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IS ONLINE LEARNING A BETTER ALTERNATIVE TO TRADITIONAL TEACHING FOR MEDICAL STUDENTS - A STUDY IN LIGHT OF COVID-19 PANDEMIC

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ABSTRACT

Aim And Objective: The Coronavirus Disease 2019 (COVID-19) pandemic has caused an unprecedented disruption in medical education and healthcare systems worldwide. In India, responses to the COVID-19 pandemic in medical education resulted in closures of medical colleges and adoption of online teaching-learning methods, which is challenging for both faculty and students. Rising concerns among students urged to evaluate strength and weakness of ongoing online teaching and learning methods. The objective of the study was to find out the perceptions of students regarding E-learning during lockdown period of COVID-19 pandemic.

Methods: A descriptive cross sectional study was conducted at IPGME & R Kolkata. A sample size of 600 was calculated. MBBS students of all levels participated in this study. A Google questionnaire was developed and was validated by Medical education unit of the college. The Google questionnaire was mailed to the students. The data was transferred to excel sheet and analysis was done on various parameters to derive descriptive statistics between classroom teaching and online teaching

Results: Total 600responses were received. 340 (56.7%) males and 260(43.3%) females participated in the study. 41.7% students use mobile phones as their gadgets for E- learning and 33.3% use laptops followed by desktop (16.7%) and tablet (8.3%) Overall only 10 % students preferred to use only E- learning. 50% students preferred classical didactic learning. And 40% preferred a combination of classical offline and E - learning as useful method of learning.

Conclusions: Students did not prefer E- learning over classroom learning. They admit the usefulness of E -learning. But, classroom learning with rational use of E -learning is preferred by the students.

KEYWORDS : Online Learning, MBBS, Covid-19 Pandemic

INTRODUCTION

Medical education has many long established pedagogical approaches to learning including face to face lectures in classrooms - via a teacher-centred model [1]. Novel corona virus(Covid-19) pandemic in 2020 has resulted in a sea change in education system and the medical education could not remain as an exception. Closure of the medical colleges has disrupted the learning and education in traditional way. While many will remember the COVID-19pandemic as a source of disruption, it is likely that it will also be viewed as a catalyst for the transformation of medical education that had been brewing for the past decade. Social distancing measures have forced educational institutes to adapt innovative ways to teach the students, however, providing adequate clinical experience is still a challenge.

The uncertainty of situation during this pandemic period in the country has led many medical colleges and health universities to initiate steps to start teaching and learning using various online platforms on their own, as there were no definitive directives other than the encouragement to initiate the use online teaching methods from either Medical Council of India (MCI) or any other statutory bodies.

As described by Howlett et al. [2], "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 utilising online content". Despite the wide based adoption of E- learning worldwide; it was never thought to be the part of formal education in India until the spread of COVID -19 recently. [3] In fact, MCI has developed a new CBME curriculum which includes the Self - directed learning at every levels which is mainly dependent on E- learning. [4] Multiple studies are needed to be conducted across the country to know the effectiveness of such teaching and learning tools both from students and medical teachers.

In view of this background, the present study was conducted to evaluate student's perception toward traditional and online teaching-learning methods and to evaluate the efficacy of online teaching-learning process. A survey of online class participants would give us an idea of which areas to concentrate upon in this 'new normal' era.

MATERIALS AND METHODS

The study was undertaken in IPGME & R , Kolkata. A total 600 MBBS students of all the years were included in the present study. The study was conducted in a form of a survey with the help of a structured questionnaire and the responses from the participants were collected online using the Google forms.[5]

The questionnaire comprised of three sections: the first section included socio-demographic details (gender, year of MBBS). The second section included details of online classes they attended over six months (June1, 2020 to December31, 2020). These included types of devices and platforms used by the students . The third section was on the students' perception of online classes. A five-point Likert scale was used to determine the perception of audio, video quality, content, interactiveness and discussion of doubts. The responses were categorized into: very poor, poor, neutral, good and excellent.

The data was transferred to excel sheet and analysis was done on various parameters to derive descriptive statistics between classroom teaching and online teaching, here none of the inferential statistics was done. A restriction on the number of responses from a single email-address was enforced to prevent duplicate responses from the participants. Completed data as obtained in Google forms with response rate was 100%.

RESULTS

A total of 600MBBS students participated in the study. Gender and semester distributions are represented in Table 1 which shows 340 (56.7%) males and 260(43.3%) females participated in the study. The majority of responders , 380 (63.3%) – were from the first and the second years (Table 1).

Table 1. Distribution Of Participants By Gender And Year Of Study

Year of Study	Male	Female	Total
1st	120	80	200
2nd	100	80	180
3rd (part I)	70	50	120
3rd (part II)	50	50	100
Total	340	260	600

The types of devices and platforms used by the students are shown in table 2.

Table 2. Types Of Devices And Platforms Used By Students

Types of devices	NO. of Students
Mobile	250 (41.7%)
Tablet	50 (8.3%)
Laptop	200 (33.3%)
Desktop	100 (16.7%)
Types of platforms used	
Zoom meet	350 (58.3%)
Google meet	250 (41.7%)

The participants were asked to rate five components of online class using a five-point Likert scale, which included clearing doubts, interactiveness, contents of the class, audio quality and video/ image/ slide quality. This is depicted in table 3.

Table 3. Participants' Rating (n=600) Regarding Online Classes

Online classes	Very poor	Poor	Neutral	Good	Excellent
Contents	10	20	220	250	100
Audio	15	25	300	200	60
Video/Image	10	25	200	300	65
Interactiveness	5	5	350	140	100
Doubt clearing	5	10	250	175	160

The overall perceptions of students are recorded in the following figure.

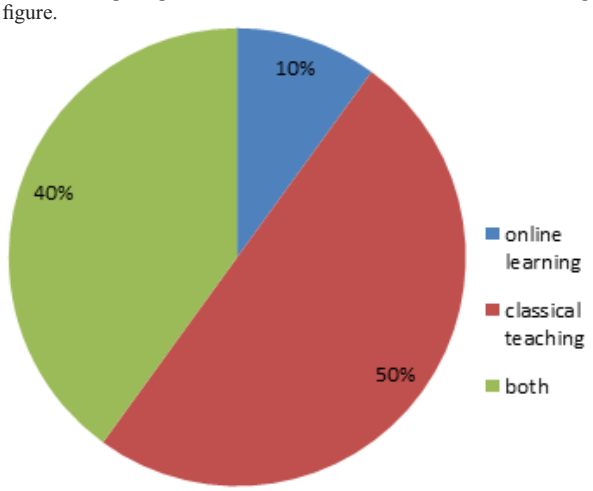

Fig.1
The participants' responses (n = 600) on the comparison of online teaching-learning versus traditional teaching-learning methods

DISCUSSION

Since March 2020, medical education in India has experienced a major disruptive change as a consequence of the COVID-19 Pandemic and nation-wide lockdown. Measures to prevent spread and hence to ensure social distancing have led to the closure of medical schools and have compelled the situation of working from home for both medical teachers and students**.** At present, undergraduate teaching is being conducted by various methods using various online platforms by many medical colleges without any uniformity. There is a need for multiple studies, to be conducted across the country to know the effectiveness of such teaching and learning tools both from students and medical teachers.

To the best of our knowledge, there have been no studies on the students' perspectives of online classes during COVID-19 lockdown in eastern India, especially West Bengal. Our survey included 600 MBBS students of all the semesters. Most of them were in 1st and 2nd year MBBS students which is similar to the study done by Sahana Giliyari et al.[6] Our study indicates that amongst the 600 students, 41.7% students use mobile phones as their gadgets for E- learning and 33.3% use laptops followed by desktop (16.7%) and tablet (8.3%) which is very similar to the other studies done in India and other developing countries.[7] A study [8] observed that use of mobile is easy way to have interaction with the teachers and hence it is preferred. Use of laptops is the next choice for many of the students. A study [9]showed that the students prefer laptops for their E -learning activities.

On the whole, the participants rated 'very poor' to 'excellent' for factors like video, audio, content and clearing of doubts on content covered during the lectures. Online classes lack sufficient interaction.

In our study classical didactic classes were favored by 300 (50 %) whereas online classes were preferred by 60 (10 %) of the participants. Students are likely to perform better when the components of online and offline classes are mixed judiciously. Forty percent (40%) of the participants preffered this combined approach. Many studies reported face to face learning as better option [10] as similar to our study. A study [11] concluded E- learning as satisfying. However, providing patient contact and clinical experience is still a challenge. Overall, the present findings indicate online teaching is not the preferred mode for teaching and therefore, can not be an alternative to classical teaching method.

CONCLUSIONS

It is concluded from the study that, online teaching is beneficial, but the students prefer traditional teaching-learning method over it. The medical students feel that for their practical hands on learning there is no alternative and clinical personal learning can never be replaced. So, online teaching can be just a stopgap option for teaching subject theory in the current scenario of Covid19 pandemic. But students need to be taught the practical aspects once they return back to the college, post-lockdown. This calamity has provided us an opportunity to evaluate alternative modes of medical education and assessments. It is appropriate that educational institutions adhere to the blended learning approach including both online and offline methods after the lockdown period.

Limitations

The limitations of our study are: 1. It was a single institution based study; 2. Only the students' perspectives were considered.3. not equal involvement from students of all the years.

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