

## ORIGINAL ARTICLE

# Challenges to Online Medical Education during the Covid-19 Pandemic in Medical Colleges of Pakistan

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## ABSTRACT

**Background** The Covid-19 pandemic have forced the education sector of every country to adopt a relatively unconventional method of teaching i.e., Online Education. However, it faces many challenges of its own.

**Aim:** To discuss the challenges to online medical education during the Covid-19 pandemic in medical colleges of Lahore, Pakistan.

**Methods:** A cross-sectional type of quantitative study using a self-administered online questionnaire using Google Forms® was administered to 508 students from all the medical colleges of Pakistan.

**Results:** Majority of subjects preferred face-to-face learning (70.9%) before Covid-19 pandemic and had beginner level online exposure (60.6%). Overall, 85.8% of participants found the impact of shifting to online learning as negative. A variety of challenges were faced by the students with decreased attention span being most common followed by strain on mental health, problem in communication and taking exams.

**Conclusion:** Covid-19 related lockdown led to new culture of education. Medical students had difficulty adapting to this but a fraction of student wanted to use and discover online learning more.

**Key words:** Covid 19, Online Medical Education, Challenges

## INTRODUCTION

The end of 2019 marked the emergence of a lethal virus in the city of Wuhan; capital of China's Hubei province, called the Corona Virus. The virus spread like wild fire from Wuhan across the globe which led the WHO to calling the corona virus spread The Covid-19 pandemic in March 2020<sup>1</sup>. The corona virus pandemic led to devastating impacts on the life of millions of people around the world with the death toll mounting to approximately 2.99 million and a total of 139 million cases reported by 16<sup>th</sup> April 2021<sup>2</sup>. To cope with the covid 19 crisis, lockdowns were imposed in most of the countries around the world with the closure of gyms, shopping centers and even educational institutions etc. and strict restriction on large gatherings<sup>3</sup>. A new age where the phenomena of "social distancing" became a normal and essential part of life<sup>4</sup>.

The covid 19 pandemic not only landed devastating effects on the health and economic sector of each country but also caused major damage to the education sector of many countries around the world due to closure of schools, colleges and universities<sup>2</sup>.

Pakistan being a 3<sup>rd</sup> world Country also had to face the disastrous effects of the covid 19 pandemic with much destabilization in all sectors of the country. Hence keeping in mind, the state of things, the educational institutions of Pakistan, like most of the countries entangled in the pandemic decided to shift to a safer option of education called E-Learning or Online education<sup>1</sup>. E-learning, though a new art, was still in use in some of the prestigious institutions around the world<sup>5</sup>. However, since traditional face to face teaching was still the main method of Education, especially in 3<sup>rd</sup> world countries such as Pakistan, both teachers and students were compelled by the conditions to adopt E learning<sup>6</sup>. Different methods were used to apply E-Learning. Many educational institutions sought platforms such as Zoom and Google Class room for live teaching, along with other platforms like Edmodo etc. for online teaching. Many undergraduate institutions created online portals on which important assignments, quizzes and recorded lectures were sent to the students<sup>7</sup>. Even exams would be conducted using the google docs word processor.

The medical colleges of Pakistan also faced closure due to the ongoing pandemic and hence had to shift to E learning. This transition with it brought a series of challenges ranging from

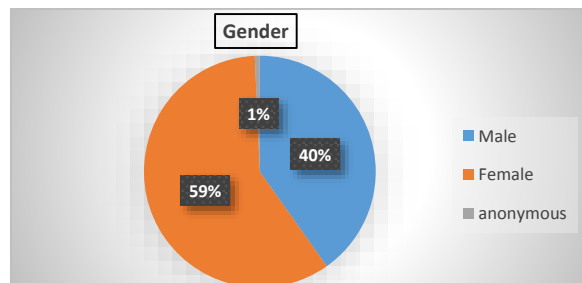
inexperience of both teachers and students in this new method of learning to ensuring clear teaching of concepts to students<sup>8,9</sup>. Furthermore E learning brought a new challenge of creating a suitable atmosphere for learning that was built with face-to-face interactions<sup>9</sup>. However advantages also cannot be denied which included both reduction in time expenditure and cost of travelling, in addition students could mold their own schedule listening to lectures at the time of their choosing<sup>10</sup>.

Hence, we wanted to gather the opinion of other medical students regarding the challenges they faced as well. In addition to this our research may also be able to provide important information to the ongoing researches regarding this topic and may help improve the teaching methods amidst covid 19 pandemic.

## MATERIALS AND METHODOLOGY

A cross-sectional type of quantitative study was conducted on the students of medical colleges in Pakistan from October to mid-December, 2020 following the approval from the Ethical Review Committee. A sample size of 508 participants was used, which was calculated using Rao Soft using the formulae  $Z^2 p(1-p)/m^2$  and a confidence level of 95%. A self-administered online questionnaire using Google Forms® was forwarded to the subjects via different social media platforms. Students from all five years of MBBS irrespective of their gender were included. An introductory paragraph briefed the participants about our study's aim and confidentiality policy.

## RESULTS

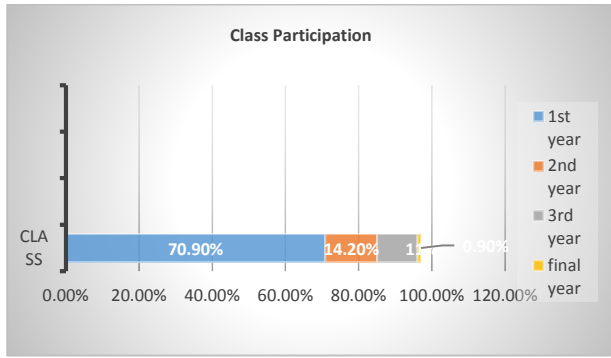


Medical students of 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, and final year were included in this research. 59.1% respondents were female and 40.2% were male. Majority of the medical students who

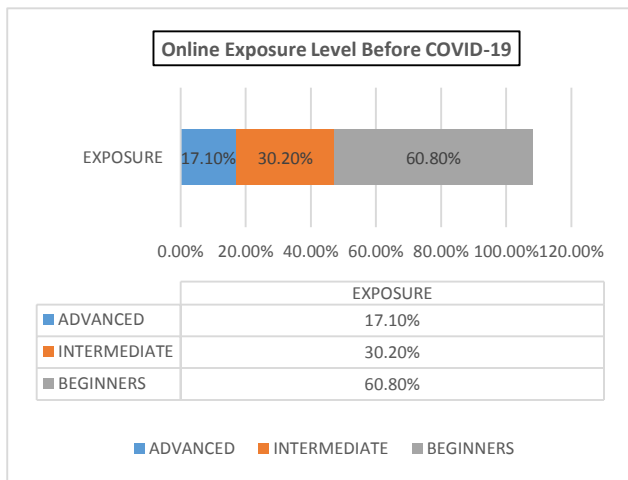
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participated were from 1<sup>st</sup> year and a small number of students participated from final year.

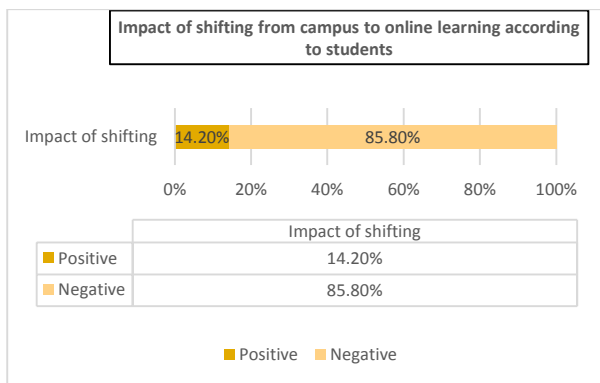


In response to question of how much exposure there was to online learning before COVID-19, the response was that majority of students (60.8%) just had a beginner's level online exposure, 30.2% had intermediate level and 17.1% had advanced level exposure to online learning before COVID crisis.

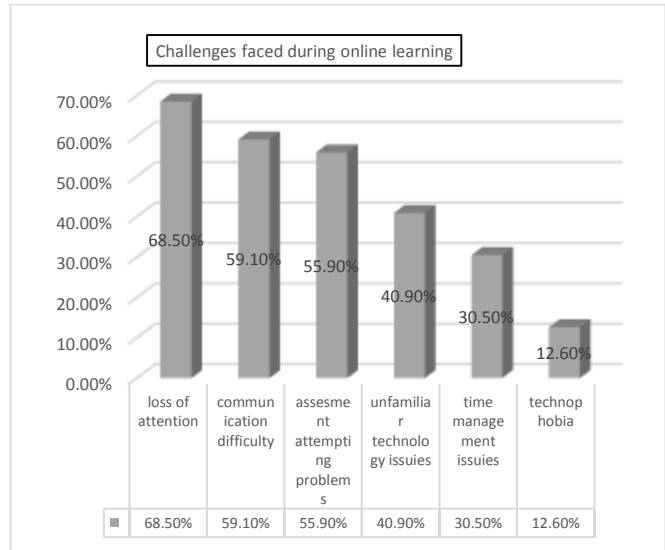


When students were asked about their preference of learning method, majority that is 70.1% students preferred face to face campus learning, 25.2% preferred both in person and online learning and a few numbers of students only 4.7% preferred online learning as a way of learning method.

A very important question about impact of shifting from campus to online learning was asked from students, the student's response was so alarming that 85.8% students considered online learning as a negative impact on education whereas only 14.2% think that online learning have positive impact.



Students were then asked about the challenges faced during remote learning, out of many causes 68.5% had a problem with attention span, 59.1% felt difficulties while communicating during online learning, 55.9% students faced problems while completing their assignments, 40.9% think that mental issues like stress and anxiety during adapting to unfamiliar technology had a lot of impact while 30.5% had time management issues and 12.6% had technophobia that is fear of dealing with computers, apps and other technologies.



## DISCUSSION

We are going through an unprecedented academic globally due to COVID-19 pandemic. COVID-19 outbreak led to closure of universities and colleges worldwide resulting in mandatory switch to online education from the conventional face-to-face interactive learning. Many students may find this rapid transition distracting and frustrating as it disrupted medic Keeping in mind previous experiences, experts have estimated that it might take 5-10 years to bounce back from this pandemic<sup>11</sup>.

We conducted our study to get first hand response of medical students regarding the challenges they face in online medical education during this health crisis as medical students want to be a part of the decision-making process relating to issues that may impact their education<sup>12</sup>.

Total of 508 MBBS students from medical colleges all over Pakistan participated in this study. MBBS stands for Bachelor of Medicine, Bachelor of Surgery, an international medical degree equivalent to Doctor of Medicine (MD) in the United States' system. Age range of the participants in our research was from 18 years to 23 years including students from all five years of MBBS.

According to our results, before COVID-19 pandemic, a majority 70.9% of medical students preferred face-to-face instructions along with 60.6% having only beginner level of e-learning exposure in Pakistan. This shows despite technological advancement worldwide, a good majority of medical students is still relying on traditional methods of acquiring education<sup>13</sup>. A promising percentage of 25.2% students, however, opted for blended learning which indicates progress of technological advancement and e-learning in Pakistan. Blended or hybrid learning refers to the systematic integration of online and face-to-face engagement to support and enhance meaningful interaction between students, teachers and resources. <sup>[14]</sup> Hybrid learning is becoming more accepted in our education system as it combines "the best of both worlds".<sup>[15]</sup> In contrast, a similar study conducted by Rajab H. et al. in Riyadh, Saudi Arabia marked blended learning as the most popular method of learning prior to COVID-19 outbreak<sup>16</sup>.

In the present study, the primary challenge to online education as reported by the respondents was related to decreased attention span. In a previous study by Guo J et al, the engagement time in viewing video lectures was six minutes at most.<sup>[17]</sup> Studying online at home was a new experience for majority of medical students at home, following lockdown due to COVID-19 crisis. The unavailability of proper learning environment supplemented by the fact that clinical education that is an integral part of medical education cannot be replicated in classroom<sup>18</sup>.

Another very alarming challenge faced by medical students in our study was increasing toll on their mental health due to abrupt transition to online learning following COVID-19 crisis. The reasons included generalized depression in medical students, academic boards not delaying final professional exams and lack of confidence to be a competent doctor in future due to decreased clinical exposure. Similar results were seen in a study by Dharhi A et al<sup>19</sup>.

One of the expected yet extremely troublesome hindrance faced by medical students in Pakistan according to our study results was difficulty in communication and giving assessment tests online. Pakistan is a developing nation lacking digital resources and latest technology along with insufficient access and availability of internet affected medical students' capacity to acquire proper online education, coming forward as a major problem. It was further augmented by socioeconomic diversity in our country<sup>20</sup>.

Time management issues were also experienced by the participants in the present study. Prerecorded lectures were provided by many institutes that lead to procrastination by medical students.<sup>[21]</sup> This challenge was, however, overcome to a great extent by making it mandatory to watch online lectures for the sake of attendance and internal assessment.

The least reported obstacle to online medical education in our study was technophobia, fear or dislike of advanced technology or complex devices especially computers. It was a minor problem because most youth nowadays is social media savvy and well acquainted with computers, laptops and mobile phones. As for the impact of shifting to online education from traditional face-to-face interactive sessions, 85.8% of participants in the present study were unsatisfied. This shows that online learning is not a suitable mode of education in Pakistan in the long run until proper technological arrangements are made<sup>23</sup>.

Lastly, when medical students were asked "are you willing to integrate online experience garnered during COVID-19 pandemic-imposed lockdown into your clinical practice?", 42.5% disagreed although a promising percentage of 32.3% responded as an affirmative. This shines light on determination of medical students to adapt to the new way of education amidst COVID-19 pandemic, however, integrating online experience into clinical practice demands adequate faculty professional development<sup>11</sup>. Blended mode of education is the most feasible option available to train medical students as medicine cannot be studied by relying entirely on online learning where as traditional face-to-face learning is not a safe option during COVID-19 crisis.

## CONCLUSION

It is concluded that medical undergraduate students of both private and public sector of Pakistan are not content with online education due to different hurdles and are more comfortable with the orthodox face to face teaching. However, more research is required in this field to determine main hurdles faced by medical students and to judge the willingness of medical students to integrate online learning in their clinical practice. Teaching experience in using online tools for E learning also needs to be evaluated.

**Conflict of interest:** Nil

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