challenges, many institutions have well conducted online classes in order to mitigate the impact caused by shutting of schools due the havocs created by the virus.

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Online education for medical and dental students

In March 2020, medical schools in Nepal like all other educational institutions adjourned in-person theory and practical classes as well as clinical posting for students to conform to physical distancing requirement.⁵ Medical institutions naturally resorted to providing academic activities via virtual methods. Although it was an integral decision considering the spread of the virus worldwide, efficacy of these new modalities is yet incredulous, since clinical rotations and pre-clinical practicals, along with the theory classes are equally important in terms of skill acquisition and relationship building. Remote learning became the only available alternative to continuing the delivery of education during lockdown period. Virtual methodologies proved to be convenient in some aspects and are yet practiced even after the withdrawal of lockdown. Medical and dental personnel and students are routinely subjected to continuing professional development via seminars, practical workshops, conferences, etc. all of which had to be conducted on digital platforms as well. During the pandemic courses had to be covered up by online classes only. Various modern enterprise video communication software programs were developed and utilized to provide easy and reliable audiovisual communicating platform, the same were later employed for conducting theory classes, webinars and also case presentations. The power of internet spun a web of common learning podium and consequently many online webinars allowed students to participate in lectures delivered by not only national, but international speakers. Although people are now being familiarized with the new aids of education delivery, curiosity remains regarding their effectiveness in comparison with the traditional face-to-face classroom based approach.

A few studies conducted in Nepal, in an attempt to understand the changes brought about by online classes with respect to medical and dental fraternity, yielded mixed responses. A cross sectional survey on medical students of each semester of Lumbini Medical College, Palpa, Nepal, using an online questionnaire typed in google forms concluded that medical students did not find online classes as effective as the traditional classroom teachings.⁶ Almost one third of the students who participated in the study admitted of never having attended the online classes.⁶ However, another survey conducted

via structured questionnaires on 434 undergraduate and postgraduate students from various academic programs, who had participated in the online classes started during this COVID-19 pandemic, of Chitwan Medical College to assess satisfaction towards online learning, yielded positive responses. Half of the students were satisfied with the online learning, while 29.7% gave neutral views.⁷ Gupta A. et al.⁸ study on perception of BDS students on online learning during COVID-19 pandemic showed online classes could serve as an alternative effective educational tool.

Focusing the scenarios in dentistry

Dentistry, as any other medical field, is a challenging course on its own requiring both academic knowledge as well as practical proficiencies, the latter being more emphasized. As the name of the course itself suggests, Bachelors in Dental Surgery (BDS) relies more on operating various procedures in and around the oral cavity for the benefit of the patient. Undergraduate curriculum for dentistry in Nepal, allows supervised clinical practicals in patients beginning as early as sixth semester of college. By the time undergraduate study is completed, dental students are usually already exposed to numerous patients. Online modalities of education emerged during the pandemic for sure compromised this system as students were omitted from this opportunity to conduct supervised clinical practicals on both typhodont and patients. A decade long pursuit of transforming pedagogy by reducing lectures and optimizing technology for competency based learning had been halted for dental students during the pandemic. Simulation and problem based learning were mired to a great extent. A study conducted on dental students of university of Jordan concluded that 87% of students agreed to have had a negative experience as a result of the affected clinical trainings during the pandemic.⁹

In context of Nepal, a descriptive, questionnaire based study dedicated towards dental students of Kathmandu university, regarding their perception on online learning demonstrated substantial variances in assignment submission, practical simulation and communication among basic and clinical science students.⁸ Although a majority of students agreed that the online classes were distracting, they also agreed that communication is somehow strengthened in online platforms.⁸

In response to the current situation, blended learning class, an amalgamation of both online and physical classes as per required with proper safety precautions can prove to be efficient in compensating with the limitations of virtual classes alone in the future for dental education.¹⁰

CONCLUSION

Deficient resources and knowledge regarding the technology definitely impose challenges in accepting the “new normal”. Dental students dealt with the shortcoming of not being able to attend the clinical postings in the final year, but also virtual platforms allowed them the opportunities to participate in various online trainings and seminars. But still the lack of practical approaches couldn't be reimbursed to a full extent. Both pros and

cons of online learning are present as any other modality of learning. Virtual platforms can be beneficial in allowing a convenient means of communication for all kinds of students. With a good internet connection and availability of electronic gadgets, sharing large audiovisual files for theory purposes can be well exercised. However, practical lessons can be limited without physical presence in the laboratories or a clinical setting. Mixed learning techniques, a combination of both web and physical classes can end up being effective in the future for dental schooling.

Conflict of Interest: None

JNAPD

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