

Original Article



Online medical teaching during COVID-19 lockdown: perceptions by the South-Indian Faculty

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Abstract

Background: The nationwide lockdown following the COVID-19 pandemic tremendously impacted the medical teaching-learning process. This study aimed to assess medical teachers' perceptions about various aspects of online teaching-learning during the lockdown.

Methods: A survey questionnaire was developed using Google Forms and emailed to medical teachers in India. Responses were analyzed and their significance was assessed using a chi-square test with an alpha of 0.05.

Results: Out of 294 eligible responses, 70% belonged to deemed universities. 42.86% of teachers were preclinical, 23.81% paraclinical and 33.33% belonged to clinical subjects. Overall, 93.88% of faculty felt online teaching is time-consuming and 92.52% felt face-to-face classes are better. Almost 52% of faculties were reluctant to continue online classes after the lockdown. Approximately 53% of teachers believed that the maximum number of students would have utilized this facility, but still, a significant number of teachers were uncertain whether students would have benefited this activity. A significantly greater number of preclinical and paraclinical teachers conducted both theory and practical examinations as well as viva examinations, whereas clinical teachers primarily conducted theory examinations. Only 21.77% of teachers were satisfied with the conduct of examinations.

Conclusion: Medical teachers have adapted themselves to teaching online during the COVID-19 pandemic. Google Classroom was the most preferred platform and live synchronous classes were the most preferred choice for delivering the classes. Most of the faculty perceived that online teaching was time-consuming. They were skeptical about the active involvement of students in this process. Moreover, they felt that the reliability of online assessments needed improving.

Introduction

Howlett defined online learning as "the process of using electronic media and technology to deliver, support, and enhance both learning and teaching, as well as allowing learners to communicate with teachers utilizing online content."¹ It is also called e-learning, web-based learning, or computer-based learning. Online education delivers curriculum through a computer system, and the entire learning process is conducted over the Internet.

2020 began with news of global spread of the novel Corona virus, resulting in a severe pandemic. Due to the lack of knowledge about the disease and the absence of an effective treatment or vaccine, the Indian government declared a nationwide lockdown to control the outbreak.²

As a result, classes were suspended, even for medical students. Lockdown and social distancing during the COVID-19 pandemic caused remarkable disruption in conventional Graduate Medical Education (GME) worldwide.³⁻⁶ The University Grants Commission (UGC) urged students including medical undergraduates to take online classes within a week of the lockdown to remain in compliance with the academic calendar. Medical teachers, being doctors first and foremost, were already assigned clinical responsibilities in managing the growing number of COVID-19 patients regardless of their core curricular responsibilities.⁷ In this scenario, it became a juggling act for them to additionally manage undergraduate online teaching.

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Most medical teachers taught face-to-face before the lockdown to deliver the curriculum. Teachers and students were exposed to many unforeseen challenges due to the sudden transition to online teaching during the crisis. The most crucial changeover for teachers was adapting to new technologies to effectively develop and deliver online teaching content.

Despite the introduction of E-learning in developed countries, where it is effectively used to teach evidence-based medicine,⁸⁻¹⁰ it is a relatively novel concept in developing countries like India.¹¹ Few institutes have integrated online lectures into undergraduate medical education in the form of flipped classrooms,^{12,13} however, most of India's medical institutes have not already experienced such a teaching-learning process. Both students and teachers were equally affected by this abrupt change in the teaching-learning process and as a result, medical educators began taking advantage of available facilities and strategies to meet the needs of their students. The online teaching-learning process did not follow a standard protocol, and each medical university had its own guidelines for teachers and students based on their preliminary knowledge.

Many studies have investigated medical students' challenges and their perspectives on online education during the COVID-19 pandemic.^{1,14,15}

Unfortunately, there were no data available regarding the challenges and perspectives of medical faculty regarding online teaching and learning during the COVID-19 pandemic. Hence, the current study was designed to evaluate various aspects of online medical education during COVID-19 pandemic from the perspectives of medical educators. This study aimed to determine whether there are differences in opinion among different categories of medical teachers regarding online medical education and recommend appropriate strategies to overcome medical teachers' challenges during online teaching.

Materials and Methods

Study design was descriptive, analytical type. The present study was conducted in south Indian population and the authors did not come across any similar study conducted in Indian population. Since, the study was conducted almost after 1 year of the COVID 19 pandemic, faculty had sufficient time to consolidate the experience regarding pros and cons of particular platform used and their opinions were well informed.

A survey questionnaire was developed using Google Forms. It was developed in two sections, the first for collecting demographic information about respondents, and the second for exploring their perception of online teaching-learning processes during COVID-19.

Table 1 outlines the questions in the second section. Most of the questions were close-ended with a 5 or 3-point scale. Several open-ended questions were also included to

Table 1. Questions to assess faculty perception of the online teaching-learning process during the COVID-19 pandemic

Table No.	Question No.	Question
3	1	Which type of online classes have you conducted during lockdown?
	2	Which was your preferred platform to deliver the classes?
	3	Have you given online assignments?
	4	Which platform was used for online assignments?
4,5	5	What is your opinion about online class preparation time?
	6	Which type of classes are better, online, or face-to-face?
	7	Are you satisfied with the concept of online classes?
	8	Will you continue online classes even after the lockdown is over?
6	9	Do you think, internal assessment examinations can be conducted online?
	10	Are you satisfied with online tests?
	11	Do you have any experience administering online examinations during lockdown?
	12	What type of online exams have you conducted?
	13	Which platform was used for online examinations?
7	14	What percentage of students have utilized online teaching facilities?
	15	What percentage of students have completed online assignments?
	16	Do you think, students benefit from online teaching?

allow faculty to provide additional feedback. Initially, a pilot study was conducted with ten faculty members, and the questionnaire was modified based on their feedback. It took a maximum of fifteen minutes to complete the questionnaire.

After approval of the study protocol (83/2020 dated 10.06.2020) by the institutional ethical committee, the questionnaire was shared with medical teachers in Indian Medical Colleges through WhatsApp and email. Any medical teacher who was actively involved in online teaching during the pandemic, was eligible to participate in the study. The faculty working as professional resource persons for any online courses were excluded from the study. Participation in the study was voluntary and anonymity was guaranteed. The Google form itself included an informed consent form. Only medical teachers who consented could fill in the form. Out of a total of 310 responses received, 16 were excluded from the study. This included 9 forms submitted by the faculty other than medical teachers and 7 teachers who had not participated in online teaching. Thus, 294 responses were used in data analysis. Respondents were categorized based on the phase of MBBS they taught (preclinical, paraclinical, and clinical teachers) and their institutional affiliation (State and Deemed university). Statistics were analyzed using SPSS16 software. The descriptive analysis was conducted by finding proportions, while inferential

statistics were assessed using chi-square tests and Fisher's exact tests. The alpha level was set to 0.05.

Results

As indicated in Table 2, approximately 77% of the respondents were from South India and 70% of the faculty were affiliated with the deemed universities. The majority of respondents were preclinical teachers, while the minority were clinical teachers (Table 2). Two-thirds of the respondents were senior faculty members holding professorial or associate professorial ranks.

Type of online classes conducted and the platform used by the medical teachers

On average, 64.63% of the faculty conducted only theory-based classes in the form of online lectures or small group discussions whereas 35.37% of the faculty also conducted practical classes along with theory classes. As indicated in Table 3, this difference in the type of classes conducted was statistically significant across the phases but not across the type of university affiliation. Among all, 51% of the teachers conducted live, synchronous online classes utilizing Zoom, Google Meet, Microsoft Teams, or similar platforms. This modality of teaching was mainly preferred by clinical and preclinical faculty (Table 3). Approximately, 18% of the teachers posted PowerPoint presentations with voiceover on WhatsApp groups, created for each batch of students and 11% created YouTube videos and shared the link with the students. This difference in the preferred modality was statistically significant when compared across the phase but not across the university affiliation.

As shown in Table 3, online assignments were given to the students by approximately 90% of the teachers. Paraclinical faculty and deemed university faculty have given a significantly higher number of assignments;

Table 2. Demographic characteristics of medical teacher participants in the survey

Category	Number	%
Total number of medical teachers	294	100
Region		
North India	68	23.13
South India	226	76.87
Affiliation		
Deemed University	206	70.07
State University	88	29.93
Seniority level		
Senior faculty	196	66.67
Junior Faculty	98	33.33
Phase		
Preclinical	126	42.86
Paraclinical	70	23.81
Clinical	98	33.33

however, the phase-wise difference among pre-, para- and clinical faculty was not statistically significant. Almost 81% of the faculty used the Google platform for assignments. Other important platforms used for giving assignments were WhatsApp, Microsoft Teams, and email. Differences regarding the use of various platforms for assignments were statistically significant amongst the deemed and state university teachers.

Perception about online teaching and assessment

Overall, 93.88% of the teachers felt that online class preparation requires more time. This opinion was unanimous regardless of the phase they teach and their university affiliation (Tables 4 and 5).

Approximately 93% of teachers believe face-to-face classes are more effective than online classes. There are statistically significant differences in this regard between phases (Table 4). There is a statistically significant difference between the opinions of 100% of state university faculty and 89% of deemed university faculty on this issue (Table 5). In terms of teacher satisfaction relating to online teaching of medical students, 39.46% were only somewhat satisfied. Level of satisfaction was almost equal across various phases and not statistically significant (Table 4) but a significant difference was observed across the affiliation where more proportion of satisfied teachers were from state universities (Table 5). Approximately 52% of the faculty were reluctant to continue online classes in the future, once the lockdown is over. Clinical faculty and faculty at state universities expressed this opinion significantly more frequently (Tables 4 and 5).

Perception about online assessment

As indicated in Table 6, nearly 39% of teachers felt that internal assessment examination can be conducted online and 34.7% did not feel so. This difference was statistically significant among the teachers across the phases as well as the university. Despite these differences in opinion, 76.87% of teachers had conducted online assessments; significantly more by paraclinical teachers and deemed university teachers. The difference in the type of examinations conducted by teachers of various phases and universities was statistically significant. Clinical teachers had conducted more theory examinations whereas preclinical and paraclinical teachers had conducted all types of examinations i.e., theory, viva as well as practical examinations. Approximately 87% of teachers preferred Google Forms and Google Classroom as a platform for examinations. Among these, 17.69% of teachers had combined them with live apps like Zoom, for invigilation. As depicted in Table 5, the number of teachers using various platforms was significantly different among the teachers of different phases as well as universities. Google was the most preferred platform used for assessment. Among all the medical teachers, only 21.77% of teachers were satisfied with the conduct of examinations and the

Table 3. Type of online classes and platforms used by medical teachers stratified by phase and affiliation

	Pre-clinical	Para-clinical	Clinical	χ^2 value (P value)	State	Deemed	χ^2 value (P value)
	N (%) 126 (42.9)	N (%) 70 (23.8)	N (%) 98 (33.3)		N (%) 206 (70.1)	N (%) 88 (29.9)	
Q.1							
Theory-based	76(60.3)	30(42.9)	84(85.7)	34.59 (0.00*)	60(68.2)	130(63.1)	0.69 (0.41)
Theory and practical	50(39.7)	40(57.1)	14(14.3)		28(31.8)	76(36.9)	
Q.2							
Live classes	58(46.0)	28(40.0)	64(65.3)	22.90 (0.001*)	50(56.8)	100(48.5)	5.12 (0.163)
PPT with voiceover	28(22.2)	28(40.0)	16(16.3)		14(15.9)	58(28.2)	
YouTube	14(11.1)	8(11.4)	6(6.1)		10(11.4)	18(8.7)	
Other	26(20.6)	6(8.6)	12(12.2)		14(15.9)	30(14.6)	
Q.3							
Yes	114(90.5)	68(97.1)	78(79.6)	13.19 (0.001*)	72(81.8)	188(91.3)	5.38 (0.02*)
No	12(9.5)	2(2.9)	20(20.4)		16(18.2)	18(8.7)	
Q.4							
Google forms, classroom	88(69.8)	50(71.4)	66(67.3)	13.85 (0.07) ^a	50(56.8)	154(74.8)	10.66 (0.031*)
WhatsApp	14(11.1)	10(14.3)	10(10.2)		14(15.9)	20(9.7)	
Microsoft Team	6(4.8)	2(2.9)	10(10.2)		6(6.8)	12(5.8)	
Other	12(9.5)	6(8.6)	2(2)		10(11.4)	10(4.9)	

Note: Refer to Table 1 for questions.

Data are presented as frequencies with proportions in parenthesis.

^a Fisher's exact test; *Statistically significant.

Table 4. Perception of medical teachers about various aspects of online teaching and assessment as categorized by the phase they teach

Parameter	Total N=294	Preclinical 126 (42.9)	Paraclinical 70 (23.8)	Clinical 98 (33.3)	χ^2 value	P value
Q.5						
Need more time	276(93.88)	116(92.1)	70(100)	90(91.8)	11.28 ^a	0.01*
No idea	8(2.72)	2(1.6)	0(0)	6(6.1)		
The same as face-to-face classes	10(3.4)	8(6.3)	0(0)	2(2)		
Q.6						
Online	14(4.77)	6(4.8)	6(8.6)	2(2)	23.63 ^a	0.00*
No idea	8(2.72)	0(0)	8(11.4)	0(0)		
Face-to-face	272(92.52)	120(95.2)	56(80)	96(98)		
Q.7						
Yes	102(34.7)	38(43.7)	30(42.9)	34(34.7)	7.88	0.09
Somewhat	116(39.5)	46(36.5)	28(40)	42(38.7)		
No	76(25.9)	42(33.3)	12(18.1)	22(22.4)		
Q.8						
Yes	120(40.8)	58(46.0)	34(48.6)	28(28.6)	10.78	0.03*
Maybe	20(6.8)	8(6.3)	6(8.6)	6(6.1)		
No	154(52.4)	60(47.6)	30(42.9)	64(65.3)		

Note: Refer to Table 1 for questions.

Data are presented as frequencies with proportions in parenthesis.

^a Fisher's exact test; *Statistically significant.

difference in opinion was statistically significant in both of the categories of the teachers.

Perception of medical teachers about utilization of online teaching-learning facility by the students

Table 7 indicates the views of medical teachers regarding

the utilization of the online teaching-learning process by the students. On average 53.1% of teachers felt that more than 80% of the students would have utilized online teaching facility. This difference in opinion was not statistically significant across the phase but a significantly higher number of deemed university teachers felt

Table 5. Perception of medical teachers about various aspects of online teaching as categorized by their affiliation

Parameter	Total N=294	Deemed University 206 (70.1)	State University 88 (29.9)	χ^2 value	P value
Q.5					
Need more time	276(93.9)	196(95.1)	80(90.9)		
No idea	8(2.7)	6(2.9)	2(2.3)	4.22 ^a	0.11
Same as face-to-face classes	10(3.4)	4(1.9)	6(6.8)		
Q.6					
Online	14(4.8)	14(6.8)	0(0)		
Maybe	8(2.7)	8(3.9)	0(0)	11.17 ^a	0.003*
Face to face	272(92.5)	184(89.3)	88(100)		
Q.7					
Yes	76(25.9)	38(18.4)	38(43.2)		
Somewhat	116(39.5)	82(39.8)	34(38.6)	24.49	0.00*
No	102(34.7)	86(41.7)	16(18.2)		
Q.8					
Yes	120(40.8)	90(43.7)	30(34.1)		
Maybe	20(5.8)	18(8.7)	2(2.3)	8.22	0.016*
No	154(52.4)	98(47.6)	56(63.6)		

Note: Refer to Table 1 for questions.

Data are presented as frequencies with proportions in parenthesis.

^a Fisher's exact test; *Statistically significant.

that >80% of the students would have utilized this facility. Approximately 57% of teachers agreed that >80% of students had completed online assignments. Views on this aspect are statistically significant across the phase as well as university. Despite the above results, a significantly higher number of teachers were uncertain whether the students benefited from online teaching.

Discussion

Type of online classes conducted and the platform used by the medical teachers

As indicated in Table 3, almost 65% of the faculty conducted theory-based online classes either in the form of didactic lectures or small group discussions. A statistically significant number of teachers preferred live synchronous mode of teaching to conduct these classes as they are more interactive when compared to posting the voiceover ppts or YouTube links. However most of the faculty found it difficult to conduct online practical classes as it was challenging to teach the students various techniques necessary to develop their motor skills.

Perception about online teaching and assessment

Regarding the faculty perceptions about online teaching, irrespective of their affiliations and the phase they teach, approximately 94% of teachers believed that preparation

Table 6. Perception of medical teachers about online assessments, as stratified by phase and affiliation

	Pre-clinical	Para-clinical	Clinical	χ^2 value (P value)	State	Deemed	χ^2 value (P value)
	N (%) 126 (42.9)	N (%) 70 (23.8)	N (%) 98 (33.3)		N (%) 206 (70.1)	N (%) 88 (29.9)	
Q.9							
Yes	54(42.9)	26(37.1)	36(36.7)		88(42.7)	28(31.8)	
Maybe	24(19.0)	18(25.7)	34(34.7)	7.47 (011)	60(29.1)	16(18.2)	13.19 (0.00*)
No	48(38.1)	26(37.1)	28(28.6)		58(28.2)	44(50.0)	
Q.10							
Yes	16(12.7)	18(25.7)	30(30.6)		56(27.2)	8(9.1)	
Somewhat	70(55.6)	30(42.9)	38(38.8)	12.44 (0.01*)	104(50.5)	34(38.6)	28.78 (0.00*)
No	40(31.7)	22(31.4)	30(30.6)		46(22.3)	46(52.3)	
Q.11							
Yes	98(77.8)	62(88.8)	66(67.3)		62(67.6)	164(79.6)	
No	28(22.2)	8(11.4)	32(32.7)	10.45 (0.005*)	26(29.5)	42(20.4)	2.91 (0.08)
Q.12							
Theory	56(44.4)	30(42.9)	72(73.5)		38(43.2)	120(58.3)	
Viva	20(15.9)	4(5.7)	4(4.1)	29.97 (0.00*)	16(18.2)	12(5.8)	12.6 (0.002*)
All types	50(46.3)	36(51.4)	22(22.4)		34(38.6)	74(35.9)	
Q.13							
Google+live	28(22.2)	18(25.7)	6(6.1)		10(11.4)	42(20.4)	
Only google	74(58.7)	48(68.6)	82(83.7)		58(65.9)	146(70.9)	
Live+WA/email	10(7.9)	0(0)	6(6.1)	35.04 (0.00*) ^a	6(6.8)	10(4.9)	18.62 (0.001*) ^a
WA & email	8(6.3)	4(5.7)	0(0)		10(11.4)	2(1)	

Note: Refer to Table 1 for questions.

Data are presented as frequencies with proportions in parenthesis.

^a Fisher's exact test; *Statistically significant.

Table 7. Perception of medical teachers about utilization of online teaching facility by the students

	Pre-clinical	Para-clinical	Clinical	χ^2 value (<i>P</i> value)	State	Deemed	χ^2 value (<i>P</i> value)
	N (%) 126 (42.9)	N (%) 70 (23.8)	N (%) 98 (33.3)		N (%) 206 (70.1)	N (%) 88 (29.9)	
Q.14							
>80%	72(57.1)	34(48.6)	50(51.0)	12.44 (0.13)	124(60.2)	32(36.4)	30.73 (0.00*)
60-80%	24(19.0)	20(28.6)	12(12.2)		44(21.4)	12(13.6)	
40-60%	14(11.1)	8(11.4)	14(14.3)		16(7.8)	20(22.7)	
<40%	8(6.3)	6(8.6)	12(12.2)		12(5.8)	14(15.9)	
Don't know	8(6.3)	2(2.9)	10(10.2)		10(4.9)	10(11.4)	
Q.15							
>80%	82(65.1)	48(68.6)	38(38.8)	27.13 (0.001*)	130(63.1)	38(43.2)	17.09 (0.002*)
60-80%	16(12.7)	8(11.4)	14(14.3)		26(12.6)	12(13.6)	
40-60%	10(7.9)	8(11.4)	20(20.4)		18(8.7)	20(22.7)	
<40%	4(7.7)	4(5.7)	10(10.2)		14(6.8)	4(4.5)	
No assignment given	14(11.1)	2(2.9)	16(16.3)		18(8.7)	14(15.9)	
Q.16							
Yes	38(30.2)	38(54.3)	36(36.7)	23.39	96(46.6)	16(18.2)	50.48 (0.00*)
Maybe	68(54.0)	28(40.0)	60(61.2)		106(51.5)	50(56.8)	
No	20(15.9)	4(5.7)	2(2.0)		4(1.9)	22(25.0)	

Note: Refer to Table 1 for questions.

Data are presented as frequencies with proportions in parenthesis.

*Statistically significant.

for online classes involves more time (Tables 4 and 5). Similar findings were reported by the previous studies.¹⁶⁻¹⁸ Deborah et al. found that the faculty who are involved in regular online teaching, strongly agree that it requires more preparation.¹⁶ A similar opinion of the respondents in the current study may be because of the abrupt change in the teaching pattern due to the COVID-19 pandemic which forced faculty to learn new technology to deliver the course material. This may be demanding more time and effort than the actual delivery of the content.

Most of the faculty agreed that face-to-face classes are better and only about 39% of faculty were satisfied with the concept of online medical teaching to a certain extent. Significant number of teachers were reluctant to continue online teaching once the lockdown was over (Tables 4 and 5). There could be several reasons behind this which include tremendous amount of planning, preparation time, lack of visual cues and spontaneity which fails to develop connection between teachers and students.^{16,17} Lack of proper training for online teaching may also be an important factor.¹⁶ Reluctance to continue online teaching was predominantly noticed among clinical teachers. This may be attributed to the time consumption associated with online teaching, as clinicians also need to invest more time and efforts for patient care.

Perception about online assessment

Even though the faculty were not sure about the validity and reliability of online assessment, in the given circumstances, most of them have conducted the exams,

mainly theory and viva. Faculty were also doubtful about the students' integrity during the assessment and submission of answer sheets. As most of the examinations were conducted by asking students to write the answers and upload them on Google Classroom or WhatsApp or email, they were not proctored online examinations in true sense, wherein examinations are administered and processed in a systematic manner via a proper software. Whenever students write examinations from their own premises, without invigilation, chances of engaging themselves in unfair means are to a greater extent.¹⁹ This may be the main reason for dissatisfaction of the teachers in conduct of examinations. Conducting practical examination to assess their motor skills was another challenge encountered by most of the teachers.

Perception of medical teachers about utilization of online teaching-learning facility by the students

As indicated in Table 7, even though a significantly higher number of teachers felt that maximum students would have utilized the facility of online teaching and completed the assignments, they were indecisive about whether students benefited from these classes and felt that it could be judged only after proper in-person assessment. Teachers were also uncertain about the physical presence of students as well as their involvement and attention to the contents of the study material being delivered. Similar findings were also mentioned by Wilcha.⁶ Active participation of students in the teaching-learning process is the key to successful learning experience²⁰ which itself

was doubtful in the online environment. Cognitive presence plays an important role in the learning process and with video off and microphones muted students are prone to distractions which affect learning.²¹

Challenges faced by the medical teachers

The major challenge confronted by the medical teachers was issues with internet connectivity. Time constraints and the limited number of maximum allowable participants were another challenge faced by many teachers as during the early part of the pandemic, they had to utilize free versions of the apps to conduct live sessions. The availability of a noise-free environment to conduct the live classes or to record the classes was another major issue faced by the teachers. Learning new techniques and platforms to use them effectively was taxing to some teachers. Uncertainty about students' presence, their attention and engagement in active learning, and lack of interactivity was a concern to many teachers whereas few were camera conscious. Medical students need to acquire practical skills by examining patients and hence conducting online practical classes, in the absence of patients was also the chief concern for medical teachers. This can be evident from the recent "Hippocratic Webinar" which was dedicated to sharing ideas and innovative practices from across the world in teaching clinical skills.²²

Recommendations for future disasters and pandemics

1. Regular faculty development programs can be conducted to establish effective online teaching skills among the faculty.
2. Institutions should invest in creating well-equipped, well-maintained ICT-enabled classrooms with recording facilities and well-trained technical support staff. This can allow teachers to concentrate on the development of teaching content rather than spending time learning technical aspects.
3. Suitable user friendly online programs can be created to conduct online classes, administrating and maintaining the assignments records, attendance as well as assessments.
4. The availability of a reliable internet connection with good bandwidth can help in the effective delivery of teaching material.
5. Workshops for medical students can be conducted to inculcate the seriousness of the online teaching-learning process and self-directed learning.
6. There is a need to develop more student-centered teaching modules to improve their active involvement in the teaching-learning process.
7. The thoughtful blending of a few hours of online teaching in a regular teaching plan, can sensitize the students and also foster their intrinsic learning capabilities.
8. Medical teachers should develop a positive attitude

towards the changes in technology to deliver the subject.

Limitations

The survey instrument is self-developed, mainly due to the urgent need for data collection, and the limited availability of resources during the pandemic.

As two-thirds of the respondents were from South India and were affiliated with deemed universities, these perceptions cannot be generalized.

Conclusion

Despite the challenges faced in conducting online classes as well as their struggle in handling the COVID-19 duties, medical teachers tried their level best to continue GME during the pandemic. Clinical faculty conducted the least number of practical classes. Google platform was used by most of the faculty irrespective of their university affiliation and phase. From the analysis of perceptions on various aspects of online teaching, we can conclude that online teaching is time-consuming activity and there is no assurance about students' involvement in the teaching-learning process. Most of the teachers are uncertain about the reliability of the online assessments. These perceptions are similar among the faculty affiliating with the various universities as well as the phase they teach. Though online teaching and assessment is acceptable during this crisis, most of the teachers are hoping to revert to traditional teaching-learning soon. With corroborative evidence, we conclude that with proper training and the availability of suitable infrastructure with technical support, online teaching can be suitably incorporated in GME but cannot replace face-to-face interaction.

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Conceptualization: Milind V. Bhutkar.

Data curation: Pratima M. Bhutkar.

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Competing Interests

Authors declare no conflict of interests.

Ethical Approval

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