

E-learning Amid Pandemic – A Boon or Bane in Medical Profession

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Abstract

Background: The emergence of COVID-19 pandemic affected people all over the globe. The implementation of strict safety measures and social distancing by the government to curb the spread of the deadly virus resulted in forceful closure of all educational institutions and medical and dental colleges were no exception. The traditional teaching was replaced by online education that in no time became “Massiha.” However, all good comes with some challenges, so does this e-learning. Here, in this article, we unveil all the opportunities and challenges of e-learning in the field of medicine in the hour of pandemics. **Materials and Methods:** A digital survey was conducted and the participants were asked to record their response to the questionnaire. The data were collected from the students and faculties from the medical profession and analyzed. **Results and Conclusion:** The outburst of pandemics has affected the education in medical field. Implementing technology in medical profession has allowed students to develop skill and adapt to the situation. Although, there are some challenges with online video conferencing or webinar, still it has proved beneficial to the students globally. Thus, we believe, with newer technology, we can further overcome these challenges and turn them into opportunities for learning.

Keywords: COVID 19, E-learning, Medical and dental student, Pandemic, Video conferencing, Webinar.

INTRODUCTION

The year 2020 was no ordinary year and can better consider as a consequential year. In the wake of this deadly pandemic, COVID-19 or coronavirus, it is extremely important to study and record the different health consequences and pathology associated with the disease. At the same time, it is also important to study the impact of the deadly virus on medical education. According to Huang *et al.*,^[1] COVID-19, a novel coronavirus, was discovered in 2019 in a seafood market in Wuhan, China. Wang *et al.*^[2] reported a person-to-person transmission. The WHO in March 2020 assessed the spread and severity of the virus and declared it as pandemic.^[3] To curb the spread of the deadly virus, social distancing and strict hygiene measures were undertaken by the government forcing the educational institutions to shut down that also included the medical and dental colleges. According to the definition given in Merriam-Webster Online Dictionary, pandemic is defined as “an outbreak of a disease that occurs over a wide geographic area and affects an exceptionally high proportion of the population.”^[4] Oxford advanced learner’s dictionary defined social distancing as “physical distance that is kept between people during social and work activities, in order to prevent the spread of disease.”^[5] The first case of the deadly

pandemic was reported in January 2020^[6] when the world had 10,000 active cases and this number in no time increased to 9,884,100 confirmed cases in India and 70,476,836 active cases worldwide by the end of December 2020.^[7] In the field of medicine, faculties and students are grappling with the new changes that are being made and attempting to implement these newer technologies in their respective field. With the rise of number of active cases, universities remain closed; conferences are being cancelled and out postings are being postponed. The traditional in-person teaching has been replaced with e-education, with a goal of minimizing the social interactions; which is the need of the hour, but it also can be detrimental to education and personal growth of a medical student.

Online education is nothing new to this world. It was started long back from the 1980s in mega universities across the

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globe, in their remote education program. However, it rose to its “massiha” status during the pandemics.

Digital transformation, as per Kopp *et al.*, is the summation of all digital processes that are required to accomplish transformation process that educational institutions the opportunities to positively apply the digital technologies.^[8] These processes consist of adequate strategic preparation, trust establishment, thinking in processes, amalgamation and reinforcement of all parties involved, and separate collaborative and organizational knowledge.^[9] Some authors believe that online education is as effective as the traditional classroom teaching^[10] while some authors believe that switching over to online platforms during an emergency acts as a reset button to the ailing traditional system.^[11]

Despite the emergence of deadly pandemic, the hunger for learning in medical profession is increasing and is met by implementing technologies to traditional teachings. The survey is aimed at analyzing the impact of online education system in medical and dental profession amidst the pandemics.

MATERIALS AND METHODS

The study was conducted from August 2020 to November 2020, where both undergraduate and postgraduate students and faculties from both medical and dental professions were included in the study. The investigators prepared an online questionnaire using Google Forms® (Google LLC, Mountain View, CA). The survey had an introductory paragraph where the aim of the study, confidentiality of their response, and freedom to decline to answer any question or withdraw from the study were mentioned. The questionnaire contained both open-ended and closed-ended questions. The closed-ended questions were related to participant's demographic details and their experience in their professional career and the open-ended questions was designed to elicit a descriptive feedback either in participant's own language, or simple “Yes” or “No” or selecting from multiple options questions. To launch the survey, investigators send the survey through email and other social media platforms available. The response was recorded and analyzed.

RESULTS

The survey was conducted through a questionnaire prepared with Google Forms and circulated digitally among the undergraduate and postgraduate student of medical and dental profession. The faculties of the respective field were also included in the study. A total of 162 respondents recorded their data. Approximately 77.4% of participants were of age group between 20 and 30 years, 19.3% were between 30 and 40 years, and rest above 40 years that are mostly students

participated in the study (Figure 1), with male participants 58% and female participants were 41% approximately (Figure 2). Out of 162 participants, around 79% use the online platform on a regular basis for educational purpose. Among

the online platforms, use of ZOOM videoconferencing app was approximately 45% followed by FACEBOOK LIVE 17.7% and others reported minimum usages (Figure 3). According to the participants, factors like attitude of the learner (48.39%) followed by organizational factor (35.48%) play a major role in determining the success of the online programs. Approximately 58% of participants suggested

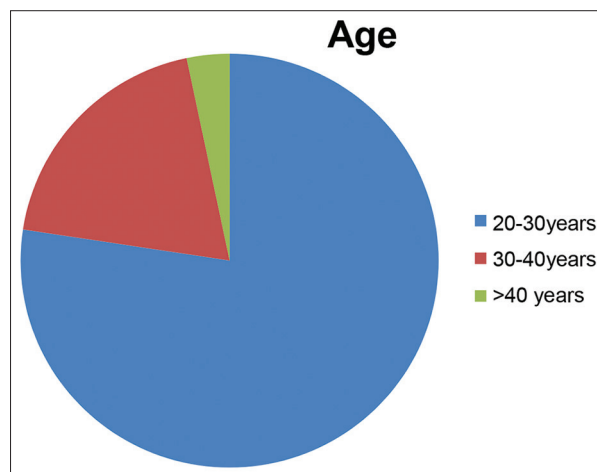


Figure 1: Distribution according to age

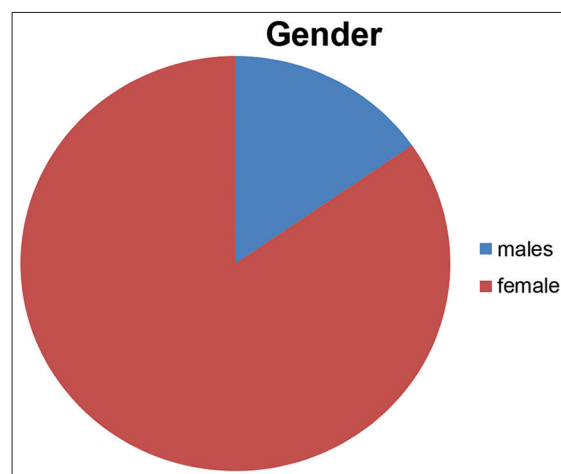


Figure 2: Distribution according to gender

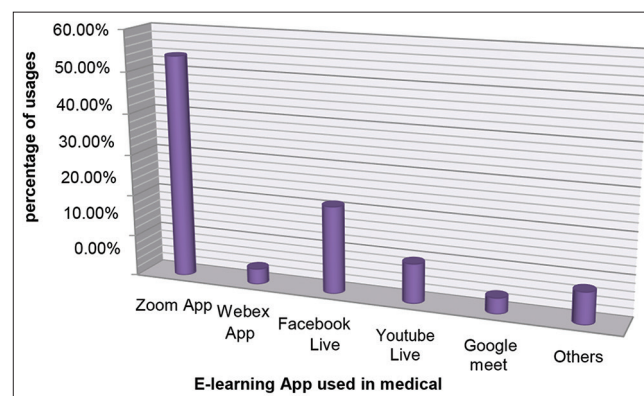


Figure 3: Distribution according to apps

of using this online platform sometimes and 25.81% of participants suggested more and frequent usages of these platforms. About 61.29% of the participants use this method of learning whenever necessary and 9.68% use once a week. A majority of participants (59.68%) said that these e-learning methods helped them in their medical professional growth, 19.35% did not see the newer technology of helping them, and 20% were not sure whether it helped them or not. About 79% of participants found the current webinar programs to benefit both the learners and the educators while for 17% of participants, students are mostly benefitted from the online education program.

DISCUSSION

The emergence of the COVID-19 pandemic has caused an unprecedented academic crisis for the medical students all over the globe. This has compelled the students to stay at home missing out all the clinical postings and has disrupted the learning curve of the students. The incorporation of technology in medical profession has vastly changed the education pattern. These online education platforms proffer both challenges and opportunities to medical students. These has been studied in detail in this survey and summarized below.

The opportunities

Crisis like COVID-19 pandemic is the opportunities for medical students to gear up to adapting newer technology in learning. Due to the infectious situation, face-to-face interactions are cancelled as large group interactions can prove to be hotbed for infections to spread. E-learning platforms can thus be used to deliver lectures and live videos to the students staying indoor through handheld devices such as laptops and smartphone. Lectures and teleconferences can be used to demonstrate various medical procedures even with the cessation of face-to-face interactions and ward postings.

In this survey, 79% of respondents use online platform among which most are medical and dental students took part. The present generation uses social media and online platforms as their primary means of communication,^[12] thus, they readily accepted the online learning platforms in this crisis times. Furthermore, a recent study revealed that medical students show their keen interest in decisions related to their education.^[13] According to this survey, online teaching platforms are beneficial to the students in sharing information or ease of communication without face-to-face interactions, have improved quality of education, and provide recent updates. The benefits of online education have also been studied by Rajab *et al.*, where they found similar benefits.^[14] According to survey, the success of online platforms is mainly due to organizational factors followed by attitude of learner. About 59% of participants agree that these online platforms helped in their personal growth. The reason can be live video lectures and lectures by eminent doctors across the globe, especially when postings are cancelled due to pandemic. About 79% of respondents said that online platforms are beneficial

to both students and faculties. This finding is similar to the study by Rajab *et al.*^[14]

The challenges

The online platform in medical education is a boon in this panicky situation but also has proved to be bane for students. There are many studies which presented with the obstacles with e-learning. According to some studies, the challenges are related to student's access to computer, online assessment, and technical barriers such as scarcity of experience with online education, pandemic-related anxiety, and technophobia.^[13-16] Another study reported that communication is the primary challenge. They say that there is lack of two-way interaction between students and teacher in virtual learning. Technophobia plays the least role as reported by the study.^[14] In our survey, the primary drawback was its negative psychological impact and environmental distractions. Factors such as privacy concern and medical-related problems were least considered. Respondents also reported in our survey that longer duration webinars or video conferences should be changed into shorter duration interactive sessions. This change may increases concentration and focus of a student during lectures. Although, there are multiple benefits of e-learning during this stay home crisis, it cannot replace the experience of ward or clinical postings.

Limitations

The study conducted gave insight into different opportunities and challenges during the pandemics in the field of medical education. The study also has some limitations like it did not take into considerations the different challenges faced by the students during the shift of traditional-based teaching into online learning. The study did not tell us about the mental status of the teachers and students during the pandemic, and third, the sample size was not adequate. Despite all these limitations of the study, it gave us information about the e-learning method in the field of medicine and dentistry.

CONCLUSION

Medical crisis like the emergence of COVID-19 pandemic has affected medical and dental training, undeniably. The advent of technology in medicine that is e-learning in the form of webinar and videoconferences undoubtedly has filled the learning gap created by the crisis, but still imposes a challenge for the students. These challenges can be removed if the impact of e-learning on medical students is well studied and worked on. Technology can be harnessed to facilitate medical education emphasizing skills such as open communication and medical ethics. In the field of medicine, we must rise up to the challenge of continuing to teach even in the times of crisis. The time is now.

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