Medical Education During COVID-19 Pandemic – Is Revamping of Existing Curriculum Needed to Adapt to New Normal?

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ABSTRACT

Medical education has undergone many changes in curriculum to suit the modern needs and newer teaching learning methods have been developed. The use of information technology has heralded a new future with the use of laparoscopy, robotic surgeries, and teleconsultations. Online classes have been started, but patient-doctor relationship was maintained at clinics. Examination formats comprised both online and offline modes. However, with advent of COVID-19, conventional classroom teaching and bedside clinics have almost vanished for fear of asymptomatic spread of infection. Online zoom classes and MCQ format questions are ruling the show. Loss of ATCOM skills among medical graduates and lack of clinical touch in patient care may adversely affect the knowledge and skill of future doctors. Virtual bodies and other simulated settings can never be alternative to real-life settings as many studies have suggested. Many studies have found online classes ruling the show though the fact cannot be over ruled that doctors need to see patients to learn treating them. Hence, more work needs to be done in the area with appropriate funding. A detailed meta-analysis by big research wings in the matter may put light on appropriate and feasible policies that can be formulated to have the best possible outcomes in these changing times. However, blanket preventive strategies need to be maintained. In this backdrop and this being the burning yet neglected issue in this crucial hour, the narrative review is attempted where opinion of educationists, clinicians, and the epidemiologists are considered and compared in anticipation of a best possible outcome.

Key words: COVID-19, conventional class, online classes, medical education

BACKGROUND

Medical education has expanded and undergone vast changes with advent of modern teaching learning methods. The conventional student-teacher model has been replaced by the new concept of facilitator – participant model. However, the curriculum remains an age old one with the identified must know areas being the same with the argument that human anatomy remains the same as does the environment presumably. It is only the agent which undergoes a varied change, and hence, the modifications in content are made in accordance. Since age old, it has been argued that “clinics can be learnt only on bedside” and hence whatever models of OSCE/OSPE/OMP are introduced the conventional long case study and short case study remains vital. Simulated learning with virtual classrooms and artificial bodies of the best quality can never produce the best of doctors as medical education deals with flesh and blood with life and death. This very fact makes it stand out from the other course curriculum and any revamping in it should be profoundly thought of in terms of its implications in near and distant future. Teaching-learning techniques, on the other hand, have undergone sea change and along with retaining the conventional chalk and board principle newer techniques have been incorporated.[¹,²]

Private medical colleges sometimes do insist on artificial dead body dissection but as a rule of thumb, all budding

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doctors learn in vicinity of live human patients and get actual dead bodies for dissection. They are aided in the process by their clinical tutors and all patients attending the government medical colleges in India comply to the procedure as it is a teaching hospital. Hence, the students learning directly at bedside develop compassion and are eligible to handle any emergencies just after completion of their course at tender age of 24 years when their counterparts in other professions are way behind to deal with even such situation. Even in times of COVID-19, the interns and junior doctors who are COVID warriors are fighting from the forefront without fear or escape. It is possible only because they have been trained in direct contact with the patient who has helped them develop empathy and respect for the affected. However, with the “new normal” setting in regular bedside, trainings are becoming risky and hence slowly are on verge of extinction.[3]

The big question yet again looms can we replace bedside medical education with the help of even the best of technologies. However, if we cannot do we cannot stand the risk of exposing the patients and the doctors and to coronavirus pandemic even more. A best possible alternative has to be formulated which would incorporate best of both the words, that is, without compromising medical education at its behest, and it would take care of all the preventive aspects of the pandemic.[4] In this backdrop and this being the burning yet neglected issue in this crucial hour, the narrative review is attempted where opinion of educationists, clinicians, and the epidemiologists are considered and compared in anticipation of a best possible outcome.

Existing Structure

The existing medical education system is based on the age old curriculum with all the 16 essential subjects being taught over 4.5 years adequately dispersed and distributed among the various semesters. The credit hours per subject are fixed and compulsory. After each year, the students undergo summative and formative assessment along with the continuous internal assessments. Field works, demonstration classes, bedside teaching, and clinical posting are all part of the medical education curriculum where during studenthood where they are posted and undergo compulsory training under these areas.[1-5] Just after passing medical examination of the final year, they undergo compulsory rotatory internship where they are posted under major and minor wards and work for patient care under direct supervision of seniors. They do night duties even. The ongoing coronavirus pandemic created a new area in patient care named screening clinic/fever OPD clinic which in various areas is completely manned by interns.

However, the coronavirus pandemic may ask for a complete revamping of the course curriculum where curriculum designing and implementation may undergo a sea change including online classes, Google Meet, GoToMeeting, Microsoft Teams, Cisco Webex meetings, and Zoom meetings as a replacement for classroom. The biggest challenge, however, remains to formulate strategies to replace bedside teachings and direct patient care. Not only the academic knowhow and clinical skills are feared to suffer among the earners under such simulated environment practical classes but also the empathy and compassion for patients are anticipated to be less. Attitude and communication skills (ATCOM) and patient party management during emergencies will suffer as these cannot be taught and can be learned only by the situation faced. Problem-based learning (PBL) scenario, case reports are all based on direct patient-doctor interaction and compromising that may lead to severe implications and severe repercussions.

Modifications Done

Many changes to adapt to the “new normal” have already been initiated. Online classes have replaced classrooms and zoom classes have come in the forefront in a big way. Online webinars, seminars, and Google classrooms have replaced the traditional face-to-face classroom teaching not only in medical schools but also for kindergarten kids. Assessments are taken in various multiple-choice questions format and at a particular time and place by an online method application.[6]

However, practical teaching started with artificial bodies and mannequins for ease in clinical teachings and online demonstrations of field activities in public health have also been doing rounds. In some countries like Finland classes are held in outdoors where social distancing is possible and yet a classroom environment can be generated, a model first gave by and still implemented in Viswa Bharati University, Shantiniketan. Despite best of efforts, the bedside clinical teachings and public health activities at field level are suffering. As every human is different so are all the problems unique, similar yet varied in their own setting. Hence, more the number of direct patient clinician interactions occur more the learning occurs. Problem-based learning starts at the ground level and its ramifications and implications can be learned by dwelling deep. Case-based learning and public health dealings are anticipated to suffer though many online consultations and advocacy NGOs are coming up who conduct zoom sessions of the health care workers and the doctors for guidance which is percolated in the field.[2-4]

Apps to reach every person at home with weekly updates on living healthy need to be developed at low cost so that even small mobile sets can afford it. Programs like Kilkari need to be made. The patient needs to talk to doctors directly from their home which also has an advantage of treating them in their home setting hence assessing it too, especially helpful in infectious disease such as tuberculosis and HIV. Notwithstanding, the limitation of not being able to assess
the patient clinically some advanced technology needs to be formulated to overcome this roadblock. Medical education cannot be no touch technique, especially the practical aspects; hence, some innovative strategies need to be devised in accordance at the earliest.

Other Studies Suggesting

In these unprecedented times, the necessary focus is caring for patients and communities. However, this has neglected and disrupted the medical education and requires prompt attention from medical educators. An ardent need to prepare future physicians to combat the global emergency is mandatory, but unfortunately the effects of coronavirus disease 2019 may forever change how future physicians are educated. Practical and logistical challenges and concerns for patient safety remain as students may potentially spread the virus when asymptomatic and also acquire the virus in course of training. For more than a decade, medical schools have been working to transform pedagogy by eliminating/reducing lectures; using technology to replace/enhance anatomy and laboratories; implementing team facilitated, active, and self-directed learning; and promoting individualized and interprofessional education. Development of comparative professional activities and competency-based learning with identified milestones for achievements has transformed assessment yet COVID-19 has the potential to affect students throughout the educational process.[7-9]

Nevertheless, laboratory sessions, simulations, and technology sessions as well as for clinical instruction with standardized patients and in authentic patient care environments are needed. In response to COVID-19, medical education faculty has transitioned the curriculum to online formats that include content in basic sciences, health systems sciences, and even in behavioral sciences. Limiting role of students is also because of the clinical environment includes lack of COVID-19 testing; diminished value of education, with cancelation of surgical procedures and routine appointments and the transition to telehealth formats; and lack of adequate personal protective equipment (PPE). However, it needs to tailored according to specific geographic differences and depends on medical schools individualized decisions based on unique circumstances.[10,11]

However, taking clinical sessions, online and virtually replacing the bedside clinics may severely harm the ATCOM structure and affect empathy of students apart from compromising the core clinical skills. The medical education environment is cross-generational. The former mindset that physicians would work when they were ill was considered to be altruistic and professional, with prioritization of the patient above the physician. However, the situation that COVID-19 represents is different. This is all the more difficult because of the lack of COVID-19 testing and limited availability of PPE. Strategies promote clinical reasoning and self-directed learning: Problem-based learning, clinical case-based learning forums, argumentative essays, communication, ethics, and professionalism competencies: Argumentative essays, preparation of material for patients and families, discussion forums, and collaborative work are needed. The coronavirus pandemic has impacted medical education globally.[9,11]

As universities seek to deliver medical education through new methods of modalities, this continuing of education ensures the learning of the future workforce. Novel ways of online teaching should be considered in new medical curricula development, as well as methods of delivering practical skills for medical students online.[11,12]

The coronavirus pandemic has seen the introduction of novel methods of delivering education to medical students. Lectures have rapidly been developed to be delivered online as webinars using various web platforms such as Zoom, Google Meet, Webex, and Microsoft Teams with such technologically enhanced approaches already being proven to have high levels of engagement with medical students. With international students making up 19.6% of the total student population and many having returned to their native homes during the coronavirus outbreak, online teaching platforms are beneficial due to their worldwide accessibility, ensuring that all medical students regardless of their current location are able to access webinars as they happen or can be recorded for later use. The transition to online medical education has also seen a change in examination methods. The introduction of OBEs will be a sudden change to nearly all medical students from previous examination hall settings. However, OBEs have been shown to reduce student anxiety. During the COVID-19 pandemic, an approach to examining students during this difficult time that can minimize symptoms of stress is welcomed. A major consideration though still remains that how such online methods may be adapted to deliver teaching on clinical and practical skills remotely that would otherwise have been developed during clinical placements.[13,14]

Anticipated Benefit

The anticipated benefit is the ongoing classes which will not stop and hence continuity to curriculum will be maintained. Students will keep on learning and with use of new technologies may develop newer strategies fulfilling the objectives closely. New research process will continue and brainstorming and participatory learning will be ensured without fear of contracting the disease. The patient would get benefitted as online consultations will continue and assessing them in their setting will help solve not only the disease but also its etiology, the very essence of public health. Integration of clinical care has begun, family physicians will come up in a big way, a concept which existed earlier but
due to advent of super specializations almost was on verge of extinction.\[11\]

Public health will be reinforced and community ownership to health will be reiterated. Now people realize dynamics of transmission and that each one has a role to play. Doctors have realized that disease curing is a continuum of different levels of prevention and not merely a one is to one chamber practice. More GDP into public health needs to be spent to strengthen the existing government framework as it proved out to be the strongest support system in times of the pandemic when private clinicians and nursing homes just evaporated.\[3\]

Healthy living and lifestyle modifications got the prime importance and coronavirus pandemic not only exposed but also healed an ailing system. Modern innovative system created zeal of newer teaching learning methods which if used in addition to the existing ones will prove beneficial in days to come. The world came to know of terms quarantine and isolation and doctors reinvented medicine in a new light starting from therapeutic care to preventive steps and extended the vision in medical education as well, a corollary benefit of the deadly pandemic.

CONCLUSION

The narrative review concludes that medical education technologies are undergoing a sea change though the curriculum has been modified but not changed in entirety. In the COVID-19 pandemic times, the online classes and assessments have taken over and the traditional methods have taken a back seat. However, the practical aspect of the medical curriculum needs to be revamped such that direct patient care, attitude, and communication skills and empathy for patients remain uncompromised. More work is yet to be done in the area and this article recommends a systematic review so that appropriate policies can be formulated to have the best possible outcomes in these changing times maintaining the blanket preventive strategies.

REFERENCES