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### Comparison of Distance Learning with Traditional Classroom in Medical College Students in COVID-19 lockdown period in India

**Background:** The COVID-19 pandemic is a major health crisis leading to lockdown in many countries. Many countries have closed schools, colleges and universities all over the world. Computers and smart phones have remarkably changed the learning and teaching environment. The distance learning is the learning method where teacher and students are not present at the same place.

**Methods:** The present study was conducted to compare the views of distance learning technique with traditional classroom teaching in 3<sup>rd</sup> MBBS medical college students. Data were collected by pre-structured and validated questionnaire from 270 medical college students who were selected through random sampling method. Data were analyzed with basic descriptive statistics and the percentage has been used.

**Results:** In our study we found that 89.62% of medical students believe traditional classroom teaching is more effective. Only 10.37% of medical students felt distance learning is better than traditional classroom teaching. Without attending classes, 34.44% students were able to understand the topic. Using distance learning without attending classes, only 36.66% students were able to understand the topic.

**Conclusion:** From our study results we conclude that traditional classroom teaching is better than distance learning. In the COVID-19 lockdown period we need to develop new methodologies and pedagogy to improve distance learning methods.

**Keywords:** Traditional classroom teaching, Distance learning, e-learning

### مقایسه یادگیری فاصله با روش کلاس درس در دانشجویان پزشکی در دوره قرنطینه کووید ۱۹ در هند

**الخلفية:** يعد جائحة COVID-19 أزمة صحية كبيرة تؤدي إلى الإغلاق في العديد من البلدان. أغلقت العديد من المدارس والكليات والجامعات في جميع أنحاء العالم. لقد غيرت أجهزة الكمبيوتر والهواتف الذكية بشكل ملحوظ بيئة التعلم والتعليم. التعلم عن بعد هو طريقة التعلم حيث لا يتواجد المعلم والطلاب في نفس المكان.

**الطريقة:** أجريت الدراسة الحالية لمقارنة وجهات نظر طريقة التعليم عن بعد مع التدريس في الفصول الدراسية لطلاب ثلاث كليات طب MBBS في الهند. جمع البيانات باستخدام استبيان من 270 طالباً من جامعة العلوم الطبية تم اختيارهم بطريقة أخذ العينات العشوائية من خلال استبيان صالح ومعد مسبقاً. تم تحليل البيانات من خلال الإحصاء الوصفي الأساسي. واستخدمت النسبة المئوية.

**النتائج:** في الدراسة الحالية، يعتقد 89,62% من طلاب الطب أن التدريس في الفصول الدراسية التقليدية أكثر فعالية. فقط 10,37% من طلاب الطب شعروا أن التعليم عن بعد أفضل من الفصول التقليدية. بدون حضور الفصول، تمكن 34,44% من الطلاب من فهم الموضوع. باستخدام التعليم عن بعد دون حضور الفصول، تمكن 36,66% فقط من الطلاب من فهم الموضوع.

**الخلاصة:** من نتائج الدراسة نستنتج أن تدريس الفصول التقليدية أفضل من التعليم عن بعد. خلال فترة إغلاق COVID-19، نحتاج إلى تطوير طرق جديدة وتدريب لتحسين طرق التعلم عن بعد.

**الكلمات المفتاحية:** التعليم الصفّي التقليدي، التعلم عن بعد، التعلم الإلكتروني

### مقایسه آموزش از راه دور با آموزش سنتی در دانشجویان پزشکی در دوره قرنطینه کووید ۱۹ در هند

**زمینه و هدف:** همه گیری کووید ۱۹ یک بحران بزرگ بهداشتی است که منجر به تعطیلی در بسیاری از کشورها می شود. بسیاری از کشورها مدارس، کالج ها و دانشگاه هایشان را در سراسر جهان تعطیل کرده اند. رایانه ها و تلفن های هوشمند فضای یادگیری و آموزش را به طرز چشمگیری تغییر داده است. آموزش از راه دور روش یادگیری است که در آن معلم و دانش آموزان در یک مکان فیزیکی حضور ندارند.

**روش:** مطالعه حاضر برای مقایسه دیدگاه های روش آموزش از راه دور با آموزش سنتی در دانشجویان پزشکی سال سوم MBBS هند انجام شد. اطلاعات با استفاده از پرسشنامه 270 دانشجویی دانشگاه پزشکی که به روش نمونه گیری تصادفی انتخاب شده بودند، از طریق پرسشنامه از پیش ساخته و معتبر جمع آوری شد. داده ها با آمار توصیفی پایه تجزیه و تحلیل شده و بصورت درصد ارائه شده است.

**یافته ها:** در مطالعه حاضر 89,62 درصد دانشجویان پزشکی معتقدند که تدریس سنتی در کلاس موثرتر است. فقط 10,37٪ دانشجویان پزشکی احساس کردند که آموزش از راه دور بهتر از کلاسهای سنتی است. بدون شرکت در کلاسها، 34,44٪ دانش آموزان قادر به درک موضوع بودند. با استفاده از آموزش از راه دور و بدون شرکت در کلاسها، فقط 36,66٪ از دانش آموزان قادر به درک موضوع بودند.

**نتیجه گیری:** از این مطالعه نتیجه می گیریم که آموزش کلاس های سنتی بهتر از آموزش از راه دور است. در دوره تعطیلی ناشی از کووید ۱۹ نیاز به ایجاد روش ها و آموزش های جدید برای بهبود روش های آموزش از راه دور داریم.

**واژه های کلیدی:** آموزش سنتی در کلاس، آموزش از راه دور، آموزش الکترونیکی

### ہندوستان میں کوویڈ ناٹین کے پھیلاؤ سے پیدا ہونے والے حالات میں روایتی کلاسوں اور الیکٹرانک میڈیا کے ذریعے حصول تعلیم کا موازنہ

**ایک گروانڈ:** کوویڈ ناٹین کا پھیلاؤ بھینک عالمگیر وبائی شکل میں ظاہر ہوا ہے جس کی وجہ سے زندگی کا ہر شعبہ متاثر ہوا ہے۔ تقریباً اکثر ملکوں میں یونیورسٹیاں اسکول اور کالج بند کر دیے گئے ہیں، کمپیوٹروں اور اسمارٹ فون نے کلاس کی جگہ لے لی ہے۔ ان دنوں طلباء خواہ یونیورسٹی کے ہوں یا اسکول کے وہ آن لائن تعلیم حاصل کر رہے ہیں۔ کلاسوں بند ہو گئی ہیں اور طلباء ایک جگہ جمع ہو کر تعلیم حاصل کرنے سے محروم ہو گئے ہیں۔

**روش:** یہ تحقیق ہندوستان کی تین میڈیکل کالجوں میں انجام دی گئی ہے اور یہ دیکھا گیا ہے کہ ان میں ایم بی بی ایس کے طلباء کس طرح آن لائن تعلیم حاصل کر رہے ہیں۔ ان طلباء کو سوالنامہ دیا گیا تھا۔ سوالنامے کے ڈیٹا کا توصیفی اسٹائٹسٹک سے تجزیہ کیا گیا۔

**نتیجے:** اس تحقیق سے معلوم ہوتا ہے کہ چھپاسی اعشاریہ چھبے دو فیصد طلباء نے کہا ہے کہ کلاس میں حاصل ہونے والی تعلیم کا کوئی علم البدل نہیں ہو سکتا۔ دس فیصد طلباء نے یہ نظر پیش کی تھی کہ آن لائن تعلیم روایتی کلاسوں سے بہتر ہے۔ آن لائن روش پر تعلیم حاصل کرنے والے چونتیس اعشاریہ چار فیصد طلباء اپنے اسباق سمجھنے میں کامیاب ہوئے تھے۔

**سفارش:** اس تحقیق سے معلوم ہوتا ہے کہ روایتی کلاس کی روش آن لائن روش سے کہیں بہتر ہے البتہ کوویڈ ناٹین سے پیدا ہونے والے بحران میں تعلیم کے مزید مفید طریقے تلاش کیے جاسکتے ہیں۔

**کلیدی الفاظ:** کلاس، روایتی، آن لائن تعلیم

## INTRODUCTION

The COVID-19 pandemic is a major health crisis of its own way. The "Janata Curfew" was an important decision taken by prime minister for further awareness and preparedness about the quarantine in India. India is now locked down and loaded in its fight against the corona virus.

Many countries have decided to close schools, colleges, and universities all over the world. Home schooling is parent's major worry for children's social life and learning. Teaching and assessments are moving online, on an untested and unpredicted way of trial and error. Many assessments have simply been cancelled which may delay the recognition of both high potentials and learning difficulties. It can have harmful long term consequences for the students. It depends upon the policies of institutes how they can solve the problem of assessment in a positive way in Covid-19 lockdown period. Faculties and students are doing their part to support each other for getting adjusted with new ways of online teaching and learning. Technology has a great role in educating the future generations and the role of the educator must change too. Computers have been the major audio-visual aids in the education world since the 1960s. They have been used enthusiastically since 2000 with blooming of the internet. But most of the researchers think that learning is acquired not only with improvement in technology but also with the content presented in the medium (1).

The distance-learning is the delivery of a training or education program by electronic device like computers, tabs, smartphones, and CDs where teachers and students are not present in the same place. In distance learning tools like computer system or electronic devices are used to give educational material, and web based training is used to facilitate learning anywhere (2). In the distance learning process the teachers are not able to trace the learners' activities (3,4). Distance education have some advantages over traditional teaching like freedom, flexibility, and convenience. Distance learning allows students to listen to lectures again and again, as well as students can rewind the lectures and learn them at their own pace.

In medical education, suitable methods and skills are essential to produce a good number of skilled doctors who should have human and social outlook. It should be the main agenda of a teacher to instill social service mind and human attitude among medical students. Teacher's explanations enable students to understand the content. Traditional classroom methods had already proven their efficiency by producing thousands of well-known, talented, and successful doctors all over the world.

In COVID- 19 lock down period, there is an increasing demand for structural basic changes in medical education, as traditional teaching is not possible in the classrooms. So the present study was conducted to compare the student's views about the distance learning technique with traditional classroom teaching as a method of teaching in medical college in the COVID-19 pandemic.

## METHODS

The present cross sectional study was conducted in medical

college in April 2020 in lock down period. The following research hypothesis was formulated to guide the study:

H0: There is no significant difference in effectiveness of distance learning and traditional teaching methods in COVID-19 lockdown period.

H1: There is significant difference in effectiveness of distance learning and traditional teaching method in Covid-19 lockdown period.

In the COVID-19 lockdown period, after stoppage of classroom teaching, our medical college institute started online lectures for medical students. Almost 6 lectures of Respiratory system diseases were taught in classroom by traditional teaching and 7 lectures were taught online through zoom platform.

The self-administered and structured questionnaire was prepared in order to get the responded views about online and traditional classroom teaching by the students. The questionnaire validation was done by content validity analysis. The questions were based on the pattern of direct asking. The questions were based upon either 'Yes' or 'No' responses. 270 students of 3<sup>rd</sup> MBBS were selected by simple random sampling. For all participants the similar questions were used in English language. The participants were asked to fill the questionnaire online. Instructions for filling the questionnaire were explained to them. Data were collected and analyzed statistically.

For the analysis of the data, basic descriptive statistics, percentages, and graphs have been used. Microsoft excel was used to analyze data and to create graphs and tables.

## RESULTS

The medical students' view about usefulness of traditional classroom teaching and distance learning in COVID-19 lockdown periods are shown in tables 1 and 2 respectively.

The ability of medical students to understand the topic without attending traditional classroom teaching in COVID-19 lockdown period, and their ability using distance learning are presented in tables 3 and 4 respectively.

The students' views about e-learning in COVID-19 lockdown period are demonstrated in table 5.

**Table 1. Views of medical students about usefulness of traditional classroom teaching in COVID-19 lockdown periods**

Usefulness	Traditional Teaching	Percentage
YES	242	89.62%
No	28	10.37%
Total	270	100%

**Table 2. Views of medical students about Distance learning in COVID-19lockdown periods**

Usefulness	Distance Learning	Percentage
YES	28	10.37 %
No	242	89.62%
Total	270	100%

**Table 3. Ability of medical students to understand the topic without attending traditional classroom teaching in COVID-19 lockdown period**

Without attending Classes are you able to understand the topic	Frequency	Percentage
Yes	93	34.44%
No	177	65.55%
Total	270	100%

**Table 4. Ability of medical students to understand the topic using distance learning without attending traditional classroom teaching in COVID-19 lockdown period**

Using distance learning and without attending classrooms are you able to understand the topic	Frequency	Percentage
Yes	99	36.66%
No	171	63.34%
Total	270	100%

**DISCUSSION**

When faculties and students heard about lockdown because of COVID 19, it was a challenge for both faculties and students to go for virtual classrooms, virtual learning, and teaching. In this crisis there is a wide use of technology in teaching- learning process in educational institutes. The higher educational institutions like medical colleges have opted for online classes. The tools used by faculty during lockdown for teaching and learning through online modes are as Zoom app. Learning environments have impact on learning outcomes (5). In the present study we compared the student’s views about efficiency of distance learning and traditional learning in physical classroom in COVID –19 lock down period.

In the present study, 89.62% of medical students found traditional classroom teaching more useful than distance learning. Distance learning was felt well than physical traditional classroom teaching by 10.37% of medical students. Very few students 34.44% were able to understand the topic without attending physical classrooms. Only 36.66 % students were able to understand the topic without attending classes while using e-learning. Our study results showed that traditional classroom teaching is better than the

distance learning technique.

Some researchers believe that the distance learning is more effective than traditional learning as it provides the opportunity to the student to learn at own pace. The distance learning also provides increased convenience and flexibility to the learners (6, 7, 8).

Students may feel isolated, confused, and frustrated in distance learning environment (9, 10). Student’s learning effectiveness and interest in the subject may be reduced (11). Students may feel stressed and isolated when they lose group connectivity in distance learning (12). Because of the COVID-19 pandemic and social distancing community, stress is more seen in isolated environments.

An important component of physical classroom learning is the social communication among students and their teachers. The Main purpose of medical education is to develop students socially and teach them doctor patient relationship. Student’s active interaction in the classroom is the main motto of current education system and fundamental learning activities. Conversation, discussion, and debate among students and teachers make the new concept more clarified.

In medical education, old assumptions of teaching and learning are challenged and diagnostic, and communication skills are developed by practicing on patients during demonstrations. Only traditional teaching is more effective in teaching Doctor- Patient interaction as compared to distance learning.

Distance learning requires lots of adjustment by teachers and students for successful discussion to go on. Online e- courses are more preferred over classroom interaction. In distance teaching teacher’s control is less over the students. It is easier for students to neglect their teacher in online learning. In traditional teaching it is not so easy to ignore teachers.

Some researchers found that interaction in an online environment promotes more detail discussions than a traditional physical classroom. It focuses more on students’ centered learning and encourages wider students’ participations (13, 14). Online discussions also encourage introvert students to participate to a greater extent (15).

So, the present study demonstrated that traditional classroom teaching could not be replaced by distance learning in medical teaching. Distance learning is still in its primitive stage. In coming days it is the need of current situation to develop new methodologies and pedagogy to improve distance learning methods.

**Table 5. Students’ views about e-learning in COVID-19 lockdown period**

Questions	Yes	No
I am able to easily access the Internet as needed for my studies.	250 92.59%	20 7.41%
Using e-learning technologies will allow me to accomplish more work than would otherwise be possible	100 37.04%	170 62.96%
I feel uncomfortable reading a text book on a computer screen than a physical text book.	90 33.33%	180 66.67%

The limitation of the study was that the effectiveness of teaching method by conducting test for every method had not been evaluated. Only the student's opinions were considered by questionnaire method.

#### Ethical considerations

Ethical issues (Including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double

publication and/or submission, redundancy, etc.) have been completely observed by the authors.

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