

Original Research Article

Attitude of dental students towards academic online learning during lockdown in the year 2019 due to coronavirus disease – An online survey

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ABSTRACT

Objectives: A process of acquiring knowledge by a person is called education. At present, educational system focuses on the ways with which the students are being educated. The pandemic condition, due to coronavirus disease of 2019, has made online learning compulsory for one and all. Students are not introduced for this new technique to use for longer time and dental practitioners spend more time in clinical learning. The aim of the study was to assess the attitude of dental students toward academic online learning as compared to traditional ones during COVID-19 pandemic lockdown.

Materials and Methods: Questionnaire was made using software Google Forms which was based on determining attitude of students toward online learning and send to around 75 students. A total of 63 students responded to it, received in the form of mails. The data were collected and statistical analysis was performed.

Results: About 93.7% of students selected traditional classroom lectures and clinical demonstrations and 6.3% of students selected online lectures/webinars/demonstrations regarding the preference of learning method.

Conclusion: Regardless of the various advances in the learning methods, students would like to continue with the traditional classroom learning rather than online learning after the COVID-19 lockdown is over.

Keywords: Traditional learning, Online learning, Attitude, COVID-19

INTRODUCTION

A process of acquiring knowledge by a person is called education. Learning method as defined by Sachdev in 2019 is the “combination of characteristic affective, cognitive, as well as psychological factors that serve as relative guide of how a learner perceives, interacts with, and responds to the learning environment.”^[1] In the current developing scenario, various methods are adapted to acquire knowledge and the process of learning is more important in being educated.^[1] Dental students are required to educate on real or simulated patients. It is done by various innovative approaches such as problem-based learning (PBL) and case-based learning (CBL).^[2] Performance by teacher on patients like as in case of conventional demonstration is a preferred method of practical education.^[3] In students, this method has shown to be effective in better perception of clinical procedures, their communication skills, and increases overall self-confidence.^[3] The introduction of the internet has changed our perspectives

on the world. This generation is born and raised in an easily accessible informative environment which made them confident users of technologies from an early age. Most aspect of human work has being significantly altered since the emergence of digital technology.^[4] Significant changes are undergoing in dental education to compete future. Online learning may be one of the important sources in evidence-based medicine because of its virtual environment and continuously developing nature. It is the combination of digital resources with the individualized learning experience which encourages communities of learners. Thus, e-learning is thought to be an innovative approach compared to traditional means of learning. Thus, e in e-learning has its various meanings. It stands for electronic (new technology), expansion (the opportunity to expand learning beyond the limitations of the classroom), and experience (the experience of learning by place shifting, time shifting, simulation, and community support).^[4] Advantages such as ease of use,

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accessibility, cost efficient, fast system, and high-quality medical images are among the various reasons for its tremendous growing use.^[5] In addition, online learning helps students to learn as per their needs, helps in their personal development, as well as creates positive environment, thus increasing their motivation. This method also enables use of time efficiently according to individuals and gives the students opportunity to work at their own pace as well as repeat the program whenever needed.^[2]

Besides its advantages, various primary drawbacks that come with online learning are student isolation and technical issues.^[5] In addition, online learning eliminates real-life communication during the training course, failure to overall clarify the topic. In health education, this changed learning pattern has made academicians to give thought about what these technologies actually offer.^[4]

The pandemic condition, due to coronavirus disease of 2019, has made online learning compulsory for one and all. As students are not introduced for this new technique to use for longer time and as dental practitioners spend more time in clinical learning, the present study was planned to assess the attitude of dental students toward academic online learning as compared to traditional ones during COVID-19 pandemic lockdown.

MATERIALS AND METHODS

This cross-sectional and observational study was initiated after Board of Research Study approval. Questionnaire was made using software Google Forms [Table 1] which was based on determining attitude of students toward online learning. It also includes comparison between traditional classroom learning method and their opinion about the selection of learning method in the future. The Google Forms was sent to around 75 students and a total of 63 students responded to it, received in the form of mails. The questionnaire data were analyzed using SPSS version 17 software SPSS Inc., Chicago, IL, USA. The Pearson's Chi-square test and percentages were used for analysis to determine the attitude of dental students toward academic online learning during coronavirus disease of 2019 pandemic lockdown.

RESULTS

About 100% of students were in lockdown due to COVID-19 pandemic. During lockdown, the majority of the students, that is, 63.5% used online lectures/webinars for study while 20.6% of students preferred textbook hardcopy and only 15.9% of students used online texts/books. About 87.3% of students found online lectures/webinars not better than classroom lectures while 12.7% found it better. About 82.5% of students marked a yes for the usefulness of online learning for dental students while 17.5% marked a no. 45 min–1 h was the time most students, that is, 73% were

able to listen an online lecture and 98.4% of students could read text from laptop screen and while only 27% of students could listen an online lecture and 1.6% of students could read text from laptop screen for more than 1 h. About 65.1% of students found direct demonstrations at clinical setup to be more effective than online video demonstrations while 34.9% of students found online video demonstrations to be more effective. As for the effectiveness of online learning in comparison to classroom learning, 55.6% marked it less effective, 31.7% of students marked it almost equal as that of classroom learning, and 12.7% marked it more effective. About 73% of students responded a no regarding the clarity of a topic in online lectures/demonstrations and 27% responded a yes. At last, 93.7% of students would like to continue traditional classroom lectures and clinical demonstrations over online lectures/webinars/demonstrations rather than 6.3% of students who would like to have the latter after COVID-19 pandemic lockdown is over.

DISCUSSION

In the present era of modernization and digitalization, learning process has become more complex which needs inventive and out of the box skills for the society of tomorrow. Educational strategies, including dental education, need to improve so as to accommodate vast curriculum, changing learning pattern of student, and restricted course time.^[6] Significant changes can be introduced by the use of technology with its abundant information. Developing expertise and the quality of learning in a digital network also require at most focus and attention.

Learning in dental education revolves around patients, relatives, and communication of doctors. Medical professionals as well as dentists in particular are required to communicate with patients in detail within a short time period.^[7] The technical- and skill-based communication are taught and developed at clinical setup. Students learn by one-to-one interaction with each patient. Every patient in the OPD provides them learning opportunities. Hence, students learn through self-practice and their own experiences.

The students of the 21st century are well versed with the vast technology available globally and it is not possible to withhold its use in education. Learning online is actually use of digital technologies to gain education apart from traditional ways.^[6]

However, its use was limited for searching research publications and academic information. Year 2020 has brought COVID-19 pandemic which made everyone to be at home. As the duration of one's stay has increased from 20 days to 60 days, the learning method like online learning has been started by every institution which made it compulsory for all students to learn online. Thus, providing

Table 1: Descriptive statistics of attitude of dental students toward academic online learning during COVID-19 pandemic lockdown.

S. No.	Questionnaire			
1.	Are you in lockdown?	Yes (100%)	No (0%)	
2.	Which type of learning method are you using during this lockdown?	Textbook hardcopy (20.6%)	Online texts/books (15.9%)	Online lectures/webinars (63.5%)
3.	Are online lectures/webinars better than classroom lectures?	Yes (12.7%)	No (87.3%)	
4.	Do you think online learning is useful for dental students?	Yes (82.5%)	No (17.5%)	
5.	For how long are you able to listen an online lecture?	45 min–1 h (73%)	More than 1 h (27%)	More than 2 h (0%)
6.	For how long are you able to read text from laptop screen?	45 min–1 h (99.4%)	More than 1 h (1.6%)	More than 2 h (0%)
7.	Which type of demonstration is more effective?	Online video demonstrations (34.9%)	Direct demonstrations at clinical setup (65.1%)	
8.	How effective is online learning compared to classroom learning?	More effective (12.7%)	Less effective (55.6%)	Almost equal (31.7%)
9.	Do online lectures/demonstrations give overall clarity of a topic?	Yes (27%)	No (73%)	
10.	Which learning method will you prefer after COVID-19 pandemic lockdown is over?	Traditional classroom lectures and clinical demonstrations (93.7%)	Online lectures/webinars/demonstrations (6.3%)	

an accurate platform to assess the attitude of dental students toward academic online learning than traditional classroom learning in the present article.

With the limited availability of study materials at home and not able to reach the library, students are taking help of online lectures/webinars in greater number as found in the present study. Some are using the available textbooks hardcopy as textbooks are the major part in every student's life from time known while in a study by Sarsar *et al.* (2016), even though students registered in the internet supported learning environment, only 29.4% actively used the additional teaching materials.^[2] However, students reported to use the internet infrequently after their examination.

The present study showed that students were of the opinion that online lectures/webinars are no better than classroom lectures. Similar results were found in a study carried out by Lyke and Frank (2012) which showed that students may be less satisfied with the educational experience in online learning.^[8] This may be due to the lack of face-to-face interaction between the student and the teacher. Classroom lectures provide for the mental alertness of the student, emotional dependability of students on their teachers, students can directly share their views and clarify their own queries with the teachers, thus getting their questions answered right away.

Students voted a yes regarding the usefulness of online learning for dental students. As online technologies have advanced tremendously so far, online learning is helping

student by providing various programs on multiple topics, multiple apps of procedural step-to-step demonstrations, flexible learning schedule, ease of availability and accessibility to expertise, diversity, and group communications.^[3]

Less time is required to upload large number of educational videos from different sites to enhance their knowledge. As the learning material can be repeated at any time, continued learning can be achieved.^[3] Its additional benefits include clinical setup simulation and thus improving technical skills of the students. Akhlaghi *et al.* (2017) showed improvement in learning skill by adding videos to fixed prosthodontic training.^[3] To develop the communication pattern in pediatric dentistry, Akhlaghi *et al.* (2017) compared VT and lecture.^[3] In today's dental course, models of traditional educational have been assisted by technological sources such as web-based tutorials, discussion groups, electronic textbooks, virtual patients, and reality-based simulations. Mobile apps have also been developed for better learning in students.^[1] Some students miss the interaction in a traditional classroom, while self-directed learners benefit from online learning.^[5]

Pandemic was the main reason to carry out this study as students were made compulsory to learn online leading to arise of questions regarding the duration of listening the lecture online and read a text from laptop screen. This question made the article unique from others as none of the previous articles included this questions. Most students answered 45 min–1 h for the above questions. This was

because the main disadvantage of online learning is the failure to provide mental alertness. Students are forced to listen to the whole lecture continuously without interruption without clarifying their doubts immediately, the monotonicity in the demonstration of topic, lack of continued network can distract the concentration of the student. The strain on eyes caused by reading through laptop, books are easy to carry wherever needed making difficult for the students to read from laptop screen.

Regarding the more effective type of demonstration between the two methods, that is, traditional and online method, students picked direct demonstrations at clinical setup and marked it to be less effective than the latter. Interestingly, in a study by Akhlaghi *et al.* (2017) found improvement in quality of endodontic training in dental students by video assisted clinical instruction as found in accordance to our study were some students marked both the type of learning to be equally effective^[3] The former helps students to learn through personal experience by individually performing the procedure there and there only and overcoming them, clear the doubts at every step they face, reduces the need of imagination of the procedure demonstrated. As dental education is a two-way learning between the patients and the students, along with learning, direct demonstrations help to develop and improve the needed technical and soft skills for communication. Rosenfeld in 2005 reported the rate of completion of the course to be significantly higher among students participating in the traditional education system whereas Moazami *et al.* (2014) concluded the more effective and feasible nature of virtual learning as compared to lecture-based training. Similarly, Amry (2017) found the high positive impact of mobile learning by WhatsApp social networking.^[5,9]

Students in the present study marked a “no” for the overall clarity of a topic by online lectures/demonstrations. Network interruption at various times, hesitation to clear the doubts by respectfully interrupting the teachers, hard to imagine the procedures viewed, and cope up with the online learning pace can be various reasons for not providing overall clarity of the topic by online lectures/demonstrations. Online learning is restricted as students are exposed to different learning techniques such as CBL and PBL and also evaluated by the use of different innovative methods such as mini CEX, direct observation of procedural skills, OSCE, and OSPE methods.^[10] PBL enhances the learning process of the students by directing self-problem solving skills and encourages independent thinking, self-clinical analysis, teamwork, and communication.^[2] It has led to increased students’ performances and academic success.

About 93.7% of students in the present study selected traditional classroom lectures and clinical demonstrations and 6.3% of students selected online lectures/webinars/demonstrations regarding the preference of learning

method after COVID-19 lockdown is over. There are indifferences in the learning processes of traditional classroom and social situations. Although online learning is providing a lot of help by its various technologies available, the traditional classroom probably due to its familiarity and more comfortable nature can be the reasons, students opted for the regular traditional classroom lectures and clinical demonstrations while Sarsar *et al.* (2016) supported that internet-supported learning environment along with PBL increased the learning satisfaction of the students, positive learning environment, thus leading to academic success.^[2] Nourian *et al.* (2012) came to conclusion that online learning can be successfully used as a substitute for traditional education in national dental universities as it could not replace emotional and human inter-relationships between the teacher and students and face-to-face educational activities provided by student-centered learning.^[11]

Sassar *et al.* (2016) suggested that students who faced confusion of different pedagogies focused on the more familiar and comfortable traditional education rather than the innovative alternative as found in the present study and in a study by Linjawi *et al.* (2018), as students matured, they less likely accepted e-learning.^[2,12] While Asiry (2017) stated effectiveness of a combination of traditional teaching methods and online learning with 38.9% of students agreeing and 31.5% strongly agreeing to it, Venkatesh *et al.* (2019) concluded that wider integration of blended learning into pre-clinical medical education could enhance the shift toward competency-based education and lifelong learning among medical students.^[13,14] In the study done by Nourian *et al.* (2012), results showed that no significant difference exists between the two education systems in terms of knowledge of students about dental education, Jarrett-Thelwell *et al.* (2019) showed similar student performance by both the learning methods.^[11,15]

At present, numerous software technologies are available that can be used to implement online learning with its own strengths. Every kind of technology aims to address a human need. Hence, its use as a complement rather than substitute will give better outcome. Therefore, it is important to understand the thoughts of dental students regarding these emerging technologies in their education before its introduction into current conventional one, it is important to understand what dental students think about emerging technologies in their education process and how it affects their success.

CONCLUSION

Regardless of the various advances in the learning methods, students would like to continue with the traditional classroom learning rather than online learning after the COVID-19 lockdown is over.

Declaration of patient consent

Patient's consent not required as there are no patients in this study.

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Conflicts of interest

Author Dr Mukta Motwani is on the Editorial Board of the journal.

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