

Perception of faculty toward online teaching and learning in the undergraduate medical students during coronavirus disease-19 pandemic

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ABSTRACT


Background: Online teaching and learning has become increasingly popular in medical education during this coronavirus disease (COVID)-19 pandemic. Most of the students and faculties have adapted to this relatively new model of online teaching-learning, but many teachers experienced some sort of difficulty in transition to online teaching. The digital technology plays a great role in the interaction of faculty and students through online learning platform. **Objective:** The objective of the study was to determine the perceptions of medical faculties toward online teaching and learning in the lockdown period at a SVS Medical College, Mahabubnagar, Telangana state, India. **Materials and Methods:** The study was taken up after the institutional ethical clearance. By non-probability convenience sampling method, the sample size was 107. A predesigned and pretested questionnaire was administered to all the faculties who were involved in online teaching after taking informed consent. A 5-point Likert scale was used in the questionnaire. Data were collected, tabulated, and analyzed statistically. **Results:** A total of 107 responses were obtained. About 56% of faculties were having very good knowledge about online teaching and techniques before orientation program. Overall 52% of the faculties have positive perception toward online teaching in this lockdown period. Whooping 95% of faculty members expressed that face-to-face teaching is better than online teaching. **Conclusion:** Online teaching and learning became quite important in the past few months in medical education due to COVID-19 pandemic crisis. The online learning has its own advantages for enhancing students' learning and knowledge and can be considered a potential teaching method in medical education.

KEY WORDS: Online Teaching and Learning; Faculty; Coronavirus Disease-19; Perception; Pandemic; Medical Education

INTRODUCTION

The current coronavirus disease (COVID)-19 pandemic has created the largest disruption of education systems in history, affecting nearly 1.6 billion learners in more than 190 countries and all continents.^[1] In India also, by mid-March,

all the educational institutes have been shut to limit the spread of COVID-19. As a result of which, classes have been suspended; examinations and even the research activities have been forced to terminate with immediate effect. Later, MHA (Ministry of Home Affairs, Govt. of India) through UGC and many medical universities have decided and instructed all the colleges to maintain the academic calendar by conducting the online classes.^[2] However, its implementation was not an easy task because of many hurdles. Many hurdles like lack of access to internet and smartphones in remote areas, lack of experience and awareness among faculty in conducting online classes, poor technical support, lack of interest among the students and faculty etc. Most of the students and faculties have adapted to this relatively new model of online

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teaching-learning. However, many teachers experienced some sort of difficulty in transition to online teaching, depending on how experienced the teacher was with online teaching. There are instances where many faculties in fact started developing interest in this online mode of teaching and very quickly started to adopt these techniques. On the contrary, some faculties who found it difficult to adapt, started to find the loop holes in this online system of teaching-learning. Medical Council of India (MCI) has long back started the "Faculty Development Programme" in July 2009,^[3] in which one of the objectives was to "sensitize teachers about new concepts in teaching and assessment methods." Although MCI made it mandatory for all medical colleges to establish Medical Education Units to enable faculty members to avail modern education technology for teaching, many faculties might have underwent this training but training in medical education started picking up recently when MCI made it mandatory for the faculties to get promotions in its recent gazette in February 2020.^[4]

Actually online learning is described by Howlett *et al.* "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 utilizing online content."^[5]"

With this background, we tried to explore the perception of our faculty toward online teaching learning during the COVID-19 pandemic.

MATERIALS AND METHODS

A cross-sectional study was carried out in the month of August 2020 by the medical educational unit, SVS Medical College, Mahabubnagar, Telangana state, India. This online survey was done after completing 4 months online teaching for all the batches of under graduate medical students. The approval of the Institutional Ethics Committee was taken before starting this study.

A predesigned and pretested questionnaire was administered to all the faculties who were involved in online teaching after taking informed consent. The questionnaire was related to faculties' perception toward online teaching and learning. By non-probability convenience sampling method, the sample size was 107. A 5-point Likert scale was used in the questionnaire. The options included were 1 – strongly disagree, 2 – disagree, 3 – neutral, 4 – agree, and 5 – strongly agree.

The questionnaires (16 questions) were grouped into four categories such as overall perception of the faculties toward online teaching, quality of online teaching, face-to-face teaching versus online teaching, and incorporation of online teaching in the medical curriculum. According to the mean

scores of the participants, the positive attitude and negative attitude were classified. The data were collected and all recorded data were entered into MS Excel and analyzed in the form of percentages and proportions. Independent *t*-test was applied for determining the perceptions of faculty toward online teaching. The Statistical Package for the Social Sciences software version 23.0 used for all statistical analysis, statistical test of significance was tested at $P < 0.05$.

RESULTS

A total of 107 faculty members participated in this online study. The percentage distribution of the perception toward online teaching is shown in Table 1. Around 56% of faculties were having good knowledge about online teaching and techniques before training and this knowledge increased to 82.5% after the orientation session. Overall 52% of the faculties have positive perception toward online teaching during this lockdown period. Around 44% of faculty found that student faculty interaction was satisfactory during online classes.

Around 48% of faculty believed that online classes for theory can be incorporated in the medical curriculum, only 5% of faculty expressed that online Classes can also be conducted for demonstration/dissection/practical sessions. Around 85% of faculty members experienced that internet connectivity is major barrier in smooth conduction of online classes.

Maximum faculty members (89%) used live streaming lecture with PowerPoint presentation using various apps such as Zoom, Go ToMeeting, Google Meet, and Jio Meet.

Table 1: Faculty perceptions of online teaching/learning according to responses in percentages ($n=107$)

Questions/statement	Positive response (%)	Negative response (%)
Knowledge of faculty regarding the technology needed for online classes before orientation session	56	44
Knowledge of faculty regarding the technology needed for online classes after orientation session	82.5	17.5
Previous experience in online teaching	15	85
Motivation and interest among the students in attending online classes	53	47
Frequency of the students interaction/response to queries/questions asked during the online	44	56
Face-to-face teaching is better than online teaching	95	5
Rate your overall experience/satisfaction of online teaching	83.7	16.3

Whooping 95% of faculty members expressed that face-to-face teaching is better than online teaching.

The overall perception regarding satisfaction in online teaching of faculty was 83.7%. Mean scores of responses (category wise) of faculty members toward online teaching along with their respective p-values are shown in Table 2.

Mean score of positive responses of overall perception/satisfaction of the faculty toward online teaching (Item 1) was 3.56 ± 1.02 which was statistically significant. Faculties preferred traditional face-to-face teaching when compared to online teaching. Similar significance difference was observed in other items also.

DISCUSSION

Our study highlights the perceptions of faculty regarding usage of online teaching-learning platform. It focuses the experiences and observations of teaching faculty during the past 4 months of 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.

Online teaching and learning became quite important in the past few months in medical education due to COVID-19 pandemic crisis. Actual online learning began as 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 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]

Table 2: Overall perception of faculty's toward online teaching and learning according to their responses on the Likert scale

Questions (n=107)	Positive response	Negative response	P-value
Overall perception/satisfaction of the faculty toward online teaching (Item 1)	3.56±1.02	1.15±0.38	*P<0.0001
Quality of online teaching is satisfactory (Item II)	3.35±0.84	2.14±0.66	*P<0.0001
Face-to-face teaching and learning is better than online teaching and learning (Item III)	4.31±0.55	1.23±0.721	*P<0.0001
Incorporation of online learning in the medical curriculum (Item IV)	3.15±0.95	1.14±0.48	*P<0.0001

*P<0.0001 statistically significant.

In the present study, 56% of faculties were having good knowledge about online teaching techniques before orientation program which was increased to 82.5%. Many research studies have also expressed that 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 3.56 ± 1.02 which was statistically significant and shows acceptability of online learning. 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]

In recent study conducted by Kazi and Shidhore on 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 regarding online teaching was satisfactory and they also opined that online teaching can be incorporated in medical curriculum. Slowly its acceptance is increasing since it is the only choice available to deliver the required content and meet the desirable outcomes from the students until they come back to regular classes. Our study reveals that online learning can be complementary to the face-to-face learning and not the replacement. The digital technology is playing a great role in the interaction of faculty and students through online learning platform. Similar studies can be taken up with larger sample size to get more authentic and clear perception of faculty regarding online teaching and learning.

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