

Online Medical Teaching in COVID-19 Era: Experience and Perception of Undergraduate Students

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ABSTRACT

Introduction: Rapid emergence of COVID-19 as pandemic has affected the life of almost every human being and has changed the way people used to interact. It has also affected medical education and clinical training, and forced medical schools to switch over to online mode of teaching. The aim of this study was to learn about the experience and perception of undergraduate students regarding online teaching.

Methods: This is a cross sectional observational study conducted among the undergraduate students of Hamdard Institute of Medical Sciences and Research, New Delhi, India. A validated electronic questionnaire with nine questions was sent to 177 students as Google Forms™. Responses from 161 students were received and analyzed using SPSS software.

Results: The majority of students were satisfied with the frequency, organization, content and preparedness of classes. Half of students were neither satisfied with the amount of syllabus covered nor online teaching method. Among various teaching methods, live online lectures were most common and they were also preferred by the majority of students. Most students want hybrid or blended teaching in the post COVID-19 era.

Conclusion: Online or e-teaching alone is not preferred by the majority of students. Lack of interpersonal interaction is the most likely reason for this. Hybrid or blended teaching holds the future of medical education as it is more student friendly and efficient.

Keywords: online teaching, medical education, hybrid, blended.

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INTRODUCTION

SARS CoV-2, or simply COVID-19, has rapidly emerged as a pandemic affecting more than 200 countries. It has significantly affected medical education imparted to students as well as their clinical training. It would not be an exaggeration to say that COVID-19 has unleashed unforeseen challenges on medical education with long term effects (1-3). This disease with its contagious nature altered the way people used to interact with each other. As a result, the mode of clinical training given to students has changed to distance or online learning. Traditionally, medical education and clinical training has more emphasis on classroom teaching and bed side training, though lately various e-learning tools have also become popular with both students and teachers (4). In a resource limited country like India, this was particularly challenging in view of lack of costly gadgets, high speed network issues and lack of trained faculty for online teaching. It would not be an exaggeration to say that COVID-19 has been a once in a lifetime experience for both medical teachers and students. In this article, we have tried to analyze the experience and perception of undergraduate medical students regarding various online methodologies employed during this pandemic. It may also represent a

potential guide for future planning of teaching models. □

METHODS

This cross sectional, observational study was conducted at Hamdard Institute of Medical Sciences and Research, New Delhi, India, in August 2020, on undergraduate MBBS students of 7th and 9th semesters. Participants were sent electronic validated questionnaire as Google Forms™ and each question had multiple choice answers, out of which one option had to be chosen. Students with less than 80% of attendance during online teaching sessions were excluded from the study. A total of 177 students were enrolled for the survey and 161 of them responded to the questionnaire. Responses were analysed using SPSS software. □

RESULTS

A total of 161 responses were received. Participants were asked nine questions, five of them being based on Likert scale. More than 50% of students were very dissatisfied or somewhat dissatisfied with the amount of syllabus covered during online teaching period, a whopping 82 students were very dissatisfied or somewhat dissatisfied. The majority of students (93)

QUESTION	VD	SWD	NSND	SWS	VS
1. How satisfied are you with the amount of syllabus covered during online teaching?	29	53	2	59	18
2. How satisfied are you with the frequency of online classes?	14	51	3	78	15
3. How satisfied are you with the organization and preparedness of the class?	12	38	2	88	21
4. How satisfactory was the content of the classes?	3	28	1	96	33
5. How satisfied are you with the current online mode and method of teaching?	24	50	2	64	21

TABLE 1. Respondent satisfaction with the current online teaching method

VD=very dissatisfied; SWD=somewhat dissatisfied; NSND=neither satisfied nor dissatisfied; SWS=somewhat satisfied; VS=very satisfied

were either very satisfied or somewhat satisfied with the frequency of online classes. Students were highly satisfied with organisation and preparedness of online classes, with 109 of respondents being either very satisfied or somewhat satisfied. Students were asked if they were satisfied with the content of online classes and most of them responded favourably, with 129 students being either very satisfied or somewhat satisfied. In this series, the last but most important question was asked in order to learn about the students' perspective regarding online teaching methods. They were questioned about their level of satisfaction regarding the current online teaching method and their responses were evenly divided, with 74 students being either very dissatisfied or only somewhat dissatisfied and 85 very satisfied or somewhat satisfied (Table 1).

Another set of questions concerned the various online teaching modalities. Students were asked about the most commonly used online

teaching methods. Live online lectures were ranked in the first position, with 118 responses, followed by PPTs uploaded on college website. Next, they were asked about the online method which they found the most useful, and live online lectures were preferred (91 respondents), followed by PPTs (43), Whatsapp group for short group discussions (15) and recorded lectures (12). Lastly, they were asked which was their preferable method of teaching: 89 opted for live online lectures, 40 for PPTs, 17 for WhatsApp group discussion and 15 for recorded lectures (Figure 1).

In the end, students were asked which would be their preferred teaching model if things turned to normal in a post-COVID-19 era; 51 participants opted for conventional teaching and only 21 wanted online teaching to continue, while 89 respondents preferred a hybrid model based on both conventional and online teaching (Figure 2). □

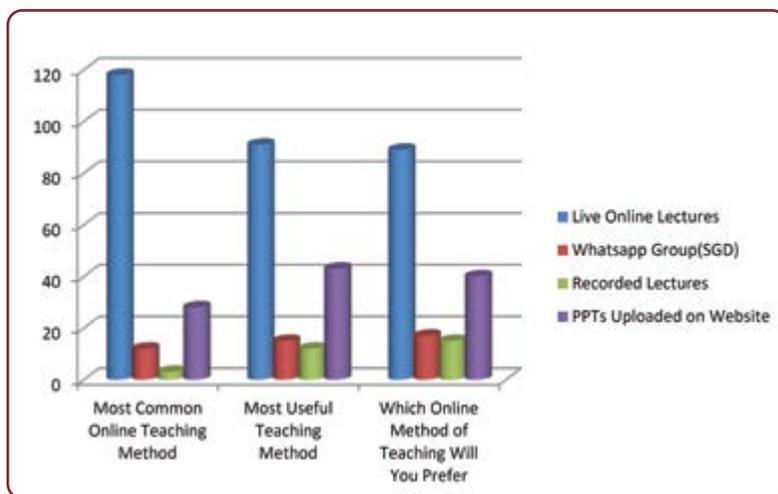


FIGURE 1. Respondent preferences regarding online teaching modalities

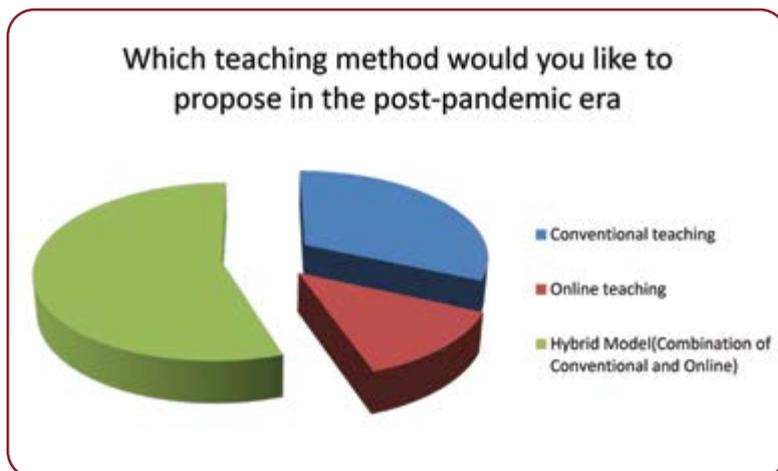


FIGURE 2. Proposals regarding the teaching method in the post-pandemic era

DISCUSSION

COVID-19 has unleashed an unprecedented and unforeseen effect on almost every sphere affecting human life including healthcare, economy, tourism and education (5). Given that medical education involves close interactions between students and patients during clinical training, it has been facing the maximum brunt. Hong Kong dealt with a similar situation in 2003, when it was badly hit by SARS and medical education and training was suspended for fear of transmission of this disease (6). Since March 2020, medical education in India has seen disruptions because of nationwide lockdown, travel restrictions and other measures taken to prevent the spread of COVID-19; as a result, various medical colleges and universities have been trying to face this challenging situation by using various online teaching methods (7). There have been attempts to cope up with this new situation and continue medical education in the form of online teaching and open book examination (5). As physical distancing was one of the earliest issued guidelines to fight against the current pandemic, all classes for medical students involving interpersonal interaction were transitioned into online mode, employing various tools such as videoconferencing, you tube videos, mobile apps and recorded didactic lectures (8). In a way, COVID-19 has helped in transforming pedagogy by eliminating conventional teaching methods with more innovative, technology driven, team facilitated and self-directed learning, and it could go a long way in having a blended approach promoting an individualized and interprofessional approach, which has aroused the interest of medical educationist for more than a decade (9, 10).

Though much has been written on COVID-19 and its effects on medical education and future implications, only very few researches have actually tried to find out what was the medical students' perception (11-13). In this study, we focused on undergraduate students, as they are prime stakeholders within the healthcare system, with success of any teaching model depending on their experiences, perceptions and active involvement. Medical education is being planned to evolve into learner centred approach with gender, cultural and religious sensitivities of both patients and students (14). Online teaching has

its own advantages as it is mostly covered in smaller groups with more interactions between teacher and students, with the latter having a major say in deciding the subject matter. Students' motivation is also high because they are more involved and also feel attracted by the use of technology. Online or e-learning can increase the efficiency and effectiveness of higher education institutions, but it requires faculty training with a robust infrastructure involving high speed internet, hardware and other logistics (15).

In our study, more than 50% students were satisfied or more than satisfied with online teaching during COVID-19 pandemic, which is in contrast to the findings reported by Abbasi *et al* (13), who found that only 23% of their participants had a positive perception of online teaching (13). In our study, approximately 70% of students were satisfied with class organization, preparedness and content, while Abbasi *et al* found that only 31% of students were satisfied with the quality of teaching (13). In contrast, a study conducted in the University of Tasmania found that 95% of students had a favourable opinion about online teaching and 75% thought that it was effective in increasing their skills (16). Daroedono *et al* conducted an electronic survey involving 545 students, which highlighted time flexibility, location flexibility and low cost as some of the positive aspects, and lack of concentration, understanding and interaction as some of the negative aspects (11). In our study, live online lectures were the most commonly used teaching methods and interestingly, it was also preferred by the majority of students, probably because it involved a live interaction between students and teachers.

An important finding of our study is students' response regarding the various teaching methodologies that were adopted, which could actually represent a guide for planning teaching modalities in the post-COVID-19 era. In our study, 55% of students vouched for a hybrid model, or combination of both conventional and online teaching, in the post-COVID era, 32% favoured conventional teaching and only 13% online or e-teaching, which agrees to other published reports that have mostly supported a blended approach to medical education (16-18). □

CONCLUSION

COVID-19 affected the mode and methods of teaching. Participants to our survey were satisfied with class frequency, preparedness, organization and content. However, they were not satisfied with the syllabus covered during this period. Respondents favoured live online lectures against other modes of online teaching, which might be explained by the fact that

students could benefit from interaction during live sessions. This study can act as a guide for future planning of teaching schedule, as the majority of participants favour a hybrid model or blended learning. In such a scenario, conventional teaching with e-learning can be more efficient and useful. □

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