

Psychological Effects of Lockdown and Online Teaching on Medical Students in Covid Pandemic

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Abstract

The Covid Pandemic started without any warnings and Teaching Institutes closed down suddenly without any preparations. No one from our present generation had an experience of what a Lockdown means and all the students had to go home. The Institute was concerned as to how long this Lockdown will continue hence they wanted to start continue Medical education in some form or the other, Online classes looked the best alternative for the institutes and they quickly started them overcoming limitations as they were encountered.

The present study was conducted in order to assess Psychological impact of Lockdown and Online teaching in Medical Undergraduates in Mayo Institute of Medical Sciences, Barabanki; it was designed as a cross-sectional questionnaire based study. Only the Undergraduate students in Mayo Institute of Medical Sciences, Barabanki were taken up in the study. About 331 students participated in the study and the study was carried out in the span from 06th May 2021 to 20th May 2021. It was conducted through an online semi-structured questionnaire through Google form.

The study revealed some important, psychological, social, mental impacts of lockdown and Online teaching including how online teaching has affected their medical education and future prospects has been elaborated in the study.

Keywords: Psychological Effects; Online Teaching; Medical Students; Covid Pandemic

Introduction

A pandemic is defined as "an epidemic occurring worldwide, or over a very wide area, crossing international boundaries and usually affecting a large number of people. COVID-19 has become one such currently going pandemic. It has taken a toll on the health infrastructure of many great cities owing to the new variants and lack of Covid appropriate behavior [1].

Since education has been badly affected by the disease with majority of classes now in Online mode – a mode that was not heard before by the students which has caused a tremendous level of stress among the students.

This stress has attributed to an unfavorable effects on the learning and psychological health of students [2].

Since medical education demands direct patient interaction and online mode of education does not provide that this pandemic may have a serious impact on the careers of medical students. Besides this these students may also face challenges of the global recession caused by the COVID-19 crisis [3] effecting their placements after education.

As suggested by Grubic, N. [4], the world must act to take timely action to manage students mental health with immediate interventions.

According to the United Nations Educational, Scientific, and Cultural Organization (UNESCO), the pandemic has affected the learning of more than one billion students in 129 countries around the world [2].

Although online mode of the teaching is the best available alternative at present but sudden drift from normal education has caused a lot of anxiety among the students.

The overall impact on education and mental health of the university environment is still unknown, it is expected to be very considerable (Araújo., *et al.* 2020; Sahu, 2020).

Due to vast course and extensive working hours the psychological stress is already quite significant and to add to this the pandemic is creating more stress, it can be expected that the current situation may cause a notable impact on this population (Auerbach., *et al.* 2016; Bruffaerts., *et al.* 2018).

Studies on the effect of COVID-19 and lockdowns on college students in China reported significant adverse effects on the students' psychological well-being and high levels of anxiety [5].

Methods

Study design

The study was conducted with the aim to assess Psychological impact of Lockdown and Online teaching in Medical Undergraduates in Mayo Institute of Medical Sciences, Barabanki; a tertiary care hospital. The present study was designed as a cross-sectional questionnaire based study.

Study groups

The Undergraduates in Mayo Institute of Medical Sciences, Barabanki.

Sample size

In this study the sample size of 331 participants was estimated by the standard formula used for the sample size calculation of cross-sectional studies.

Inclusion and exclusion criterion

Only Undergraduates students in Mayo Institute of Medical Sciences, Barabanki were included in the study. Those students who have passed their MBBS examination before Lockdown were not included in the study.

Study duration

The study was carried out in the span from 06th May 2021 to 20th May 2021.

Study site

The online study was conducted using the Google forms in association with the department of Medical education, Mayo Institute of Medical Sciences, Barabanki.

Study tool

An online semi-structured questionnaire was developed, with a consent form attached to it. The link of the questionnaire was sent through e-mails, Whatsapp, and other social media to the students. After accepting to take the survey, they filled up their details and responded to the questions.

The study questionnaire has questions for both Psychological impact of Lockdown as well as Effect of Online teaching in learning process.

Data scoring

The data from all the Google forms gets automatically pooled in the MS Excel sheet which was later analyzed on the basis of Depression, Anxiety and Stress Scale - 21. Items (DASS-21).

- The depression scale assesses dysphoria, devaluation of life, lack of interest/involvement.

- The anxiety scale assesses autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect and the
- Stress scale is sensitive to levels of chronic nonspecific arousal.

Statistical analysis

The analysis was carried out with the help of MS Excel 2010. And chi square test was used to draw meaningful conclusion.

Observations

Gender (n = 331)		Responses From Various MBBS Batches			
Males 55.3%	Females 44.7%	MBBS 1 st Year 18.7%	MBBS 2 nd year 23%	MBBS 3 rd Year Part 1 8.5%	MBBS 3 rd Year Part 2 8.5%
Where did you spend your Lockdown		Do you think Lockdown is a necessary measure to prevent the spread of Corona Virus			
At Home = 97%		Not at Home = 3%		Yes = 90.9%	
				No = 9.1%	
Which of the following Sectors does your family operates from		Does your family experience economical stress due to lockdown			
Private Sector = 52.9%		Public Sector = 47.1%		Yes = 62.8%	
				No = 37.2%	

Table 1: General factors.

In the overall respondents 55.3% were males whereas 44.7% were females(table1), Maximum responses were received from the MBBS 1st Year (49.8%), followed by MBBS 3rd Year Part 1(23%), MBBS 2nd year (18.7%), and MBBS 3rd Year Part 2 (8.5%). Most of the students (97%) were at home during the lockdown where as only 3% were not at home during Lockdown. Majority of the

students (90.9) felt that Lockdown is a necessary measure to prevent the spread of Corona Virus. (Table 1). Since majority of the families (52.9) from which students come from are from the Private sector hence they face a financial crisis (62%) during lockdown. Only 37.7% families for the students did not face a financial crisis during lockdown.

Did Covid 19 affect our Mental, Physical, and Social well being and personal mood?		Covid 19 effected our intellectual well being and ability to learn	
Agree	44.7%	Agree	42.3%
Strongly agree	29.3%	Strongly agree	22.1%
Neutral	18.4%	Neutral	25.7%
Do you find it easy to talk about mental status/exhaustion		What are the possible reasons for your mental status	
Yes	51.4%	Change in lifestyle	31.7%
No	48.6%	Reduced Social interactions	25.1%
How often do you feel anxiety and Depression		Reasons not known	17.8%
Sometimes	40.5%	Decreased Physical activity	15.7%
Rarely	22.1%	Changes in sleep pattern	9.7%
Often	19.9%		
Never	12.1%		
Did the Pandemic and Lockdown effect your Career plans and future interests			
Yes	48.3%	It has made us more aware of Public health	13.3%
Not effected	26.6%	See this as an opportunity in Career planning	11.8%

Table 2: Personal factors.

Majority (74%) students agree that Lockdown has affected their Mental, Physical, and Social well being and personal mood. About 18% students remained neutral to the question. The Lockdown Also affected the intellectual well being and ability to learn of 64.4% of students. About 25.7% students remained neutral to the question. 51.4% students find it easy to talk about their mental status/exhaustion where as 48.6% find it difficult to do so. Students find various reasons for the change in their mental well being most significant being Change in life style (31.7%), Reduced Social interactions (25.1%), Reasons not known (17.8%), Decreased Physical activity (15.7%), and Changes in sleep pattern (9.7%). Majority (48.3%) feel that Pandemic and Lockdown affect your Career plans and future interests, 26.6% students feel that it has made no difference and 11.8% see this as an opportunity in Career planning. A lot of variations were observed in the mood and behavior of these students; 9 figure 1) 35% feel stressed, 20.8% depressed, 24.5 anxious, 26% feel isolated, but 27.5% students were not affected by the lockdown and were able to sustain their anxiety and behavior. Majority of the students effected by the lockdown adopted various methods to improve their mental status, Some discussed their problem with their family member (33.5%), 28% started doing exercises to solve their mood issues and depression, 14% started recreational activities, although 24% found the problem not severe enough to do anything (Figure 2).

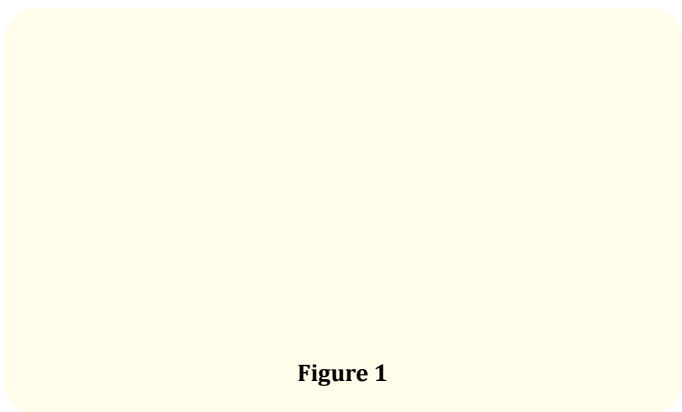


Figure 1

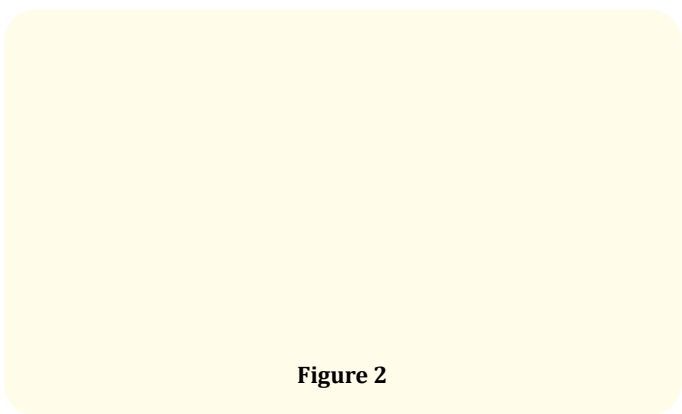


Figure 2

Did your Institution shut down regular and Clinical posting classes		Did the Clinical teaching suffer during pandemic		Do you think Instructions were prepared for Online teaching	
Yes	72.5%	Yes	87.3%	Yes	47.4%
No	27.5%	No	12.7%	No	52.6%
Do you feel any of the following after college shutting down				Does closing of Institution effected your examination preparation	
Bored and nervous	57.7%	Nothing has changed	15.7%	Yes	82.5%
Feel annoyed	14.8%	Relaxed and Calm	11.8%	No	17.5%
Do you think e-learning is a possible substitute for standard medical education				Are your parents worried about your education in Lockdown	
Strongly disagree	46.8%	Neutral	15.4%	Yes	84.6%
Disagree	25.7%	Agree	9.4%	No	15.4%

Table 3: Institutional factors.

Majority (72.5%) students believe that their Institution the classes immediately at the right time. Because of the sudden closure and previous exposure 53% students believed that in the

second lockdown in 2021 institution was well prepared for online classes. Majority (87%) feel that during online classes their clinical teaching got affected. Most (58%) students' feel bored at home after

lockdown and attending online classes. About 83% parents of the students were concerned about the education of their students in online mode. Most of the students (72%0 students donot think that e-learning is a possible substitute for standard medical education although 10% were of the opinion that it can be. Majority (83%)

of the students believe that online education and lockdown has affected their examination preparations. Majority (68%) believe that downloadable e-learning material is superior to live content in classrooms as majority of the students do not find it motivating at home(26.5%), feel sleepy and lethargy all day (25.3%), 20% feel distracted at home while studying and preparing for exams.

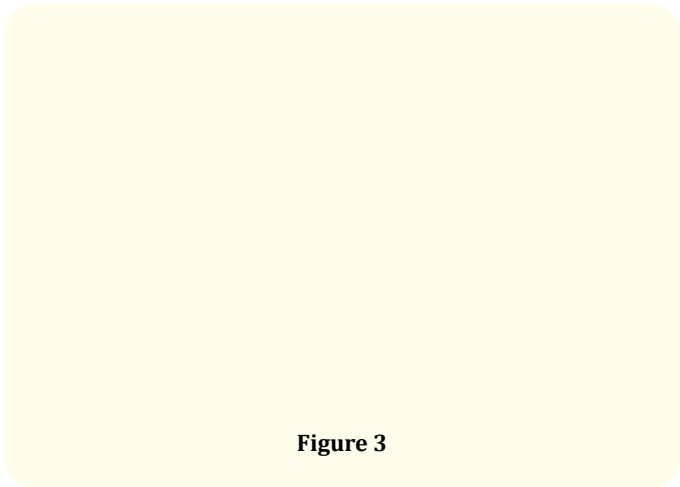


Figure 3

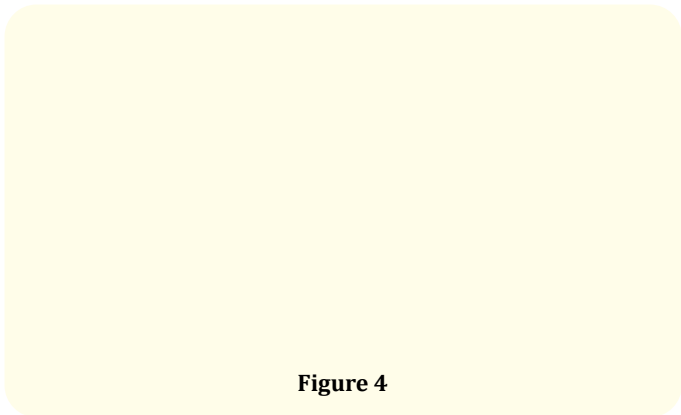


Figure 4

Has the lockdown effected your relationship with your college Juniors and seniors		Has Covid 19 effected relationship with family	
Yes, we feel disconnected	39.6%	Yes, we are able to take care of our family personally	31.7%
Need more interactions for personal development	25.7%	No change	31.7%
No change	19.3%	Yes, feel closer to the family	22.1%
Need to focus on personal development	15.4%	Feel irritated to change in lifestyle	14.5%

Table 4: Effect on relationship.

Lockdown affected the relationship of the students with fellows at the Institute as well as family members although later for the better (Table 4). In their relationship with your college Juniors and seniors 40% feel disconnected and 26% wanted to increase their personal interactions with both, although about 20% did not appreciate any change in their relationship with their college Juniors and seniors. About 53% students feel that they have become closer to their families and are able to take care of our family personally, although 22% feel no change in their relationship with family members.

Discussion

The current survey assessed the psychological impact of COVID-19 lockdown and online teaching specifically on the MBBS students preparing for their examinations in various batches of in Mayo Institute of Medical Sciences, Barabanki. Students have already passed a lot of time in lockdown and online teachings hence are well aware of the impact to participate and answer these questions in the survey.

Medical students face a variety of extrinsic and intrinsic pressures. Some common factors responsible for psychological

stress amongst medical students include fierce competition; pressures to achieve good marks, along with intrinsic pressures of self-motivation, perfectionism, hard work, and determination.

In our series as with the study conducted by Moksh S. Khetan [6] majority of the respondents were male, living in urban areas as in our series. Majority of the respondents were aware of the symptoms of COVID-19 and the pandemic.

Anxiety and depression are some of the main features seen in the students during lockdown and during online teaching for various reasons. In a study conducted by Moksh S. Khetan [6] 62.17% prevalence of depressive symptoms during the COVID-19 outbreak in the students. The anxiety and stress symptoms were found to be present in 49.06% and 43.19% of students, respectively which is much more than the global prevalence of anxiety which was 33.8% and anxiety was most prevalent among medical students from the Middle East and Asia [7]. The study conducted by Sheela Sundarasan [8] suggested that 20.4%, 6.6%, and 2.8% of the students experienced minimal to moderate, marked to severe and most extreme anxiety levels, respectively.

For reasons not known the odds of anxiety were higher among the female students compared to that among the male students.

Staying in hostel alone contributes significantly to anxiety and stress as compared to those staying with family and friends. In our series the students faced anxiety and depression as Sometimes -40.5%, Rarely-22.1%, and Often - 19.9%.

The pandemic caused unprecedented disruption to the medical education process and to healthcare systems across the globe. The medical education process, largely based on lectures and patient-based education has been disrupted as the pandemic as online teachings is not a good substitute with respect to clinical teachings and assessments.

Restricted movement of society has led to a compromise on patient care and medical manpower is also diverted towards COVID-19 patients, which has restricted the availability of bedside teaching opportunities for medical students.

It was important that education process must continue in pandemic with all its limitations students being at home devoid

of college environment it was mandatory to develop a medical education curriculum that provides students with opportunities for continuous learning online teaching with Lectures and Virtual clinical experience provided that platform.

In a study conducted by Samiullah Dost., *et al.* [9] stated that Students ranked their experience of online teaching using a Likert scale with 1 being strongly disagree and 5 being strongly agree.

The primary limitation of students in online teaching was that they did not find online teaching to be engaging or enjoyable, with limited opportunities to ask questions.

Another limitation of online teaching was interaction with the teachers as most students were neutral when asked whether online teaching should be more interactive, they did not find it as effective as face-to-face teaching.

In our series 72.5% students did not think e-learning is a possible substitute for standard medical education, 9.4% agreed to it although 15.4% remained neutral.

Biggest limitation of online teachings for the students was learning practical clinical skills, majority felt that online teaching had not successfully replaced the clinical teaching they received via direct patient contact, as they felt they cannot learn practical clinical skills through online teaching. This shows that clinical skills remain a pertinent barrier to online teaching of medical students. In our study we also found that Students believed that the Clinical teaching has suffered during pandemic (87.3%) although 12.7% students did not feel so.

Studies have shown that mental health of students have shown to be impacted by the COVID-19 pandemic which may be adversely affected as indicated by the free text responses. Common reasons attributed to this could be lack of interaction with friends and colleagues causing a rise in anxiety which was also observed in our series.

The study conducted by Ahmed Alsoufi., *et al.* [10] suggested that 8.9% suspended their education for several reasons but in our series all the students enrolled for online classes. He further stated that majority of the students (75%) felt that the online mode

of teaching and assessment did not do justice to the potential of a student was not assessed which added to the anxiety of some student, they thought they were wasting their study potential due to the pandemic and resultant school closure. 53.4% agreed that the pandemic had affected their personal wellbeing, however, although 45.4% of the respondents reported that COVID-19 had no impact on their career and future specialty training. In our series we found that about 70% students believed that pandemic had affected their personal wellbeing and only 18.4% students stayed neutral to the question.

Conclusion

The Covid Pandemic started without any warnings and Teaching Institutes closed down suddenly without any preparations. Online teaching serves a good or perhaps the only alternative to continue with medical education. When ever online classes are being conducted they must bear in mind that the Classes should be as per MCI (now NMC norms), the attendance system should be flawless and accurate, the academic content should not suffer, ensure complete student participation, conduct thorough Online Clinical teaching classes (which is difficult), plan a comprehensive assessment plan for the teachings, anticipate faculty shortage (as majority of the faculty members were posted for Covid duty or became Covid positive and always there will be a shortage of faculty to take classes) and ensure smooth running of the classes. Management support is imperative in achieving these goals. Although Online teaching has its limitations like social isolation, limitations of Clinical teachings, requires strong self motivation and time management, expensive, skilled computer knowledge, face to face communication besides many others but it remains the only alternative in the lockdown scenario and both the medical and our technology experts must put in all efforts to overcome these limitation; as it appears that online teaching has made its ground in medical education and will remain there in some form or the other.

Ethical Considerations of the Study

Ethics committee approval was received for this study from the Institutional Ethics Committee.

Conflict of Interest

The authors declare that this study has had no conflicts of interest.

Financial Disclosure

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Bibliography

1. Heath Kelly. "The classical definition of a pandemic is not elusive". *Bulletin of the World Health Organization* 89 (2011): 540-541.
2. Al-Rabiaahab A., et al. "Middle East Respiratory Syndrome-Corona Virus (MERS-CoV) associated stress among medical students at a university teaching hospital in Saudi Arabia". *Journal of Infection and Public Health* 13.5 (2020): 687-691.
3. Khetan MS., et al. "Effect of lockdown due to COVID-19 pandemic on mental health of pre-medical students of Maharashtra". *International Journal of Community Medicine and Public Health* 7.9 (2020): 3524-3530.
4. Grubic N., et al. "Student mental health in the midst of the COVID-19 pandemic: A call for further research and immediate solutions". *International Journal of Social Psychiatry* 66 (2020): 517-518.
5. Cao W., et al. "The psychological impact of the COVID-19 epidemic on college students in China". *Psychiatry Research* 287 (2020): 112934.
6. Khetan MS., et al. "Effect of lockdown due to COVID-19 pandemic on mental health of pre-medical students of Maharashtra". *International Journal of Community Medicine and Public Health* 7 (2020): 3524-3530.
7. Travis Tian-Ci QUEK., et al. "The global prevalence of Anxiety among medical students: A meta-analysis". *International Journal of Environmental Research and Public Health* 16 (2019): 2735.
8. Sheela Sundarasan., et al. "Psychological Impact of COVID-19 and Lockdown among University Students in Malaysia". *International Journal of Environmental Research and Public Health* 17 (2020): 6206.

9. Dost S., *et al.* "Perceptions of medical students towards online teaching during the COVID-19 pandemic: a national cross-sectional survey of 2721 UK medical students". *BMJ Open* 10 (2020): e042378.
10. Ahmed Alsoufi., *et al.* "Impact of the COVID-19 pandemic on medical education: Medical students' knowledge, attitudes, and practices regarding electronic learning". *PLOS ONE* (2020).