

Study on online teaching methods for the first year MBBS students in lockdown period of COVID-19 pandemic in India.

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ABSTRACT

Introduction: Covid -19 virus originated in china and spread to most of countries including India . WHO declared it as pandemic . In respond to COVID-19, many countries have now introduced travel restrictions and lockdown . In India lockdown was implemented in march 2020. Educational institutions were closed and teaching classes were postponed . Many medical colleges started online teaching during lockdown.

Objectives : The present study was conducted to survey the efficacy of various online teaching methods for first year MBBS students

Methods : This is questionnaire based study with help of Google forms. . Faculties were involved in various online teaching classes during COVID-19 pandemic lockdown period. Results : It was observed that live online video lectures was preferred method of online teaching. Sharing of PPT , PDF , e- books ,study material files to students has its own importance. The study shows that online teaching learning has some advantages and disadvantages. Conclusion : Online teaching -learning is a good method to continue education during this COVID-19 pandemic crisis.

Keywords: Covid -19 , lockdown , Online teaching , MBBS students.

INTRODUCTION

The novel coronavirus disease 2019 (COVID-19) emerged at the end of December 2019 in Wuhan city of China.¹ The initial outbreak of COVID-19 in Wuhan spread rapidly, affecting other parts of China. The authorities in Wuhan took unprecedented steps and locked down the city on January 23, 2020, to lower the risk of further disease transmission.² Later on, the same measures were taken in other places in China. Within a few weeks, cases of COVID-19 were detected in several other countries and soon, it became a global threat.³ The World Health Organization (WHO) declared the coronavirus epidemic a pandemic.⁴ In respond to COVID-19, many countries have now introduced travel restrictions (both inward and outward) with

the intention to prevent the spread of the epidemic. Public health experts and government officials are taking several measures, including social distancing, self isolation, or quarantine; strengthening health facilities to control the disease; and asking people to work from home.⁵ Several countries have announced the closure of gyms, museums, movie theatres, swimming pools, and places with large gatherings, inclusive of educational institutions, to fight this invisible enemy. Efforts to reduce the spread of the COVID-19 virus among the younger and adult populations has prompted the widespread closure of schools, colleges, universities, and other educational institutions in many countries. As of March 25, 150 countries have closed schools and educational institutions nationwide, impacting over 80% of the world's student population. Several countries have implemented localised school closures and those closures are expected to be nationwide.⁶ In light of rising concern about the current COVID-19 pandemic, a growing number of universities including medical colleges have either postponed or cancelled the teaching classes in institute. Universities have moved rapidly to transition various courses and programs from face-to-face to online delivery mode.^{7,8} In India most of the medical colleges have postponed or cancelled the classroom teaching in colleges since second week of march 2020. Worldwide, many teachers and students have been excited by the move to the online delivery mode. Faculty have already begun preparing lesson plans to deliver online teaching to their students. Electronic-learning, or e-learning, describes the use of information technology or the internet for learning activities. The integration of e-learning into undergraduate, graduate, and continuing medical education is consistent with adult learning theory and presents a revolution in medical education. Technology is a powerful tool for effective teaching and deeper learning. Incorporating technology into teaching and learning activities introduces new thinking about teaching effectively. It also increases opportunities to invent new learning experiences for students that will take us further beyond traditional classroom or lecture-based learning. E-learning is

also called web-based learning, online learning, distributed learning, computer-assisted instruction, or internet-based learning. Historically, there have been two common e-learning modes: distance learning and computer-assisted instruction with the internet as the integrating technology in these two modes, Ruiz (2006).⁹ Distance learning uses information technologies to deliver instruction to learners at remote locations. Computer-assisted instruction (also called computer-based learning and computer-based training) uses computers to aid in the delivery of learning and teaching. Material could be linked to specific learning objectives as a part of a specified curriculum. The advantages of e-learning are flexible teaching and learning that enhances individual and self-directed learning. The learners can choose the place and time of educating themselves thereby overcomes the geographical barriers.¹⁰ During lockdown period faculties of medical colleges are trying to deliver online classes to the students who are located at their residence with an aim is to continue teaching learning of concern subjects and curriculum. Online teaching requires electronic gadgets like laptop, smart phone & proper high speed internet. Most of the faculties and students have these electronic gadgets. So the concept of online classes is need of present lockdown period in India. Some students and faculties may not have this infrastructure or they may not be familiar with online teaching learning methods. Common online tools and methods for teaching include live video lectures with appropriate software, sharing of e-textbooks, WhatsApp group discussion, sharing of PPT by faculties with students, google classroom, sharing of PDF files of various study topics by teachers with students. The present study was conducted to survey the efficacy of various online teaching methods for 1st year MBBS students in lockdown period of COVID-19 pandemic in India. This will help to explore the advantages, disadvantages and difficulties encountered during online teaching.

Material and Methods :

This study was done in second and third week of April 2020. This is questionnaire based study. 15 questions were prepared with help of Google forms. Some questions were based on Yes or No response. Other questions were like MCQs (Multiple choice questions) . Few questions were short answer based. The google forms were sent to 100 faculties of different medical colleges. First year medical college faculties were involved in this study. Informed consent was taken from all faculties involved in this study. They were explained about this study. Faculties belonged to various cadres of 3 departments Anatomy, Physiology and Biochemistry. Faculties were involved in online teaching classes during COVID-19 pandemic lockdown period. The methods used for online teaching were:

- 1- Live video lectures with appropriate software,
- 2- Sharing of e-textbooks,
- 3- WhatsApp group discussion,

- 4- Sharing of PPT (Power point presentation) , PDF (Portable document format) files of various study topics,
- 5- Google classroom.

Questions asked to the faculties regarding online teaching included following features

- Institutional permission for conducting classes.
- Infrastructure availability and technical problems in online classes
- Percentage of students able to attend classes
- Tools used for conducting online classes
- Interest of students and faculties
- Evaluation and assessment of students
- Benefits and drawbacks of online teaching.

Out of 100 faculties, 68 faculties responded to google questionnaire form.

The response to questions were analysed and results were tabulated.

Results :

Table 1 : Features in Percentage about online teaching by 68 faculties .

Sl. No.	Questions	Yes	No
1	Faculties interested in online teaching	54 (79.4%)	14 (41.2%)
2	Students interested in online learning	40 (60%)	28(40%)
3	Evaluation of students after online classes done	39 (58.1%)	29(41.9%)
4	Teacher centered Teaching	61 (90%)	08(10%)
5	Interactive teaching and learning	49(72%)	19 (28%)

Table 1 shows that 79.40% of faculties were interested in online teaching and 60% students showed interest in online learning. It is observed that online teaching is mainly teacher centered. 72% faculties found that online teaching learning is an interactive discussion.

Table 2 : Percentage of faculties using various online teaching learning methods .

Sl. No.	Various online teaching methods	Percentage of faculties
1	Live video lectures. ex. Zoom application	45 (66.10%)
2	Sharing PPT lectures to students	10 (14.70%)

3	Whatsapp group discussion and notes	07(10.29%)
4	Google Class room	02 (2.90%)
5	e-textbooks	04 (5.80%)

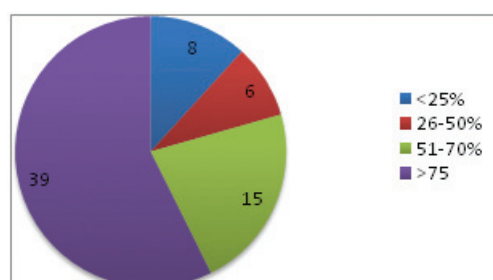
Table 2 shows various methods preferred by faculties for online teaching. It is seen that 66.10% faculties preferred live online video lectures as teaching method. 14.70% faculties liked sharing of PPT,PDF files of study topics to students for learning. 10.29% faculties did discussion of study topics in WhatsApp group . 2.90% faculties used Google classroom for online teaching. About 6% faculties shared e textbooks to students to help them in learning.

Table 3 : Percentage responses of 68 faculties regarding online teaching.

Sl. No.	Questions	Yes	No
1	Institutional permission given for online classes	36 (52.9%)	32 (47.1 %)
2	Infrastructure available for online classes	40 (58.8%)	28 (41.2%)
3	Technical problems during online classes	52 (76.2%)	16 (23.8%)
4	Classes conducted daily during lockdown	26 (39.1%)	42 (60.9%)
5	Incentives given to faculties	05(7.7%)	63 (92.3%)

Table 3 shows that 52.90% of faculties got permission from their college to conduct online classes.76.20% faculties faced technical problems while conducting online lectures. These problems were internet speed and signals , difficulty in using software and gadgets. About 40% faculties conducted online classes daily during lockdown period, others conducted classes whenever faculties or students were available at same time.About 7.70% faculties were getting incentives from institution authority to encourage them in conducting online classes.

Diagram 1 : Percentage of classes attended by students.



Above diagram shows that in 39 faculties out of 68 the students attendance in online classes was more than 75%. In 15 faculties the students attendance was between 51-70%. 26-50% attendance was in 6 faculties classes. In 8 faculties classes the attendance was less than 25%.

Discussion :

The study shows that online teaching learning has some advantages and disadvantages. Adequate infrastructure should be available to conduct online classes. High speed internet is must to conduct uninterrupted online classes. Faculties and students should have technical knowledge about using various online teaching learning methods. Students interest in attending online classes is must to derive benefits on of e-learning. Faculties should give their maximum efforts to conduct online classes during lockdown period when classroom teaching in colleges are suspended. It was observed that live online video lectures was preferred method of teaching. Sharing of PPT, PDF study material files to students has its own importance, students can read them as per their convenience. All students may not be available at same time during live lectures. WhatsApp group discussion on study topics has its importance of interactive learning. Google classrooms and e-text books are also good tools for online teaching learning. Online study should be interactive session between teacher and students, this will make online study more beneficial. Evaluation and assessment of students should be done after every online class, this will help faculties to know about benefits of online teaching and students interest regarding online teaching learning.The integration of e-learning into existing medical curriculum should be the result of a well-devised plan that begins with a need assessment and concludes with the decision to use e-learning. In undergraduate medical education, e-learning should complement the traditional teacher-led activities, forming part of a blended learning educational strategy. With e-learning, students become their own teachers with little need for formal teaching and teachers are simply content providers for instructional designers. Technology is a tool which if incorporated efficiently into teaching produces useful outcomes. It should complement but not replace the traditional medical teaching. The role of good teachers is crucial in the learning process and should not be undermined. Good teachers shorten the learning process by providing relevant information as well as assessment, guidance, and examples. They lead and motivate the students, create live interactions, use their experience and skills to teach and flourish the learning process . In addition, self-teaching could be inefficient if not directed properly e.g. students may miss out on important information or educational materials. The faculty members have to be supported initially in their efforts as they may need help with the help of a team of information technology experts. Similarly, students can also be sensitised about the different apps which can be used for e-learning and how these apps can help them to become better professionally.

In fact, e portfolios can be initiated for the students and the students should be instructed to record their daily learning. The assigned mentors can reflect upon the same and play an important part in the professional development of the student. The administration/management has to extend their support, not only in terms of establishment of the learning management system, but also for the provision of high speed internet, appropriate infrastructure, logistics, and support for conduction of sensitisation sessions. In continuation, the faculty members have to be sensitised periodically about the different e-learning approaches (viz., use of flipped classrooms, online multiple choice questions tests, WhatsApp group or a Facebook page to facilitate discussion, and Google Classroom), which can be tried upon to make their classes interactive and effective. Internet-based learning is associated with large positive effects and it has a complementary role in medical education. Studies comparing internet-based learning with non-internet-based traditional methods showed that the students with only internet-based learning had lesser educational benefit than traditional learning in skills and knowledge.^{11,12} In this study we showed that students are satisfied with e-learning compared to traditional learning. However, most of the students and teachers did not want e-learning to replace the traditional instructor-led training and lectures. They thought that both the teaching methods should complement to one another.¹³ Due to the rapid increase of COVID-19 cases worldwide, universities should cancel or postpone all events, sports, workshops, conferences, and other activities for an indefinite period of time. They should avoid or reschedule meetings involving large numbers of staff or students unless it is urgent. Instead of physical meetings, they should try to conduct online live meetings. It is the right time for faculty, students, and administrators to learn from this critical situation and to overcome these challenges.

Conclusion :

Online learning could be a greater opportunity as a result of this COVID-19 pandemic crisis. Students are young and energetic, and they are capable of learning through the online platform. Faculty can motivate the younger minds and draw them into active participation. University authorities should encourage students and faculty to stay connected through the online or any social media platform and move forward together during this extremely difficult time. Students should be provided with course instruction and other services in an online format to support academic continuity during this COVID-19 pandemic lockdown.

Acknowledgment : We would like to thank all the faculties of Anatomy, Physiology, Biochemistry departments of various medical colleges who participated in this study, without their participation and responses this study could not have been possible.

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How to cite this article : Bhanarkar U, Berad A, Senthil Kumar K. Study on online teaching methods for the first year MBBS students in lockdown period of COVID-19 pandemic in India. *Perspectives in Medical Research* 2020; 8(1): 34-37

Sources of Support: Nil, Conflict of interest: None declared.