



Impact of Online Lectures on Medical Students During COVID-19 Pandemic

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ABSTRACT

Introduction: In recent days, trend of taking online lectures is booming in medical education all around the globe. Online lectures show its greatest importance during COVID-19 outbreak and lockdown period, where it is the only possible way to teach the international students from home. However, there are several issues including lack of support from management, ignorance & resistance of other faculty members, changes in syllabus of medical education putting extra pressure on overloaded teaching faculty, low level of satisfaction in students, poor internet connection, poor software qualities, poor language skills in students, lack of communication between teacher and students.

Material and method: We ran an online survey, under which we send the set of Questions (given in the Table 1) to 54 volunteer Fourth Year Medical students, who were taking online lectures during COVID-19 Pandemic.

Results: In our online survey we found that 92 % students agree with idea of saving energy and time through online lectures. 46 % students face poor internet problems, 20 % students face problems to understand online lectures because of their poor language skills, 22% students reported lack of concentration during online classes, 38% students reported technical issues, 42% students are satisfied, 42% partially satisfied, 10 % students not satisfied.

94% students believe that these online lectures are not enough to make students more confident and independent about medical knowledge. Additionally, 37% students (maximum number of students) reported that they like to take online lectures one zoom app.

Conclusion: Online teaching in medical colleges is still a new concept; however, with improved technology, it can be a fruitful deal for the coming generations. During COVID -19, these online lectures became a crucial candlelight in the dark era of lockdown worldwide. Last but not the least, online lectures are not the substitute of face-to-face classroom lectures. Contrarily, if we solve the connectivity issues, electronic device issues, software problems, language issues etc., then only online lectures can reach up to the level of face-to-face classroom lectures.

Key words: COVID -19 pandemic, Online medical lectures, Face to Face Classroom System (FFCS)

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INTRODUCTION

Several pedagogical approaches have been established in medical education including face

to face classroom lectures via a teacher centered model [1]. Over the period, there has been a drift from traditional forms of classroom lectures to other modes like, E- learning, distance learning [2]. Even, now a days several universities are running online certificate courses, Associate degree, Master's degree, Doctorate and Post Doc courses on their virtual campuses.

Online medical education is also known as internet based medical education. This type classes can be taken with the help of several online chatting and video-conferencing applications. As we are living in the era of COVID-19 pandemic, therefore online lectures are most integral part of medical education system. Specially for the foreign students, who are not able to take classroom lectures. Online lectures could provide never ending opportunity to foreign medical students. These online medical lectures are widely accepted in education system, where it is mostly integrated in to medical (Clinical And Basic Sciences) curricula in order to reform the medical education system.

However, satisfaction with this method of education is good within the students, but not yet suitable and widespread for most of medical streams [3].

The first issue is the lack of support from management for required infrastructure, licensing and development of required facilities and electronic gadgets, devices for implementing online lectures [4]. Second issue is the ignorance and resistance of other faculty members towards the acceptance of updated mode of medical education mingled and supplemented with e- learning [1,5]. Additionally, changes and development in medical education putting extra pressure on already stressed and overloaded faculty.

MATERIAL AND METHODS

We run an online survey, under which we send the set of Questions (given in the Table 1) to 54 volunteer Fourth Year Medical students, who were taking online lectures during COVID-19 Pandemic. The Questionnaire is mentioned in the Table 1.

Table 1: Shows questionnaires.

S.No	Questionnaire
1	Satisfaction regarding online medical lectures ? Satisfied () not satisfied () Partially satisfied () others if any specify ()
2	Problems in understanding online medical lectures? Poor internet connections () poor language skills () concentration related problems If Others, please specify ()
3	Is there technical issues. yes () No ()
4	Online medical lectures save your time and energy? Yes () No ()
5	Online medical lectures could make students more confident and Independent about medical knowledge. Yes () No ()
6	How can we improve the quality of online medical lectures? Reply in 3 lines

RESULTS

Detailed results are presented in the form of Pie charts (Figures 1-6).

Online Medical Lectures save time and energy.

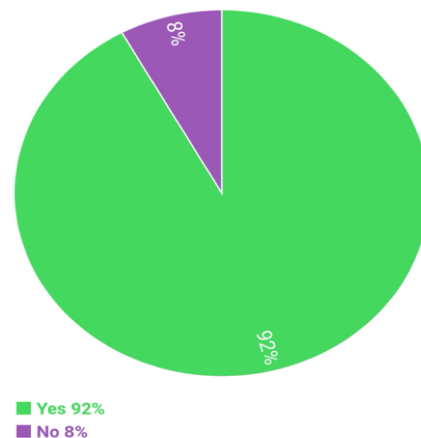


Figure 1: Online medical lectures. Save time and energy.

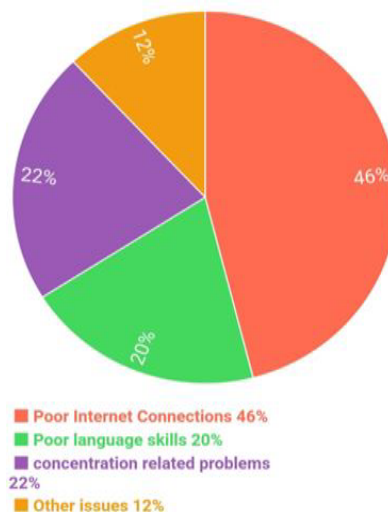


Figure 2: Problems faced by students during online classes.

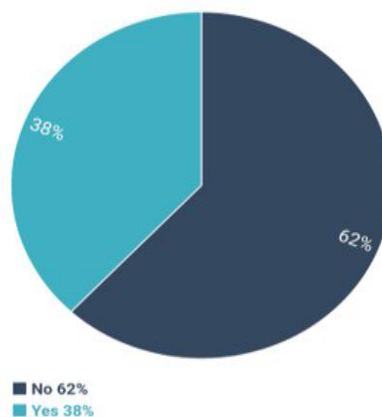


Figure 3: Is their any technical issue in online medical lectures.

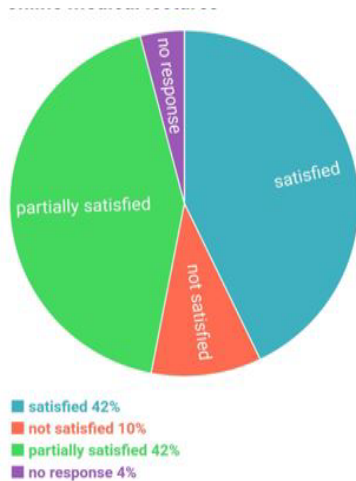


Figure 4: Satisfaction regarding online medical lectures.

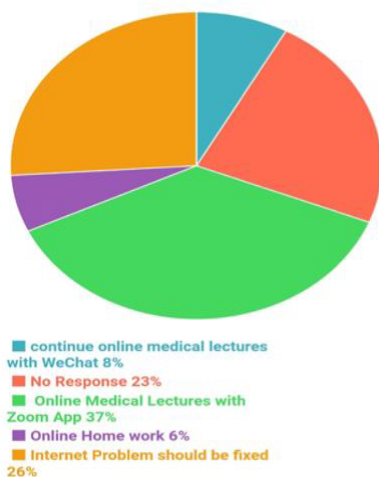


Figure 5: How can we improve the quality of online medical lectures.

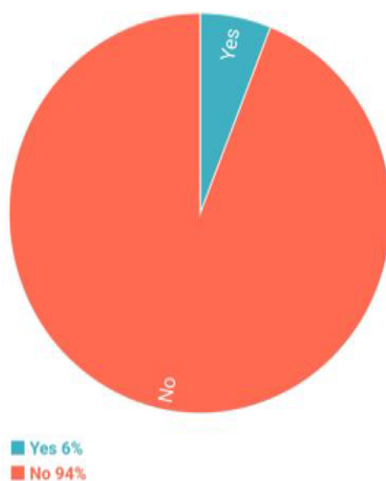


Figure 6: Online medical lectures could make students more confident and independent about medical knowledge.

DISCUSSION

Petterson et al. study mention that time is also a barrier for implementing e-learning strategies [6-8]. Howlett et al defined [9], " Electronic (e) or online learning can be defined as the use of

electronic technology and media to deliver, support and enhance both learning and teaching and involves communication between learners and teachers utilizing online content". Online learning can provide student with "easier and more effective access to a wider variety and greater quantity of information" [9,10].

Online learning refers to use of Internet technologies to deliver a broad range of options & solutions that enhance the performance and knowledge [11].

Benefits of E- learning are cost effectiveness, better access to information (irrespective of time and place) which enhance the scope of online learning- teaching and online learning also beneficial for assessment related issues and activities [12]

A wide variety of E- learning tools such as uploaded lectures, interactive online lectures, interactive e- books,online testing systems,PDF files, WORD files and lecture Power Points have been applied in teaching, and these tools performed well and delivered encouraging results [13,14].

Another study suggested that E- teaching increased students' satisfaction level towards learning [15]. Singh A, Min AK suggested that majority of students of gross anatomy revealed high level of satisfaction towards E - lectures and accepted efficacy of digital lectures [16].

Another study presented that E- teaching has limited scope for student - teacher interaction [17]. Additionally, online learning portals are mushrooming in higher education and this online education industry has also benefitted from the potential cost savings for numberless students [18].

The effectiveness of online classes depends on many factors. Some factors can act as obstacle for online learning,such as low quality study material, poor and ineffective design of power point slides, ineffective arrangement of multimedia materials, administrative problems, social interaction, Academic skills, technical issues, students' motivation and concentration towards education, time and support for studies, cost of the classes, cost of Internet facilities [19,20]. Besides above, effectiveness of online classes could also depend on the characteristics features of students themselves, such as learning

style [21], attitude [22], gender, satisfaction [23], level of engagement [24]. Online learning, teaching and assessment in medical education are new ideas; however, it has the strong possibilities in coming future. Specially during COVID-19 Pandemic, online classes are crucial for medical educators. Now, it's the time to adapt new normal; that is online world (e-world), till our educational system get back to face to face classes system (FFCS) [25].

Limitation of this study lies in its small sample size and secondly the sample population has been taken from a single online classroom student of a medical college. Therefore, results of this mentioned study cannot be generalized for all Medical colleges.

CONCLUSION

Online teaching in medical colleges is still a new concept; however, with improved technology, it can be a fruitful deal for the coming generations. during COVID -19, these online lectures became a crucial candlelight in the dark era of lockdown worldwide. Last but not the least, online lectures are not the substitute of face-to-face classroom lectures.

Contrarily, if we solve the connectivity issues, electronic device issues, software problems, language issues etc., then only online lectures can reach up to the level of face-to-face classroom lectures.

The recommendation of the study is to further investigate factors influencing the students' and teachers' ideas & experiences about online learning and how these online classes can match students' need towards medical knowledge, which they can earn in Class- room based lectures.

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