Evaluation of the perception towards different types of teaching among medical college students and staff during COVID-19 pandemic

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ABSTRACT

Background: In early 2020, a global pandemic (COVID-19) broke out and severely affected the progress of education in various universities and institutions, which promoted the progress of online courses at the same time.

Aims and Objectives: To evaluate the perception toward online live teaching and traditional off-line teaching among medical college students and staff during the COVID pandemic.

Materials and Methods: Cross-sectional questionnaire-based survey among teachers and students was conducted at Subbaiah institute of medical sciences, Shivamogga between January and July 2021. This study was designed mainly to collect information on socio-demographic factors and participants’ perception at a given point in time toward online and offline teaching during lockdown.

Results: A total of 27.7% of study participants had experienced COVID. Preferred mode of teaching during post-COVID phase on statistical analysis revealed that every strata of study population felt that offline classes are much better than online classes across multiple variables. Gender comparison across online and offline showed statistically significant results with P ≤ 0.05. Among COVID experienced individuals more than 80% felt that offline teaching was better than online in terms of better doubt clearance and P-value found to be statistically significant.

Conclusion: The findings of this study indicated that the majority of the participants didn’t show a positive attitude towards online learning and preferred well-structured traditional classes over online learning.

KEY WORDS: Pandemic; Online; Education; Students; Teachers

INTRODUCTION

At the beginning of the New Year in 2020, Coronavirus disease 2019 (COVID-19) outbreak became a global public health problem and has constituted a public health emergency of international concern so far.[¹] COVID-19 was declared as a global pandemic by the World Health Organization on 11 March 2020.[²]

The pandemic has generated changes in every strata of the population including teaching-learning process in higher educational institutions. The public health response to minimize the catastrophic spread of the disease required an immediate change in the traditional approach in schools and colleges to shift from classroom teaching to online equivalents.

In this regard, many governments across globe took measures such as lockdown in order to avoid spread of the virus and to ensure the continuity of the educational process instructed...
universities to adopt online learning. Hence, all institutions are subjected to an imminent and unavoidable indefinite break from regular classroom teaching so they were constrained to carry out their curriculum exclusively online.

In earlier days, the internet-based learning was considered as an alternative to traditional learning. Some of the previous studies showed that E-learning offered many benefits for students because it is student-centered and more flexible. However, there are some obstacles in students’ learning process in E-learning platforms, by decreasing motivation in students, delayed feedback or help due to the fact that teachers are not available while learning, or feelings of isolation due to lack of physical presence of classmates or friends.

A study focusing on students’ perspective on E-learning identified that the main challenges encountered were accessibility, connectivity especially in rural area, lack of appropriate devices, social issues represented by the lack of communication and interaction with teachers and peers.

Many students and teachers/doctors in most college were also affected by COVID directly or indirectly, either were primary/secondary contacts themselves or their friends and family were infected or were involved in COVID patient management overall had COVID experience in different ways. In such group of people teaching or attending classes was no less than a big challenge.

The coronavirus pandemic has generated changes to online teaching-in medical education since April 2020. But later, classes were resumed to offline with decline in number of COVID cases in most of the colleges followed by phase 2 lockdown. This varying status of online and offline education has created kind of confusion and difficulty in acceptance. This is an observational study conducted to analyze the perception towards teaching methods among teachers and students of medical college during this pandemic.

The key goal of the study is to assess effect of socio-demographic and related factors on the attitudes toward of online and offline classes during the COVID-19 pandemic.

**Rationale**

Indian system of online education has been never tried on large scale. It was like a massive social experiment.

Our study might be one of the important stepping stone for medical education in terms of laying new norms. The shift to online mode has been an abrupt one due to unprecedented lockdown imposed to minimize the spread of COVID-19 and the institutes/teachers/students did not had time to design and adopt the course contents for online mode.

Furthermore, there is uncertainty about the length of the pandemic and chances of reinfections, the social distancing could become a new normal. We are using this platform to analyze how study participants feel towards online and offline teaching.

**MATERIALS AND METHODS**

A semi-structured questionnaire was designed with the help of literature survey and informal discussions with colleagues and students. After seeking ethical clearance from Institutional Ethics Committee, both teachers and students of Subbaiah Medical College, Shivamogga were asked to fill the form.

This cross-sectional survey design was mainly used for the collection of information on socio-demographic factors and perception at a given point in time to toward online and offline teaching during lockdown. The study was conducted between January and July 2021.

**Teaching Schedule**

Whether it is a traditional offline course or an online live course, we arranged the curriculum according to the established training plan and syllabus, with no significant difference in the teaching time, frequency, and hours.

Bias in terms of teaching hours or frequency between online and offline teaching were negated.

**E-learning Tools used for Distance Education**

- Zoom
- Google Classroom
- Medwhiz Learning Management Systems

The link for Google form was sent to the key participants through WhatsApp. With adequate responses, we have disabled the link after 30 days of circulating the Google forms. In this way, total of 433 responses were received from both students and staff in our medical college.

**Statistical Analysis**

Software SPSS 21 was used for statistical analysis. The level of significance was adopted at $P \leq 0.05$.

**RESULTS**

Google form link was shared with 635 students and 130 teachers of our medical college and response rate was 57.5%. Out of total 440, 433 participants’ google forms with signed consent were included in statistical analysis [Figure 1]. Variable like COVID positive and home isolation, primary/secondary contact, treated in hospital, part of clinical management, part of non-clinical management all were included as COVID
experienced and others were considered as non-experienced individual [Figure 2]. In our study male to female population was 43:57. Majority of participants were students constituting 89.4% and 26.6% were from rural area. One hundred study subjects, i.e., 27.8% experienced COVID [Table 1]. A total of 12 questions were framed to analyze study participant’s perception towards teaching type. Protocol has been attached with the study. Repeated reading required more in offline classes than in online and was statistically significant across designation [Table 2]. Among COVID experienced individuals more than 80% felt that offline teaching was better than online in terms of better doubt clearance and $P$-value found to be statistically significant. Results of parameter, i.e., Preferred mode of teaching during post-COVID phase on statistical analysis revealed that every strata of study population felt that offline classes are much better than online classes. Gender comparison across online and offline showed statistically significant results with $P \leq 0.05$.

By the end of April 2020, 186 countries have implemented nationwide closures, affecting about 73.8% of the total enrolled learners (UNESCO, 2020). Educational institutions have come to a functional standstill since they had to protect their students from viral exposures, which are likely in a highly socializing student community, but closure of educational institutions has affected large number of students. At the same time, it has been a trigger for educational institutions worldwide to pursue creative approaches in a relatively short notice.

As the schools and colleges are shut for an indefinite period, both educational institutions and students are experimenting with ways to complete their prescribed syllabi within stipulated time frame. These measures have certainly caused a degree of inconvenience, but they have also prompted new examples of educational innovation using digital interventions. During this time, most of the universities have shifted to online mode from Blackboard to Zoom, or other online platforms.

As we know every meaningful academic and non-academic extracurricular activities such as practical’s, clinical postings, case presentations, seminars, extra mile in clerkships, college functions, etc. is designed to demonstrate a student’s knowledge, persistence, collaborative spirit, and dedication to medicine. This trajectory has been changed with COVID-19 disrupting routines in hospitals, medical schools, and beyond. At the same time, E-learning platforms contain

### DISCUSSION

Total 27.7% of study participants are COVID experienced. Majority of them were either primary or secondary contacts.
Table 2: Parameters showing significant difference across different variable

<table>
<thead>
<tr>
<th>Variable</th>
<th>Parameter</th>
<th>Teaching Method</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff</td>
<td>Repeated reading required in</td>
<td>32 (69.6%)</td>
<td>14 (30.4%)</td>
</tr>
<tr>
<td>Student</td>
<td></td>
<td>202 (52.2%)</td>
<td>185 (47.8%)</td>
</tr>
<tr>
<td>COVID experience</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>Much better doubt clearance with</td>
<td>100 (83.3%)</td>
<td>20 (16.7%)</td>
</tr>
<tr>
<td>No</td>
<td></td>
<td>286 (91.4%)</td>
<td>27 (8.6%)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>Much better doubt clearance with</td>
<td>158 (85.5%)</td>
<td>27 (14.5%)</td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td>227 (91.9%)</td>
<td>20 (8.15%)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>Good subject perception in teaching</td>
<td>163 (87.6%)</td>
<td>23 (12.4%)</td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td>233 (94.3%)</td>
<td>14 (5.7%)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>Influence of friends and colleagues around needed more</td>
<td>127 (68.3%)</td>
<td>59 (31.75)</td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td>194 (78.5%)</td>
<td>53 (21.5%)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>Practical knowledge gain better with</td>
<td>174 (93.5%)</td>
<td>12 (6.5%)</td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td>242 (98%)</td>
<td>5 (2%)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>Preferred mode of teaching in post COVID period</td>
<td>142 (76.3%)</td>
<td>44 (23.75)</td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td>209 (84.6%)</td>
<td>38 (15.45)</td>
</tr>
</tbody>
</table>

Figure 3: Preferred mode of teaching

some elements that might be considered obstacles in process of learning.[7]

However, E-learning platforms also offer many advantages to learners such as control over the content, control over the time spent learning, and thus the process can be adapted according to the learner needs and objectives of learning.[9]

In our study, 54% of them felt repeated reading is required in classroom teaching than online classes. About 64% felt surrounding distraction was more in online classes than offline classes. When we tested participant perception across many variables like assessments were better with, better doubt clearance, good perception of subject, higher level of confidence, comfortable environment, better acquisition of new skills, ease of documentation, and better practical knowledge gain, majority of them felt traditional classroom teaching was better. similarly in another study medical students preferred traditional teaching methods (57%) over e-learning classes.[10]

Our study also revealed that participants prefer classroom teaching over online classes during post-COVID phase. Could be due to lack of preparedness, technical difficulties,
missing traditional classroom environment, time lag in adaption to new method of teaching and learning, etc.

Students could face difficulties in online teaching like Internet accessibility, lack of class mimicking environment or colleagues around, or miss the physical presence of teachers in class.

The online learning environment varies profoundly from the traditional classroom situation when it comes to learner’s motivation, satisfaction, and interaction. Technical proficiency of teachers and learners related to usage of computer and Internet is a major factor determining the effectiveness of online classes. Attitude and self-efficacy have been identified as important factors that affect learner’s motivation, interest, and performance in internet-based learning environments.

Since both teachers and students are equally responsible for welcoming perception toward new and modified type of teaching, hindrance from inexperienced teachers for E-learning usage can also add onto lack of interest toward online teaching. Relevant in this way are the results of a study conducted by School Education Gateway at the beginning of the pandemic which showed that 66.9% of respondents affirmed that they used online platforms for teaching for the 1st time. Thus, it can be inferred that students and teachers were not ready for an entirely online experience.

The online learning environment varies profoundly from the traditional classroom situation when it comes to learner’s motivation, satisfaction, and interaction.

A study by Adam et al. (2012) argued that there was no significant difference between online learning and face-to-face class with regard to their satisfaction and also, they supported the fact that online class will be as effective as traditional class if it is designed appropriately.

Similarly, according to a study done at Hariyana, the online learning was not as effective or superior teaching method for every student in the learning context, especially medical students.

There might me a loss of collaborative experiences such as practical and case exposure as a detriment to education. But the availability of technical tools such as E-learning has enabled remote learning, continuation of medical education despite billions of the world population in lockdown.

Since the study was carried out during the second COVID wave, participant’s provided details were unbiased and specific. Multiple aspects of COVID experience on teaching, yet to gain importance of online teaching and perception toward different types of teaching was studied in this comparative analysis.

Limitations
Since our study is confined to a medical college, study findings cannot be generalized. Age-old classroom teaching was compared with newly developed online teaching hence there might be room for non-specific bias and negative influence.

CONCLUSION
The primary purpose of this study was to examine the preference and perception of students regarding online classes. The findings of this study indicated that the majority of the participants didn’t show a positive attitude toward online learning. They preferred well-structured traditional classes over online learning. Online classes may be more challenging than traditional classrooms due to the technological constraints, delayed feedback, and inability of the instructor to handle effectively the Information and Communication Technologies. Adaptation and familiarization with the online environment, improved quality of the educational process may change individual’s perception regarding online learning towards more positive. Any efforts to strengthen the effectiveness of online learning need to understand the perception of the users. Hence, this study will prove useful for reimagining and redesigning higher education with components involving online mode by gearing up the standards of online teaching.

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