

IMPACT OF COVID 19 ON ACADEMICS AND TRAINING OF UNDERGRADUATE AND POSTGRADUATE MEDICAL STUDENTS

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Abstract

Background: COVID-19 pandemic has affected the education all over the world. This is most noteworthy on the medical students as clinical orientation and hands-on training are crucial toward development of basic medical skills. Various modifications to the methods of online teaching had been adopted in response to this pandemic to maintain continuity of medical education; however, we do not yet know the implications of this change. The students who took admission into medical college during this COVID period had to start their training in online mode since beginning till almost the 2nd year of college and that clearly will have some impact on the basic understanding of their subjects. Same thing happened with the postgraduate students also who for almost 1.5 years of training were mostly posted in COVID wards and skills learnt were very different from the normal teaching atmosphere of the medical college. This study tries to find the impact of COVID 19 by the perspective of these medical students so that better changes can be implemented for any future incidents of such pandemic waves in India. **Materials and Methods:** This questionnaire based study was conducted to assess the Impact of COVID-19 Pandemic on the education and training of medical undergraduates and postgraduate students by analysing the effect of changes that were adapted to the teaching methodologies and for Clinical training of medical students and to find out its implications in various professionals of students and effects on various branches of postgraduates and also access the difficulties faced by the students. An online questionnaire-based survey was conducted, administered through Google Forms maintaining anonymity. They were asked a series of multiple-choice questions pertaining to the effects of this pandemic on their curriculum and academic activities. The responses received were analysed by univariate analysis. **Result:** 72.1% of the students felt decreased interest in studies due to lack of practical classes. About 57.9% of students reported a decrease in their level of understanding of online lessons compared to contemporary classroom teaching. 72% students positively responded that they were unable to clear their doubts through electronic means. 90.3% respondents believed that suspension of practical classes and hands on exposure in laboratories/clinics and lack of in-person history taking and examination would affect their clinical knowledge and skills as a future physician. 60.4% of respondents felt that on graduation, their clinical skills will be inferior to the students who graduated during the “non-COVID” era. **Conclusion:** Indian medical education system is evolving day by day and striving to reach international standards. The Covid 19 pandemic has given an opportunity to transform the existing medical education scenario. It gives a chance to adapt and imbibe newer modes of learning like tele-health, online learning with a flexible approach. Teachers all over the medical field in India should contribute in the advancement of medical education with the requisite changes in the curriculum and transformations across various disciplines in medicine. Regardless of the difficulties that the students and teachers had faced in these disturbing times of the pandemic, it would provide them a silver lining to change the face of medical education in the country for the better.



INTRODUCTION

The corona virus 2019 was first reported in Wuhan. An outbreak throughout the world resulted from exponential virus spread. Not only the health care system but medical education process is disrupted worldwide due to this. The highly contagious virus made it difficult to continue the medical education process in the traditional format and medical training through clinical rotation has been interrupted, Increased demand on acute health care affected the usual Patient based education that had to be stopped. Many students contracted the virus during their training and had to be isolated as they may transmit it to the community. Additionally, student was required to stay at home and to abide by social distancing. Many batches faced delay or cancellation of exams and it even affected admissions in postgraduate training. All this even affected them not only physically but psychologically as well.^[1]

Few studies have concluded that not all the students of all professionals have equal impact on their education and Students of 1st professional have apparently lesser impact as their patient exposure requirement is not same as the students of 3rd professionals onwards and the postgraduate trainees.^[2,3]

To handle these challenges, some of the most proposed methods that were included are scheduled online video lectures with interactive discussion, utilization of several different programs or self-study online lectures, recorded lectures etc. Even viva and practical examinations had to be arranged in online manner itself. For the postgraduates there was no opportunities for conferences and CMEs and webinars had to be arranged which did not provide the same learning skills for many students.^[3-5]

This study was conducted to uncover the factors affecting medical education during the pandemic from the perspective of Indian medical students by using a questionnaire-based survey.

Not many such studies have been conducted so far in India and this study could suggest the steps required to be implemented in medical education during such uncertain situations in the future. This will also help in assessing the validity of online teaching methods being used by medical colleges.

MATERIALS AND METHODS

This questionnaire-based study was conducted to assess the Impact of COVID-19 Pandemic on the education and training of medical undergraduates and postgraduate students by analysing the effect of changes that were adapted to the teaching methodologies and for Clinical training of medical students and to find out its implications in various professionals of students and effects on various branches of postgraduates and also access the difficulties faced by the students. An online

questionnaire-based survey was conducted, administered through Google Forms maintaining anonymity. They were asked a series of multiple-choice questions pertaining to the effects of this pandemic on their curriculum and academic activities. A timeline of seven days was provided to them to submit their responses and a friendly reminder was sent to them to ensure maximum student participation. Participant's email address was stored to prevent duplication as an internal quality control measure. Unreturned questionnaires and responses either having missing data or submitted after the given timeline were excluded from the study. The responses received were analysed by univariate analysis.

RESULTS

A total of 482 medical students were sent the online questionnaire by email, out of which 220 medical students responded. The distribution of respondents in the 1st, 2nd, 3rd, and 4th professional was 7.8%, 24.1%, 19.9%, 27.1% respectively, while 10.3% were interns and 10.8% were post graduate students.

56.7% students used smartphones while 32.2% used tablets for classes. Remaining 11.1% uses desktops or laptops for classes.

Only 28% of respondents found video lectures to be better than classroom teaching.

72.1% of the students felt decreased interest in studies due to lack of practical classes.

89% of the postgraduate students felt that online CMEs and conferences were not as effective as previous offline modes. 68.7% students felt that tele-education is the new reality.

About 57.9% of students reported a decrease in their level of understanding of online lessons compared to contemporary classroom teaching.

72% students positively responded that they were unable to clear their doubts through electronic means.

90.3% respondents believed that suspension of practical classes and hands on exposure in laboratories/clinics and lack of in-person history taking and examination would affect their clinical knowledge and skills as a future physician.

60.4% of respondents felt that on graduation, their clinical skills will be inferior to the students who graduated during the "non-COVID" era.

64% students had to purchase electronic devices to access the online learning but interrupted internet services were a major hindrance to the classes.

Majority of students also felt that online mode of teaching was most of the times attended for the sake of attendance and there was lack of motivation for them to get used to this mode of classes.

Many students suggested that in future if such pandemics arise then also online classes should be avoided and small group discussions should be taken in place of that.

DISCUSSION

There has been severe impact of COVID-19 on medical education. Students faced numerous distinctive challenges as this is largely patient centered. The understandable lack of patient interaction, due to the unprecedented yet necessary measures of containment, added to the student's sufferings. The replacement of in-person classes with online lectures totally disrupted clinical encounters. Students enrolled in MBBS and postgraduate training during that period were not acclimatized to the new and crucial changes in the hospital settings and might be too amateur to understand the hazards of exposure and the protocols instituted in hospitals amidst the pandemic.

Offline and clinical postings had to be totally stopped in most parts of the world. In response to this, online lectures, and case simulations through video conferencing, tele-lectures, webinars, with the help of various tools such as Zoom, Google Meet, Skype, Go to Webinars, and other platforms were being conducted.

Our study highlights the cardinal problems faced by medical undergraduate and postgraduate students in a tertiary care hospital and medical college of North India. Similar questionnaire-based surveys have been conducted in India among undergraduate,^[4-9] and postgraduate 10 medical students and found the similar issues that need to be highlighted.

Postgraduate students spent almost 1st year of their duration in the care of COVID patients and they were not able to perform duties in their speciality departments. They were not able to do any research projects due and attend conferences as well.

Several key issues were addressed in our study. Many students now believe that tele-education is the new reality.

In our study, where most of the students felt that they were less productive and less motivated to study. Almost all the students felt that their clinical skills would suffer, due to a lack of clinical exposure. Many students reported a decreased interest in medicine due to a switch to online classes. This is due to the necessary omission of hospital visits and clinical classes and accompanied by a decreased understanding of the subjects through online classes, as reported by many of the students.

These changes have created a sense of fear and anxiety among these budding doctors, adding to their apprehension, and in turn affecting their studies.

The major impact of this "lack of patient interaction" has undoubtedly been on final year medical students and postgraduate students.^[11] This study was limited by the inclusion of only a single institute, although the sample size was fair.

CONCLUSION

The impact of COVID-19 pandemic on medical students is obvious. Students feel uncertain about effect of various modifications to the methods of online teaching had been adopted to maintain continuity of medical education. This impact has been felt more by 2nd year onwards suspension of hands-on training and patient interaction which are crucial adjuncts to "holistic teaching" in medical schools were significantly affected during that period. Most students feel that this would have lasting impact on their skills as a future physician. Although theory classes were taken in online mode but most students were unable to communicate and clarify their doubts with their teachers and lack of practical training could not be overlooked and compensated by any means. It gives a chance to adapt and imbibe newer modes of learning like tele-health, online learning with a flexible approach. Teachers all over the medical field in India should contribute in the advancement of medical education with the requisite changes in the curriculum and transformations across various disciplines in medicine. Regardless of the difficulties that the students and teachers had faced in these disturbing times of the pandemic, it would provide them a silver lining to change the face of medical education in the country for the better.

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