

## Health Professions Education and Corona Times

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Globally as well as in India, COVID 19 has been a cause of concern and disruption. These are unusual times when focus of health system is to take care of patients suffering from COVID as well as community, resulting in disruption of medical education and needs reorientation<sup>1</sup>. The pandemic has spread rapidly affecting more than 5.7 million patients & 3.5 lakhs deaths globally<sup>2</sup> (by 27<sup>th</sup> May 2020) and has resulted into overburdening of health systems as well as economic loss. Coping with COVID-19 is particularly complicated for medical schools, because they serve such a wide variety of functions. First and foremost, they are Health professions educational institutions, where undergraduate and postgraduate students learn and where faculty teach and conduct research. In addition, they function as small cities, complete with security forces, hostels, food marts, canteens, Messes and many facilities around them. Medical schools also run hospitals, placing them at the front line of the local healthcare system. These disparate identities mean that colleges have a large number of stakeholders. Though govt. medical schools have a public funding, private medical schools have a complicated revenue model. Coming to grips with something like COVID-19, then, was never considered while running such institutions.

As response to COVID 19 pandemic, all educational institutions are closed and students were sent home. Senior students and Interns have been helping system to cope up with increasing patients. Due to national entrance examinations and quota systems, today many colleges have up to 50 percent students who are from outstation. Hostels were emptied so that they can be used for residence of health care workers.

The COVID-19 challenge is unprecedented; its scale still is not understood. First challenge is to cope up with COVID 19 patients as most of the faculty, residents and Interns are busy dealing with increasing patients. The world is busy in getting more information about this virus and there is spurt in webinars and online activities.

Medical Colleges and universities in the India cannot know when they will open fully again to normal activity or to what extent education as usual will resume. But even though stakeholders and leaders cannot know the answers, given the uncertainty in the epidemiological and economic outlooks, they must start asking themselves questions about the medium and long-term implications for teaching, learning, the student experience, clinical teaching, infrastructure, operations, and staff. Scenario planning can help in such situations. First scenario is COVID-19 is contained in the next two to three months. In Other, more pessimistic scenario (virus not contained), physical distancing and other restrictive measures last in some states for several more months. Lastly, in extreme scenario (pandemic escalation), the public-health response fails to control the spread of the virus for an extended period of time, likely until vaccines are widely available This may take one or two years. The only certainty is uncertainty. However, given the mission and function of universities, they need to examine the possibilities across everything they do.

Over last decade since 2010, Medical Council of India has been working to transform education by reducing lectures; using technology to replace/enhance anatomy and laboratories; Skills labs; implementing team-based, active, and self-directed learning; and promoting early clinical exposure. Competency based curriculum integrating basic and clinical medicine has been introduced since 2019.

**Impact on Preclinical education:** Preclinical teaching is mainly in lecture theatres or laboratories. Social distancing by definitions precludes students from gathering in lecture halls, or small-group rooms or laboratories. Online lectures and flipped classrooms with small group teaching on laptops can be continued and has been adopted in many colleges. Many faculty are already “flipping” the classroom to provide individualized instruction for asynchronous learning “anytime/anywhere.” Students still need to gather in laboratory and skill training.

Though biochemical experiments, anatomical dissections and physiological examinations can be shown to students in small groups online, hands on experience is still not done effectively. Virtual dissection software are effective and can be used during these difficult times. Some institutions have established skill labs where some of skills can be learned by students on their own with guidance from teachers when needed but this needs to be enhanced.

**Clinical education – way forward :** Role of medical students in Pandemic is different than other natural and man made disasters. In disasters such as fires, accidents, deluge – students continue to learn and help in combating them. However, in pandemic like this situation is different. Students may transmit the virus unknowingly or contract the disease. Elective surgeries have been cancelled or postponed. OPD have been converted into teleconsultations. With the initial emergence of COVID-19, students were not involved in the care of patients with suspected or confirmed COVID-19, especially with the shortage of PPE. As physical case discussions are difficult, educators must innovate and start on live case discussions with virtual cases, videos or photos with detailed histories as is done in conferences. Institutions will also have to modify the academic calendar to exchange later experiences (e.g. scholarly work) and defer clinical rotations; Students may be involved in the telehealth environment, including electives based on experiences Everyone is uncertain about how long this situation will remain. In fact one must start preparing for a New Normal in clinical education encompassing principles of social distancing and online education. Authentic patient experience may be challenge till situation improves. Statutory requirement may have to be relaxed for few terms till there is normalcy

Coronavirus disease 2019 (COVID-19) may forever change how future physicians are educated. Some of the online educational techniques and assessments may be part of education in future. Supervision and feedback may be through online medium rather than face to face assessments. One of the positive outcome is most faculty is now engaging in online teaching activities and this is boost to these facilities. There are many universities in India and globe that have been conducting online classes intensely over last 3 months and this is welcome step. However, online teaching the way is being

conducted mainly consists of theory oriented classes where PowerPoints are delivered with a talk through app based or online classes. There is variable degree of interaction – from meagre to substantial as per faculty expertise and commitment. This can definitely replace the loss due to Covid pandemic and students can participate safely.

However the main concern is clinical teaching as well as assessments. Clinical teaching involving 25 to 30 students at a time by bed side seems to be remote possibility till pandemic is contained. Hence newer methods such as videos, remote clinical teaching through tele teaching must be explored. Skill labs along with automatic feedback system can also be used for developing skills of students with online individual or group feedback to them. The teachers have to be more alert online than physical settings. Teachers must be ready for this transformation. All teaching rooms as well as clinic rooms must be now have cameras and internet facilities. One must also follow ethical principles of consent and patients permission, maintain confidentiality when transmitting and recording such sessions as it may compromise patients autonomy or may be misused. There have been many newer methods of clinical teaching during COVID times such as virtual clinical excursions<sup>3</sup>, online simulation exercises<sup>4</sup>, remote clinical teaching system<sup>5</sup>, Microsoft Hole lens<sup>6</sup> etc.

Examinations and internal assessments in practical is also major concern. Many residents who are appearing for postgraduate exams are working day and night for COVID. This is very exhausting and they have no mental make up to appear for examination. On Other hand to certify them for a degree, an examination is must. Though structure can be modified a little it cannot be deviated from the goals of the course. Statutory bodies may permit to change the structure to some extend but cannot waive it in major way as the degree has to stand globally. Conducting theory examinations online or maintaining social distancing may be possible. However practical examinations with patients may not be possible in immediate scenario. Patients may be at risk so are the examiners and students<sup>7</sup>. Travel of examiners from another areas into red zones also difficult and may face challenges. However use of online software's such as Zoom, Google meet, WebEx and other systems can be used with cameras and multiple

examiners can examine students in their own setups with proper time slots ( to avoid crowding) with recording of all these sessions for review. Portfolios and Internal assessment may be also used for certification.

Implications for continuing medical or professional education is also significant as it will have to be conducted online and professionals will have to attend the same from their own homes or clinics. Statutory bodies and councils should allocate points to all health workers who have volunteered for Covid work. This will also motivate few workers to help states to manage this pandemic more effectively.

**Summary:** To summarise, global novel corona virus definitely has disrupted medical education. However, there is positive impact on adopting online technologies for pre-clinical and clinical education all over the country. These online initiatives must be sustained in future and must be inculcated in regular education as “new normal” of the system. Online lectures, video feedbacks and assessments, portfolio based education and assessments, remote clinical response and virtual patients are going to be part of medical education in coming years. Post corona will be a new world and we have to be ready for the same.

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