IMPACT OF THE COVID-19 PANDEMIC: THE PERCEPTIONS OF EDUCATORS ABOUT CHANGE IN MEDICAL EDUCATION

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ABSTRACT

Objectives: COVID-19 pandemic has created havoc in every sphere of life and medical education is no exception. To overcome crisis of this pandemic, currently, there is an entire shift in teaching in medical colleges from face-to-face classes to online classes. Virtual teaching requires both technical and pedagogical support and the present study was carried out to assess the perception of medical teachers about this change in medical education.

Methods: This analytical, observational, online, and cross-sectional study used newly developed questionnaire that was given to teachers of medical colleges of North India during lockdown period. Answers for the items were read on a five-point Likert-type scale and data was analysed using Descriptive statistics and t-test.

Results: A total of 131 participants filled the questionnaire. Out of these 70 (53.4%) were females and 61 (46.6%) were males. Many teachers (33.6%) found online tools to be easier to use and (35.1%) participants were of opinion of possessing sufficient knowledge and skills for conducting online classes but 44.3% of participants want to undergo training for this purpose. Majority of educators (67.2%) did not want to take online classes along with face-to-face classes after COVID pandemic time.

Conclusion: Online teaching in medical education is still relatively new but this crisis should be taken as opportunity to explore the potential of online platforms and should enhance technological knowledge for the benefit of future budding doctors.

Keywords: COVID-19, Pandemic, Online teaching, Perception, Educators.

INTRODUCTION

SARSCoV2 outbreak has thrown the education globally into disarray and educators of all the fields are being forced to teach their students from home [1]. It has been a tough period for teaching faculty, especially in medical schools, all around the world to continue with the teaching-learning process. Medical teaching is not simply delivering lectures, but it includes bedside demonstrations, an explanation of each and every sign and symptom of the disease and discussion of different modalities for making a diagnosis. Favorite medical teacher is considered to have a knack of connecting with everyone- with patients and with students. E-Learning is not a new concept but has never been adopted as a part of formal education in medical schools [2]. Technology was used in medical education as support system for conducting workshops, CMEs, and experiments as a replacement of animals but not a replacement to didactic lectures. However, COVID pandemic has forced the teachers to shift to online teaching. Biggest roadblock in conducting regular classes of undergraduates in current scenario is massive strength of students in each batch. To overcome the problem of social distancing there is no option for Medical schools than to move towards online teaching. Integrating technology into medical teaching is completely new territory especially for experienced senior medical teachers [3]. Another issue in online medical teaching is that virtual instruction does not offer personal interaction and at the same time faculty has the fear of losing control as it is not under his authority [4]. In live classes, they prepare their slides, hand-outs by themselves and what and how they teach is almost totally in their hands. Virtual teaching requires technical and pedagogical support, and faculty join as member of that team rather than operating as autonomous instructor [5]. The present study was, therefore, planned to assess the perception of medical teachers about this change in medical education.

METHODS

The study was conducted through an online survey amongst medical teachers of medical colleges of North India during lockdown period from July 9 2020 to June 15 2020 to know about their perception in change in medical education during the COVID-19 pandemic after getting ethical waiver off from IEC, IEC2039 dated 7th July 2020.

The research tool used for data collection in this study was newly developed questionnaire. The questionnaire for the survey was designed using Google Forms after doing literature survey including research articles, official websites of various organizations, blogs, and news reports. The questionnaire was divided into two sections. The first section identifies some of the demographic characteristics of respondents: Age, gender, teaching experience, and the second section of the questionnaire included a set of items to evaluate teachers' perception about the change in medical education during COVID pandemic time.

The link of the google form was sent through social media platforms, i.e., WhatsApp. The participants were ensured about the confidentiality of data. Expected answers for the items were read on a five-point Likert-type scale. At the end of the survey, summarized data from google spreadsheet was analyzed. Descriptive statistics and t-test analysis were used for data analysis. The degree of statistical significance is denoted by the p < 0.05.

RESULTS

A total of 131 participants filled the questionnaire. Out of these 70 (53.4%) were females and 61 (46.6%) were males. Regarding academic positions, Professors represent 19.8%, Associate Professors 32.8% and Assistant Professors 31.3%, and Senior Residents 16%. Regarding opinion of teachers for online teaching 44 (33.6%) found online tools to be easier

to use while majority of teachers 62 (47.3%) teachers neither agree nor disagree with the easiness of use of online tools for teaching and learning purpose (Table 1). In this study, only 19 (14.6%) teachers were ready to switch to online teaching, while 49 (27.4%) teachers were not ready for sudden shift in teachinglearning process (Table 1).

Regarding knowledge about online teaching tools 46 (35.1%) participants were of opinion of possessing sufficient knowledge and skills for conducting online classes and Regarding knowledge about online teaching tools 46 (35.1%) participants were of opinion of possessing sufficient knowledge and skills for conducting online classes. In this study, it was found that majority of teachers 99 (75.57%) were using multiple online tools for different teaching activities and 58 (44.3%) participants felt the need to undergo training for better familiarization with online teaching tools (Table 1). In order to investigate whether gender has any effect on medical teachers' perception. With regard to answers to statement "Online tools are easy to use while conducting lectures" and "Have sufficient knowledge and IT skills to conduct online lectures" there was no significant difference between male and female teachers. However, there was significant difference in willingness to go for training to conduct online classes (Table 2).

Table 1: Response of teachers about perception survey on a Likert scale

Statements	Strongly agree (1) and agree (2)	Neutral (3)	Disagree (4) and strongly agree (5)
Online tools are easy to use while conducting lectures	44	62	25
Have sufficient knowledge and IT skills to conduct online lectures	46	57	28
You want to undergo training for conduction of online classes	58	40	33
Online teaching takes more time than physical classes	34	61	36
Would you like to take online lectures alongside physical lectures in future?	21	22	88

Statement	Very Ready (1) and ready (2)	Neutral (3)	Not ready (4) And not ready at all (5)
How ready were you to switch to online teaching?	19	63	49

Statement	Excellent (1) and good (2)	Neutral (3)	Bad (4) and Very bad (5)
How would you describe your overall Experience of online teaching?	50	60	18

Table 2: Gender-based difference in perception of teachers

Statements	All N=131	Female N=70	Male N=61
Online tools are easy to use while conducting lectures	M=2.85 SD=0.972	M=2.96 SD=0.917	M=2.69 SD=1.049 p=0.121
Have sufficient knowledge & IT skills to conduct online lectures	M=2.87 SD=0.984	M=2.97 SD=0.909	M=2.73 SD=1.034 p=0.159
You want to undergo training for conduction of online classes	M=2.68 SD=1.22	M=2.44 SD=1.11	M=3.07 SD=1.19 p= 0.001∗

M=Mean, SD=Standard deviation, ∗=Significant

When they were asked about resources, majority of participants 66 (50.4%) were of opinion that institution provide enough resources to assist in conductance of online classes while 51 (38.9%) were provided few resources, and 14 (10.7%) were of opinion that no resources were provided by institution. Most of the participants 94 (71.8%) were of opinion that virtual teaching cannot replace face-to-face teaching in medical education and most of the participants 88 (67.2%) didn't want to take online classes along with face-face classes post COVID pandemic time. Many participants 50 (38.1%) perceived overall experience in online teaching as good and 63 (48.1%) participants were neutral in their experience to current online teaching (Table 1).

DISCUSSION

In the present scenario of COVID-pandemic, technology has been used widely to impart the knowledge to medical students. There is dearth of data regarding effectiveness of online learning process. In this teachinglearning process the perception of teachers regarding online teaching is equally important for its effectiveness. In medical education, online teaching poses challenges to students as well as educators [6].

In this study 44 (33.6%) teachers stated that online tools are easier to use and majority neither agree nor disagree with this statement. Though online teaching tools are available since the past decades but were never were part of formal teachinglearning process in medical education and there was no transition period between face-to-face teaching to online teaching. In this study, only 14.6% of teachers stated that they were ready to switch to online teaching, while 27.4% of teachers stated that they were not ready for sudden shift in this teachinglearning process. Online teaching just not require familiarity with technology, teachers require intense presence during virtual teaching sessions, controlled eye contact with camera, and voice modulation with speakers. Regarding having sufficient knowledge and skills for conducting online classes, 35.1% of participants were of opinion of possessing it. It is important to keep in mind that there is number of online teaching tools available which can be used for the dissemination of knowledge ranging from simple, user-friendly social media tools such as WhatsApp, YouTube to more advanced like zoom, google-classroom, Microsoft office 365, webinar, Jio-meet, etc. There is a sudden bombardment of online teaching tools but these implements have to be used in skilled programmed manner to get the desired effect. This was also found in this study that most of the teachers were using multiple online teaching platforms. Because of the suddenness of introduction of these tools, positive approach and a flexible frame of mind are key to make the online transition as smooth as possible. This period should be taken as opportunity to apply creative solutions, learn some new tricks, connect with students in a new context and enable medical teachers to avail modern education technology for teaching. This need is also felt by participants 44.3% felt wanted to undergo training for better familiarization with online teaching tools. Technology is just an aid; good teaching practices should be incorporated for better teaching outcome. These principles of pedagogy will be able to help teachers in choosing different resources, designing teaching-learning activities for optimum effectiveness [7]. Teachers need to develop competency in technology as well in these online pedagogical principles in addition to existing knowledge they have. Faculty development programs should be organized to inculcate these [8]. In addition to these, additional resources in terms of good web interactive platforms, fast internet access are required for the implementation of online teaching. Lack of these resources can act as additional barrier to online teaching process [9]. However, majority of participants 50.4% felt that institution provide enough resources to assist in conductance of online classes and for successful outcome of online teaching programs integration of teachers with institution is required.

Technological gender gap" term is coined to show that those males and females have different technology-related attitudes, behaviors, and skills [10]. In e-order to investigate whether it has any effect on

medical teachers' perception. With regard to answers to statement "Online tools are easy to use while conducting lectures" and "Have sufficient knowledge and IT skills to conduct online lectures" there was no significant difference between male and female teachers. However, there was significant difference in willingness to go for training to conduct online classes.

Most of the participants felt that virtual teaching cannot replace face-to-face teaching in medical education. Although there are no evidence which supports that online teaching is better that offline or vice-versa [11], comfortless with familiarization of face-face to teaching might be factor that participant didn't want face-face teaching to be replaced by virtual teaching. The other factor could be in recent times in India, most of the faculty has been trained in CBME (competency based medical education) program [12], online platforms might be looked upon as simple content facilitator rather than interactive, integrated approach to attain competencies in medical graduate. This could be the reason that most of the participants 67.2% did not want to take online classes along with face-face classes post COVID pandemic time. Many participants 38.1% perceived the overall experience in online teaching as good which shows positive attitude of teachers towards challenging time. While this study didn't study the perception of teachers about assessment in COVID pandemic. Assessment is integral part of any teaching-learning process, how virtual platform affects it, should also be studied.

CONCLUSION

This article explored the perception of medical teachers regarding teaching online during the COVID pandemic lockdown. Although online teaching is relevant new in medical education teachers have positive perception and attitude toward this change in medical education during challenging time. Most of the medical educators don't want virtual teaching in future, but how long this situation is going to continue is uncertain. We as a medical community should take it as an opportunity and enhance our technological knowledge for the benefit of future budding doctors.

RECOMMENDATIONS

Based upon this we recommend that;
1. There is need to motivate and train faculty members about different types of platform available for online teaching for which faculty development programs should be organized.
2. More experienced faculty with online education platforms should be invested in, and guide other fellow faculty members.
3. Institutions should also understand the difficulty faced by the faculty and all required resources should be made available to attain the desired outcome.

CONFLICT OF INTEREST

None.

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It was taken from institutional ethics committee, IEC code no. IEC2059 on 27th July 2020.

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