

FACULTY PERCEPTION TOWARD E-LEARNING IN THE MEDICAL STUDENTS DURING COVID-19 PANDEMIC

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ABSTRACT

Objectives: The objective of this study was to assess the perceptions of medical faculty regarding online teaching and learning during the COVID-19 lockdown period.

Methods: A non-probability convenience sampling method was employed to determine the sample size, which was calculated to be 93. Following informed consent, a pre-designed and pre-tested questionnaire was administered to faculty members involved in online teaching. The questionnaire utilized a 5-point Likert scale to gather responses. The collected data were then tabulated and subjected to statistical analysis.

Results: Before receiving orientation on online teaching, approximately 49% of the faculty members demonstrated a very good understanding of online teaching techniques. Overall, 49% of the faculty members reported a positive perception of online teaching during the lockdown period. A notable 61% of faculty members expressed a preference for face-to-face teaching over online teaching.

Conclusion: During the COVID-19 pandemic, online teaching and learning became a crucial component of medical education. Despite challenges, online learning offered significant advantages for enhancing students' learning experiences and knowledge. It has emerged as a viable and potentially valuable teaching method for the future of medical education.

Keywords: Faculty perception, E learning, Medical students, Covid 19 pandemic

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INTRODUCTION

The COVID-19 pandemic led to unprecedented disruptions in education systems worldwide, with India experiencing a significant impact as educational institutions were closed to curb the spread of the virus [1]. Consequently, academic classes were suspended, and a shift to online learning was mandated by the Ministry of Home Affairs through the university grants commission and various medical universities [2]. This transition aimed to maintain the academic calendar and ensure continuity in education during the pandemic. Despite the push for online classes, several hurdles emerged in the implementation of this new model:

1. Technological barriers: There was a lack of access to reliable internet and smartphones, particularly in remote areas, which hindered students' and faculties' ability to engage with online education
2. Faculty adaptation: Many faculty members lacked experience and awareness in conducting online classes, making the transition challenging. Some struggled to adapt to the new format and began identifying flaws and difficulties in the online teaching-learning system.

Before the pandemic, the faculty development program, initiated by the erstwhile Medical Council of India (MCI) in July 2009, aimed to "sensitize teachers about new concepts in teaching and assessment methods" [3]. Despite this, the practical training in modern educational technologies for teaching was not widespread. The MCI had previously made it mandatory for medical colleges to establish medical education units to support faculty members in integrating modern educational technology. However, it was only recently, with a February 2020 gazette, that MCI mandated faculty training as a requirement for promotions, further emphasizing the need for effective training [4].

Online learning, as described by Howlett *et al.*, involves the use of electronic technology and media to deliver, support, and enhance learning and teaching. It includes communication between learners and teachers through online content, representing a significant shift from traditional classroom-based education [5].

Given this context, the present study aims to explore the perceptions of medical faculty regarding online teaching and learning during the COVID-19 pandemic.

METHODS

In August 2021, a cross-sectional online survey was conducted to gauge medical faculty members' perceptions of online teaching and learning. A Google Form was created, incorporating a semi-structured questionnaire and an informed consent form. This survey was disseminated to faculty involved in online teaching through emails and WhatsApp.

Methodology

- Sample and sampling technique: The study utilized a non-probability convenience sampling method, resulting in a sample size of 93 participants.
- Questionnaire details: The survey included 16 questions structured around four key areas:
 1. Overall perception of online teaching
 2. Quality of online teaching
 3. Comparison of face-to-face teaching versus online teaching
 4. Integration of online teaching into the medical curriculum.

Each question used a 5-point Likert scale with the following response options:

1. Strongly disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly agree.

- Data collection and analysis:

- Data entry: Responses were compiled and entered into Microsoft Excel.
- Statistical analysis: Data analysis was carried out using percentages and proportions to understand the distribution of responses. Mean scores were calculated to classify attitudes into positive and negative categories. The independent t-test was used to compare perceptions, with significance determined at a $p < 0.05$.
- Software utilized: All statistical analyses were conducted using Statistical Package for the Social Sciences software, version 23.0.

RESULTS

In this online study, a total of 93 faculty members participated. Table 1 depicts the percentage distribution of faculty perception toward online teaching. Around 49% of faculties were having good knowledge about online teaching and techniques before training and this knowledge increased to 78.2% after the orientation session. Around 38% of faculty found that student-faculty interaction was satisfactory during online classes. Around 41% of faculty believed that online classes for theory can be incorporated in the medical curriculum. Only 9% of faculty expressed that online classes can also be conducted for demonstration/dissection/practical sessions. Around 78% of faculty members experienced that internet connectivity is the major barrier in the smooth conduction of online classes.

Maximum faculty members (73%) used live streaming lecture with powerpoint presentation using various apps such as Zoom, Google Meet, and Jio Meet.

Face-to-face teaching is better than online teaching was the opinion given by 61% of faculty members. The overall perception regarding satisfaction in online teaching of faculty was 64%. Table 2 depicts mean scores of responses (category-wise) of faculty members toward online teaching along with their respective p-values. Mean score of positive responses of overall perception/satisfaction of the faculty toward online teaching (item 1) was 3.21 ± 0.58 which was statistically significant and shows acceptability of online learning Table 3. Faculties preferred traditional face-to-face teaching when compared to online teaching. A similar significance difference was observed in other items also.

DISCUSSION

The present study highlights the perceptions of faculty regarding usage of online teaching-learning platform. It focuses the experiences and observations of teaching faculty during the online teaching. The study emphasized on five major areas such as overall perception of the faculties toward online teaching, quality of online teaching, face-to-face teaching versus online teaching, incorporation of online teaching in the medical curriculum, and difficulty in conduction of online classes.

Due to the COVID-19 pandemic crisis, in the past years, online teaching and learning became quite important in medical education. Actual online learning began as an intranet in 1960, where linked computer terminals were used to provide academic material to students [6]. With the advent of internet in 1994, digital literacy spreads its wings in academics paving the way for formal, accredited online courses, and modules. Easy availability of mobiles, internet services, web, and social media provided opportunities to learners for personalized learning experiences [7].

In the present study, 49% of faculties were having good knowledge about online teaching techniques before orientation program which was increased to 78.2%. Many research studies have also expressed that the

Table 1: Faculty perceptions of online teaching/learning according to responses in percentages (n=93)

Questions/statement	Positive response (%)	Negative response (%)
Knowledge of faculty regarding the technology needed for online classes before orientation session	49	51
Knowledge of faculty regarding the technology needed for online classes after orientation session	78.2	21.8
Previous experience in online teaching	11	89
Motivation and interest among the students in attending online classes	59	41

Table 2: Faculty perceptions of online teaching/learning according to responses in percentages (n=93)

Questions/statement	Positive response (%)	Negative response (%)
Frequency of the students interaction/ response to queries/questions asked during the online	38	62
Face-to-face teaching is better than online teaching	61	39
Rate your overall experience/satisfaction of online teaching	64	36

Table 3: Overall perception of faculty's toward online teaching and learning according to their responses on the Likert scale

Questions	Positive response	Negative response	p-value
Overall perception/satisfaction of the faculty toward online teaching	3.21 ± 0.58	1.08 ± 0.48	$p < 0.0001$
Quality of online teaching is satisfactory	3.07 ± 0.38	2.08 ± 0.56	$p < 0.0001$
Face-to-face teaching and learning is better than online teaching and learning	3.89 ± 0.21	1.19 ± 0.26	$p < 0.0001$
Incorporation of online learning in the medical curriculum	4.01 ± 0.57	1.37 ± 0.63	$p < 0.0001$

medical education environment in the India is evolving for better change and it should be upgraded with current digital technology [8-11]. Mean score of positive responses of overall perception/satisfaction of the faculty toward online teaching was 3.21 ± 0.58 which was statistically significant and shows acceptability of online learning. A similar opinion is given by Saiyad *et al.* in their study that online teaching, learning, and assessment in medical education are still relatively new, however, it has the potential to become mainstream in the near future [12].

A recent study conducted by Kazi and Shidhore on the usage of Google Classroom sessions as a modern e-learning tool for dental undergraduate students also reveals that Google Classroom is a productive and efficient modern e-learning tool for students. It was also suggested that research studies can be carried out on comparisons of different web-based platforms/portals to determine the best which suits to the students and teachers [13]. The limitation of this study is that these perceptions of faculty members are of one college which cannot be generalized because variation may be noticed due to many factors such as exposure/training of faculty members toward online

learning techniques, experience, infrastructure, and institutional support.

CONCLUSION

The overall perception of faculty toward online teaching has been positive, with many acknowledging its potential to be incorporated into the medical curriculum. As online teaching becomes a necessary alternative to in-person classes, its acceptance is gradually increasing. Our study indicates that online learning can serve as a valuable complement to face-to-face instruction rather than a complete substitute. Digital technology has significantly enhanced interactions between faculty and students through online platforms. Future research with larger sample sizes could provide a more comprehensive understanding of faculty perceptions regarding online teaching and learning.

AUTHORS' CONTRIBUTIONS

Study conception and design: Dr. Pravin, Dr. Mohini. Data collection: Dr. Pravin, Dr. Keerti. Interpretation of results: Dr. Keerti, Dr. Mohini. Manuscript preparation: Dr. Pravin, Dr. Mohini.

CONFLICTS OF INTEREST

None.

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