

Challenges and Barriers of Online Teaching: Perspective of Faculty in a Private Medical College of Lahore

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Received: 16th June, 2023

Revised: 26th September, 2023

Accepted: 17th October, 2023

DOI 10.51846/jucmd.v3i1.2608



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Abstract

Objective: To identify the challenges and barriers faced during initiation of online teaching by the faculty of a private medical college of Lahore. **Methodology:** This cross-sectional study was conducted from September-December, 2021 in Fatima Memorial Hospital (FMH) College of Medicine and Dentistry, Lahore. List of faculty members was obtained from the Human Resource Department amounting to 140, a sample size of 70 was selected which was the half of total sample. A predesigned, structured questionnaire was used. Approval from IRB committee and consent was obtained. Data was collected online using Google Performa via email, analyzed using SPSS version 20 and Microsoft Excel. Percentages, proportions and means were calculated. **Results:** The respondents included 23 (32%) demonstrators, 11 (15.7%) senior demonstrators, 22 (31.4%) Assistant Professors, 7 (10%) Associate Professors and 7 (10%) Professors. Year wise distribution of faculty was as follows; 13 (18.5%) were teaching 1st year, 9 (12.8%) 2nd year, 19 (27%) 3rd year, 25 (35.7%) 4th year, and 4 (5.7%) final year MBBS respectively. Mean age in years was 39±9.8 of the enrolled faculty. Predominance of females 47 (67.1%) to males 23 (32.9%) was observed. Maintaining class decorum and controlling students' plagiarism was a major challenge for 65 participants (92.9%). Inadequate online teaching resources were recognized by 61 (87.1%) to be a challenge making it difficult to inculcate clinical skills while, 58 (82.9%) accepted effectiveness of lecture was interfered by lack of face to face interaction. Most common barrier 60 (85.7%) was connectivity issues, software failure, power issues and 57 (81.40) complained of lack of finances. **Conclusion:** Lack of face to face interaction, connectivity, software and power failure issues, in addition to finances and time management were major challenges and barriers faced during initiation of online teaching by the faculty.

Keywords: Online Teaching, Challenges and Barriers, Teaching Perceptions, Private Medical College.

Introduction

Information technology has transformed the style of living, learning, and teaching.¹ Online learning is a type of web-based learning that allows learners and facilitators to manage their learning time and subjects at their own pace by utilizing online communication, participation, education, and training.^{3,4} Technology and pedagogy are the two required components of this non-traditional method of learning.³ The benefits of online learning have led to its adoption in medical education and healthcare, where it improves knowledge, capability, and learner satisfaction. It keeps healthcare professionals up to date regarding the advancements in diagnose

and treatments and they can consult it whenever they have any queries. A report by the WHO remarked that online-learning for healthcare professionals is equally or even more productive than traditional learning environments. Mainly because of the multitude of features included.^{1,2} The concept of distance learning first came into being in the middle 19th century, with first correspondence education program in Boston, Massachusetts in 1873, University of Queensland in Australia in 1911, University of South Africa in 1946. In 1989, University of Phoenix was the first institution to launch an online education, 1996; Jones International University was the first fully web-based university.⁵ In India, it started in 1982 ⁶, UAE 2013 ⁷ and it is also being used in Philippines, Malaysia, and China.⁸ In Pakistan there are two distance education universities Allama Iqbal Open University (AIOU) established in 1974 and the Virtual University of Pakistan (VU) established in 2002.³ Majority of medical schools in Pakistan are still not familiarized with online-learning. Medical schools in Pakistan are offering blended learning, and some of the pioneers being, Centre of Biomedical Ethics and Culture (CBEC) Karachi, Riphah International University Islamabad, Dow Institute of Medical Education Karachi, and The Aga Khan University, Karachi.⁹

Online learning has many benefits such as flexibility, convenience, content choice, no geographical barriers, it also has many constraints for staff and students, including: a lack of proper interaction between teachers and students, demotivation, difficulty in understanding without direction and guidance, computer anxiety and learning about the technology. In health care, especially, it is not suitable for topics that require more personalized approach and detailed discussion.^{2,3} Faculty are confronted with three types of barriers: first-order barriers, which are external factors such as time, facilities, and administrative culture; second order barriers, which are related to the facilitator's pedagogical norms; and third-order barriers, which are related to the facilitator's ability to provide knowledge while assessing the needs of students.¹⁰ Inadequacy of online teaching experience, no compensation for time and class sizes; increased responsibilities and workload;

inability to sense visual clues from students; increased time commitment; lack of autonomy in designing online courses; lack of student participation and self-discipline, concerns about the quality of the topic, and difficulty in monitoring individual student's behaviour and responses are among the faculty's perceived challenges.¹¹⁻¹⁴

In addition, there is constant pressure from administration and high expectations of institution and students; which are found to be very overwhelming on behalf of the faculty.¹⁵ Unavailability of required software and hardware, scarcity of standards in online learning, deficiency in technical expertise, assistance, and infrastructure are found to be major barriers on behalf of the faculty.

Online teaching although was a neglected or non essential commodity previously became important rather essential in the prevailing circumstances of the COVID pandemic. Pakistan being a low-income country mainly using traditional teaching methodologies is exploring the diverse avenues of medical education. Medical colleges are familiarizing themselves with newer teaching and learning methodologies, integrated approach as well as inclusion of online teaching within their systems so as to be able to prepare their graduates at global level.

It is important to understand the challenges and barriers being faced by the faculty in delivering academics online. It would help smoothen the process and identify the gaps and problems in launching online teaching as a permanent feature in future. This study will help stimulate an on-going discussion of effective strategies that can enhance universities and faculty success in transitioning to teach online. The aim was to identify the challenges and barriers faced during initiation of online teaching by the faculty of a private medical college of Lahore.

Methodology

This cross-sectional study was conducted in the setting of FMH College of Medicine and Dentistry, Lahore within a period of three months, September to December 2021. List of faculty members was obtained from the Human Resource Department. The Institutional Review Board letter was obtained by department with IRB#FMH-09-2020-IRB-788-M. Total number of faculty members was 140, as no specific data was available for sample size determination 50% of the total sample was included in the study. The final sample size amounted to be 70 faculty members. Systematic random sampling was employed, using the formula (Total population/sample size 140/70) sampling interval of 2 was employed.

After extensive literature search, including both national and international studies, challenges and barriers were identified. A structured questionnaire comprising of sociodemographic section and questions pertaining to challenges and barriers faced by the faculty in initiating online teaching was developed and employed. Challenges were defined as situations which required efforts to be overcome, while barriers were defined as obstacles hampering progress of the task. Consents from the participants were obtained and data was collected online using Google Performa via email to the identified faculty members. Data was analyzed using SPSS version 20 and Microsoft Excel.

Percentages, proportions and means were calculated for qualitative and quantitative variables respectively.

Results

In the current study 70 faculty members of FMH College of Medicine and Dentistry were enrolled having mean age in years 39 ± 9.8 . Predominance of female participants 47 (67.1%) was observed with males being 23 (32.9%). The respondents included 23 (32%) Demonstrators, 11 (15.7%) Senior Demonstrators, 22 (31.4%) Assistant Professors, 7 (10%) Associate Professors and 7 (10%) Professors. Year wise distribution of faculty was as follows; 13 (18.5%) were teaching 1st year, 9 (12.8%) 2nd year, 19 (27%) 3rd year, 25 (35.7%) 4th year, and 4 (5.7%) final year MBBS respectively.

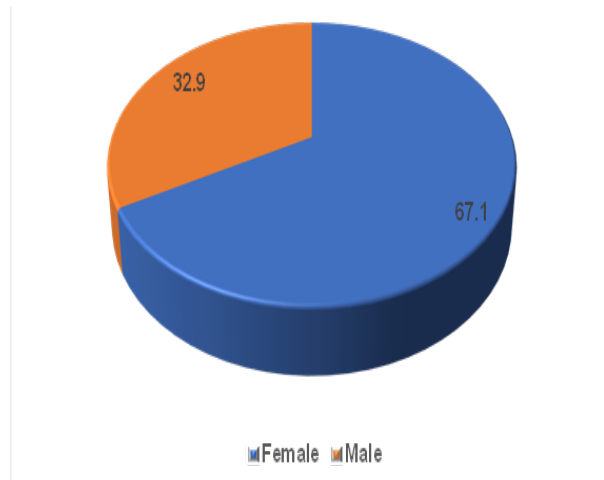


Figure 1: Gender Distribution of Faculty Members

Table 1: Challenges faced by the faculty during online teaching

Sr. No.	Challenges	Yes (%)	No (%)
1	Lack of face-to-face interaction interferes with the effectiveness of lecture	58 (82.9)	12 (17.1)
2	Grading systems in online learning are unreliable indicators of student's progress	54 (77.1)	16 (22.9)
3	It is difficult to design quizzes/assessments online	23 (32.9)	47 (67.1)
4	Maintaining of class decorum and controlling student plagiarism is a major challenge	65 (92.9)	5 (7.1)
5	Lack of teamwork between faculty members for sharing of ideas for online teaching	27 (38.6)	43 (61.4)
6	Inadequate online teaching resources makes it difficult to inculcate clinical skills in medical students	61 (87.1)	9 (12.9)
7	Faculty shows resistance in adopting online teaching as a permanent teaching method	45 (64.3)	25 (35.7)
8	Online learning systems are vulnerable to security issues like hacking	54 (77.1)	16 (22.9)
9	Class strength in online teaching affects the quality of lectures delivered	30 (42.9)	40 (57.1)
10	Faculty feels more accountable in online teaching	40 (57.1)	30 (42.9)

Table 2: Barriers encountered by faculty during online teaching

Sr.No.	Barriers	Yes(%)	No(%)
1	Faculty lacks the technical skills for online learning and require special training	47 (67.1)	23 (32.9)
2	Time management is a significant barrier in online teaching and learning	37 (52.9)	33 (47.1)
3	Connectivity issues, software failure, power issues delay classes and make it difficult to follow schedules	60 (85.7)	10 (14.3)
4	Students show a lack of willingness to study online	48 (68.6)	22 (31.4)
5	Lack of finances for purchasing a learning management system a major barrier to online learning	57 (81.4)	13 (18.6)
6	Teaching online is labor intensive and adding to the workload	47 (67.1)	23 (32.9)
7	Students evade online quizzes and assessments with irrelevant excuses	45 (64.3)	25 (35.7)
8	Faculty have autonomy in designing their online courses	46 (65.7)	24 (34.3)
9	Faculty has to be available at odd hours of the day to respond to student queries in a timely manner	49 (70)	21 (30)
10	Lack of e-learning policies by the college administration is a major barrier to teaching online	47 (67.1)	23 (32.9)

Majority of the participants amounting to 65 (92.9%) agreed that maintaining a class decorum and controlling students' plagiarism in online classes was a major challenge. In the view of 61 (87.1%) participants inadequate online teaching resources makes it difficult to inculcate clinical skills in medical students and 58 (82.9%) accepted that effectiveness of lecture is interfered by lack of face to face interaction. The barrier most of them 60 (85.7%) faced was connectivity issues, software failure, power issues which led to delay of classes making it difficult to follow the schedules. In the view of 57 (81.40) participants lack of finances and institutional support for purchasing a learning management system was also a major barrier to online learning.

Discussion

This study was conducted to identify the challenges and barriers faced during initiation of online teaching by the faculty FMH Medical and Dental College of Lahore. In the current study online teaching was introduced in the unprecedented circumstances of the pandemic. This relatively unexplored teaching methodology posed several challenges and barriers to learning and teaching both for the faculty and the students. Majority of the faculty were not in the favour of exclusive online teaching as a pedagogical tool. Most of the faculty had the perception that effectiveness of online teaching reduced the worth and purpose of lectures due to lack of face to face interaction as mentioned in literature majority of the participants preferred face to face interaction which may be attributed to the fact that e-learning did not provide a collaborative working environment.¹⁷

Literature reports that faculty finds it difficult to engage learners online and maintain class decorum,¹⁷ a challenge faced by 92.9% of the respondents of our study highlighting the importance of interactive and face to face interaction. Online assessment was considered to be a major challenge by most of the faculty; in their opinion grading systems in e-learning did not reliably indicate student progress and academic performance. Faculty was concerned that typing speed and delays in submission of assignments had a negative impact on the grades as majority students were not familiar or trained to use the technology. Supporting evidence has been observed in a study advocating the use of automated grading and feedback system.¹⁸ A study conducted in the University of Edinburgh pointed out those students had different typing speeds which inevitably impacted their attempting of assessments.¹⁹

Contrarily designing of assignments and quizzes online was the least commonly faced challenge faced by the faculty.²⁰ Plagiarism was a major issue and challenge faced as supported by literature. These findings are pertinent as they emphasize the introduction of a plagiarism check or control system.²¹ In the current study it is imperative to understand that students maybe unaware of plagiarism, its implications and detection soft wares owing to the fact that online teaching was a new experience for them altogether.

Literature contradicted the fact that class strength was a factor affecting quality of teaching.²² Majority of the faculty in our study felt more accountable when using digital education, probably due to the fact that study material is available online and accessible to a larger audience thus increasing the vulnerability to criticism. In the current study even after being introduced to the online teaching the faculty was not in favour of adopting online teaching as a permanent teaching tool the main barrier being technological reasons like security issues of hacking and viruses in university computers, as revealed and supported by literature that classroom and face to face interaction was the preferred method.¹⁸

Inadequacy of online teaching resources to inculcate clinical skills in medical students proved to be a valid challenge in our study. A similar challenge in another study yielded mostly results of disagreement stressing that technology was not appropriate for courses involving entities.¹¹ Time management was considered a significant barrier among the faculty 52.9% in our study as opposed to previous studies where only 35% of those surveyed found it difficult to manage time with e-learning.²⁶ This could be the result of a lack of previous experience with e-learning among our respondents as it remains a relatively unexplored pedagogical tool as well as lack of technical training. Inadequate technical skills for operating a learning management system remains an important barrier to e-learning, both in previous studies as well as our research where more than half of the faculty struggled using a learning management system.¹⁷ Training is an essential tool especially for the usage of technological gadgets a barrier faced by most of the faculty. In addition, internet connectivity and low bandwidth at the institution as well as the residences of both faculty and students was a significant barrier. These results are supported by a study conducted by

Farooq highlighting the fact that connectivity issues created hurdles especially during streaming, downloading and attending of online lectures.¹⁸ Majority of faculty believed that students did not actively participate online a discouraging and non reassuring response for faculty.²³ A large number 81.4% of respondents in the current study emphasized upon the financial constraints as a challenge to e-learning compared to 40% of the respondents of a previous study who remained neutral regarding the adequacy of the university's spending in e-learning.¹⁷ Online learning proved to be labour intensive as corroborated in similar studies which stated that technology did not reduce an instructor's workload.^{24,25}

Absence in online assessments and quizzes by students has not been reported by researches conducted in the past¹⁸ but in our study, responses confirmed this to be a major challenge with digital learning which maybe attributed to the fact that it was a new exposure and experience for the students and faculty as well as lack of personal interaction between students and teachers. As regards the availability of instructors at odd hours of the day to respond to students queries online, a study conducted in Pakistan about the barriers in adopting blended learning are in accordance with our results as more than half of the study respondents believed that they are expected to be available 24/7 in technology-enhanced courses.²⁶ Majority of the senior faculty members were of the opinion that online teaching is labour intensive adding to their workload. This was major challenge for the senior clinical faculty as they are expected to take out time from their clinical practice for teaching adding to their daily workload.¹⁰ A large number of respondents agreed that lack of e-learning policies by college administration was one of the barriers to online teaching reducing its efficacy supported by a research stating that policies need to be conducive for adoption of technology.¹⁰ Blended learning requires faculty to deal with logistics and administration issues which may hamper their intellectual engagement with the content of the course thus the administration should introduce comprehensive policies to make e-learning fruitful. Online and blended learning are the need of the hour especially in the current circumstances for which institutions need to take appropriate measures.

Conclusion

Major challenges identified were lack of face to face interaction leading to reduced effectiveness of the lecture, maintenance of class decorum and plagiarism. Online teaching was not appropriate for clinical skills as well as the grading system were considered an unreliable indicator of student progress. Barriers faced were connectivity, software and power failure issues resulting in delay of classes in addition to lack of technical skills on part of both students and faculty. Finances and time management were a major concern too. It is recommended that blended learning be promoted with use of both face to face and online teaching methodologies. Trainings regarding online management systems of both students and faculty be organized. Institutions should support E-learning by adopting the latest learning management and other supporting soft wares available. Majority of the faculty was using traditional teaching methods for many years, for them online was a new and difficult tool hence

they may have been participant bias. As the data collection was initiated during the COVID outbreak probability sampling could not be employed. Study was conducted in one medical college thus the results cannot be generalized.

Limitations of Study: As the data collection was initiated during the COVID outbreak probability sampling could not be employed. Study was conducted in one medical college thus the results cannot be generalized.

Authors' Contributions: NO Concept, Questionnaire development, methodology, data analysis and interpretation, overall supervision. IA questionnaire development, data analysis and discussion. SM introduction and methodology. RB Data analysis and results. UN discussion and references. MS data analysis and results.

Conflict of Interest: The authors show no conflict on interest.

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