

ORIGINAL ARTICLE

ONLINE TEACHING: READINESS AND WILLINGNESS AMONG 1ST AND 2ND YEAR MBBS STUDENTS DURING COVID-19 PANDEMIC —EFFECTS ON PROFESSIONAL EXAMINATION RESULTS**Faizania Shabbir, Sabahat Fatima*, Ambreen Liaqat**, Tanvir Ahmed Raja*****

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Background: Online education despite various challenges emerged as the best possible solution to prevent academic loss during COVID-19 pandemic. This study evaluated online teaching for students' readiness and willingness and its impact on overall performance during COVID-19. **Methods:** A cross-sectional study was conducted at Gujranwala Medical College, Gujranwala in May-Jul 2020. All students of first and second year MBBS at Gujranwala Medical College were given a voluntary opportunity to fill an online questionnaire regarding their readiness and willing to start online teaching. One hundred and fifty-one (151) students filled and returned the questionnaire. It included basic demographics and questions related to access, knowledge, willingness and problems regarding online teaching. **Results:** Less than 50% (49.4%) of students were willing to start online teaching; 91.8% students had readily available internet facility at their homes, and 8.2% students were deficient in this facility. Most students (50.6%) had broadband as their internet source. Personal smart phone was the most common (67.1%) gadget available with students likely to be used to take online classes; 73.4% students were aware of some media used for online teaching, whereas 26.6% were not familiar with any one of them. The results of professional examination conducted during pandemic were comparable to subsequent years. **Conclusion:** In spite of partial willingness of students and limited resources, the learning objectives could be achieved well through online teaching which is evident from examination results. Online teaching is a suitable option during any unpredictable and untoward circumstances.

Keywords: COVID-19, Online teaching, Readiness, WillingnessPak J Physiol 2025;21(2):56–9, DOI: <https://doi.org/10.69656/pjp.v21i2.1780>**INTRODUCTION**

The first suspected case of COVID-19 was reported to World Health Organization (WHO) from Wuhan City of People's Republic of China in the last month of 2019.¹ Initially no one could imagine that this newly discovered virus could result in a life-threatening pandemic that would disrupt all daily life affairs and social distancing would become indispensable.² At the end of January 2020, COVID-19 was labelled as Public Health Emergency by WHO and was declared pandemic on 11 March 2020.³ Pakistan reported its first case of COVID-19 in February 2020, almost two months after it emerged in China. This disease was contracted by a traveller coming from Iran.⁴

This pandemic evoked as a challenge for the whole world. Among the various challenges of health, business and economy, one of the major challenges was the continuance of teaching and learning. To limit disease spread, gathering had to be avoided and classroom teaching was unachievable in this scenario. The possible solution to continue teaching outside classroom was to bring in online teaching.⁵

It was not an easy task and all countries did not possess adequate resources to deal with this unexpected situation. This disease was highly infectious with a striking mortality rate and each country dealt this

situation in its own way.⁶ This necessitated evolution of a mechanism in which the disease dissemination could be limited and educational deprivation could be minimized. The valuable time of students had to be employed in a beneficial way.⁷

The modern technology evolved as a game changer during this condition in various ways. It provided an opportunity to convert classroom teaching to remote teaching which could also be applied in future for convenient learning.⁸ However, this is not as simple as it seems to be. To be efficacious it needs knowledge, resources and willingness to adapt this mode of teaching. Many difficulties can be encountered while using this methodology that includes administrative issues, technical in expertise, lack of motivation and financial constraints.⁹ For smooth running of online classes, internet and gadget should be available and the user should have knowledge how to use it. Adequate space should be available to user for undistracted learning. The internet connection should be efficient to avoid any audio-visual disparity, voice lagging and interrupted streaming of videos.¹⁰ The primary focus of medical education is found to be optimization of online education for high income countries. Low and middle-income countries however remain underprivileged due to limited resources, connectivity and electricity

outrages, lack of experience and institutional difficulties.¹¹ Comparison of higher education across various countries during early COVID-19 pandemic revealed that developed countries smoothly shifted to online teaching, whereas developing countries closed educational institute for a certain period of time.¹² In Pakistan also, the measure taken in educational sector was closure of schools, colleges and universities to create social distancing. This was done in mid of March 2020.¹³ This unexpected situation created anxiety and unrest in students of all disciplines. Medical students were also worried and concerned about continuity of their academic session.

This study evaluated online teaching for readiness and willingness of 1st and 2nd Year MBBS students at Gujranwala Medical College, and its impact on their overall performance in university examinations during COVID-19.

METHODOLOGY

This was a questionnaire-based study conducted during May–Jul 2020 among first and second year medical students at Gujranwala Medical College, Gujranwala. The study started after approval from Institutional Review Board vide No. Admin.373/GMC.

Total population sampling was done by enrolling all students of first and second year MBBS in the study who were asked to fill the electronic Google form-based questionnaire on voluntary basis. All questions were mandatory and responses were obtained with the student’s consent. A structured, pre-designed questionnaire was used to assess students’ readiness and willingness for online teaching. The questionnaire included sections on demographics, internet accessibility, device availability, and familiarity with online teaching platforms.

The questionnaire was divided into two parts. In the first part, participants’ basic demographic data, such as gender, age, residing city, level of medical education etc. was asked and in the second part questions related to their access, knowledge and problems regarding online teaching programme were asked. Their willingness to start online classes was also asked.

The data was analysed using SPSS-21. Frequencies of qualitative variables were expressed as percentages. Correlation of various factors with willingness to take online classes was computed using Pearson’s test and $p \leq 0.05$ was considered statistically significant. Pearson’s correlation test was applied to assess the relationship between different factors and willingness to start online teaching.

RESULTS

The majority (91.8%) of students in our study had internet access whereas only a small portion (8.2%) of students was lacking this facility. The internet sources

were broadband (50.6%), mobile 4G (37.3%), and fibre/cable (7%). The majority (67.1%) of students had personal smartphones, followed by laptop (31%), desktops (1.3%), and/or tablets (0.6%) for the online learning activities. (Table-1).

Out of 158 students, 42 students (26.6%) had never heard/were unaware of different media used for online teaching, 94 (59.5%) students had heard about Zoom, 14 (8.9%) students had heard about Google Classroom and 5 (3.2%) students had heard about Google Meet. The students were least familiar with Microsoft Teams. Only 3 (1.9%) students had heard about this medium. Approximately half (49.4%) of the students were willing to start online teaching, whereas 50.6% of the students were not willing to start online learning. (Table-2).

Pearson’s correlation values show that none of the correlations between various factors required for online classes and willingness for online teaching were significant ($p > 0.05$). Positive and negative signs represent positive and negative correlation respectively. (Table-3).

The results of University/Professional examinations conducted after online teaching during the pandemic were comparable, rather better, to those in subsequent years. The pass percentage of 1st year MBBS was 96% in 2020 and it was 92% in 2022. The pass percentage of 2nd year MBBS was 92% in 2020 and it was 85% in 2022. (Table-4).

Table-1: Frequency and percentage of availability of technological resources

Resources	Responses	Frequency	Percentage
Internet access	Yes	150	94.9
	No	8	5.1
Internet type	No internet	8	5.1
	Broadband	80	50.6
	Fiber	11	7.0
	Mobile 4G/LTE	59	37.3
Device type	Desktop	2	1.3
	Laptop	49	31.0
	Tablet	1	0.6
	Smartphone	106	67.1

Table-2: Tool awareness and willingness of students

Student knowledge and attitudes	Responses	Frequency	Percentage
Tool Awareness	No awareness	42	26.6
	Zoom	94	59.5
	Google Classroom	14	8.9
	Google Meet	5	3.2
	Microsoft Teams	3	1.9
Willingness	Yes	78	49.4
	No	80	50.6

Table-3: Correlation of various factors with the willingness to start online teaching program

Factors	Pearson correlation R	p
Internet access	0.065	0.415
Internet type	0.028	0.724
Device type	-0.108	0.178
Tools awareness	0.086	0.285

Table-4: Professional examination results of 1st and 2nd Year MBBS during COVID-19 pandemic (2020) and 2 years later (2022)

Examination	1 st Year MBBS					2 nd Year MBBS				
	Total	Pass %	Subject-wise Failures (%)			Total	Pass %	Subject-wise Failures (%)		
			Anatomy	Physiology	Biochemistry			Anatomy	Physiology	Biochemistry
2020	109	96	4	1	1	103	98	2	0	0
2022	125	92	8	6	6	117	85	12	7	5

DISCUSSION

This study was conducted at the time when all educational institutions across the country were closed to deal with the challenging situation of COVID-19. It was the time that required innovative thinking regarding learning mandatory techniques and expertise to cope up with accessible means of online education. However, it was also the same time that students were frustrated, anxious and distressed about their academics. The present study was conducted among students of first two years of Gujranwala Medical College, Gujranwala. The study aimed at evaluating the basic resources available to these students and their willingness to start online teaching. Inadequate skills for using electronic devices with superadded drawback of restricted internet access and other resources due to financial and social constraints create hindrance in web-based learning.¹⁴

Research on willingness of students for online education has shown variable results across the globe. The basic factors that determine willingness were found to be level of knowledge and availability of resources. In a study by Alsoufi *et al*¹⁵, 90% of students were highly efficient and familiar with technology but their high reluctance (78.3%) to shift to online mode of teaching was due to civil war and financial catastrophe in country. Medical students from various medical schools of Egypt were assessed for their attitudes towards online education; 51% students were in favour of face to face teaching as compared to online teaching. Technological familiarity was not an issue but poor internet connectivity was a major hindrance in those students.¹⁶ Qazi A *et al*¹⁷ conducted a comparison study between underdeveloped and developed countries in coping with pandemic regarding education and found that in Pakistan people were less to moderately satisfied with online resources and had financial limitations.

In our study 67.1% students had smartphones and 31% had laptops and no significant correlation was found between type of device and willingness for online teaching. Results of the study conducted by Al-Araibi *et al*¹⁸ manifested a positive correlation between hardware accessibility and readiness for online learning. Their study recommended that better standard of resources enhances the willingness for online teaching.¹⁸ In our study, 26.6% of students had no awareness about online teaching tools, 59.5% had heard about Zoom, 8.9% had heard about Google Classroom, 3.2% had heard about Google Meet and only 1.9% had heard about Microsoft Teams. The level

of awareness was generally low among the students. The results of our study are consistent with the results of Carvalho *et al*¹⁹ where public sector university students were found deficient in knowledge about e-learning due to scarcity of resources.

Willingness for online education in medical students in India has disclosed variable results. The study conducted by Sud R *et al*²⁰ in undergraduate medical students showed that majority of students were cognizant of various features of e-learning. These students had a previous exposure to online learning resources even before the pandemic, so they were comfortable using this medium. In an extensive study conducted by Singh *et al*¹⁰ among students of 200 medical and nursing colleges across India, only 45% of students were in favour of online teaching to save their time during pandemic. This was due to lack of preparedness for this unexpected situation in all fields especially education sector.

In Pakistan also, the willingness of students did not show the same pattern across the country. The results of the study conducted by Anwar *et al*²¹ among 283 medicine and dentistry students at a private medical institution were quite different from our study, where majority of students were ready for online education. This may be attributed to their strong socioeconomic background with easy access to online resources and a better technical knowledge.

The results of a study conducted by Abbasi S *et al*²² in a private medical college of Pakistan showed lack of readiness for online learning among medical and dental student. Seventy-seven percent students had a negative attitude toward e-learning. Despite technological advancement and easy access, students still preferred face-to-face teaching over online teaching as they were used to classroom teaching and felt comfortable in that environment.

The better result of professional exam during COVID-19 pandemic can be attributed to students focus on study realizing unpredictable circumstances and thier responsibility of self-study as well as lenient behaviour of examiners during marking of theory and practical exams being compassionate with students.

The results of present study were utilized in proposing, devising, and carrying out such e-learning sessions that could enhance student and faculty satisfaction and improve quality of learning. Improved IT support and training of students and faculty were suggested to college administration for a better outcome.

STRENGTH OF THE STUDY

The study provides valuable insights into the readiness and willingness of medical students for online education during an unprecedented situation. It captures a complete sample of first and second-year students at an institution. Study assessed the relationship between various factors and willingness for online learning.

WEAKNESSES OF THE STUDY

The study is limited to a single medical college, making it difficult to generalize findings to other institutions. The self-reported nature of the questionnaire may introduce response bias. Study does not explore long-term adaptation and effectiveness of online teaching beyond students' initial willingness.

CONCLUSION

In spite of partial willingness of students and limited resources, the learning objectives could be achieved well through online teaching which is evident from results of University/Professional examinations. Online teaching is a suitable option during any unpredictable and untoward circumstances. The study highlights significant gaps in technological resources and awareness among students regarding online teaching. Addressing these gaps through improved training, institutional support, and enhanced digital infrastructure is crucial to ensure the successful integration of online education.

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