

Teaching and Training Medical Students at the Midst of COVID-19 Pandemic: Unanswered Questions and the Way Forward

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ABSTRACT

Medical doctors are the frontline workers in tackling any pandemics but ironically the medical students, especially the undergraduate medical students, who are the doctors in making, are being exempted from the lifetime experience of the current COVID-19 pandemic in most medical schools. In view of preventing the disease spread and maintaining social distancing the educational institutes including medical schools are closed in most countries struggling with the current pandemic. The decision is based on some evidences showing that the lockdown is one of the important tools to decrease transmission rates, delay the doubling time and flatten the curve. Unlike many other subjects and specialty, medicine has to be taught on patients and in the hospital setting. In this context there are several unanswered questions regarding the teaching and training of undergraduate medical students and the most important question being what is the best approach without compromising the safety as well as educational objectives and without overburdening the system? This article discusses some of these issues.

Keyword: COVID-19; medical education; pandemic

INTRODUCTION

The effects and impact of pandemics are not limited to the health of the people and the community but also pose a multiplier effect on several other sectors with extensive economic and societal consequences. One of those, often left as a non urgent business is education sector. As of May 15, 2020 UNESCO report, more than one billion (approximately 1,213,390,181) learners have been affected by the closure of schools and universities.¹ Schools and universities closure as an important measure for the pandemic control, can not be ignored either.^{2,3} At this stage in the given scenario, medical educators need start brainstorming to review and find answers to some of the issues and unanswered questions discussed below.

THE ISSUES AND UNANSWERED QUESTIONS

Should medical schools be an exception to this general decision of closing academic institutions in the pandemic?

Closing down the medical schools and suspending all teaching learning activities inside the hospital could be potentially disruptive to medical education.⁴ and it may have a detrimental effect on competency of the young

doctors.⁵ As correctly said by the authors in an article: 'by restricting contact with patients, we are protecting the medical students from the harsh realities of professional life'.⁴ Exposing medical students to the pandemic situation not only gives them the lifetime experience of a pandemic but may also teach them some non-cognitive skills like resilience, professionalism, resource management, crisis handling, team work and social responsibility. By closing medical schools in the setting of a pandemic, are we depriving the future doctors from this opportunity and depriving the future generation from trained competent doctors with resilience and ability to function in crisis? In most medical schools the postgraduate trainees/ residents are involved in patient care and pandemic management. Some University hospitals facing health care staff shortage have used senior clinical year students as residents providing them fast tract courses and involving in patient care while some have offered early graduation.^{6,7} There are several factors interlinked with this issue and it is difficult to find a perfect balance between the pros and cons of continuing medical education during a pandemic situation. The effect of this pandemic on the competency and skills of medical students who have been exposed versus who have not, is yet to be seen and needs to be

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followed.

Should medical schools let students work in the hospital settings during pandemics?

The question could have different answers at different settings and at different stages of the pandemic response. There is a wide variation across institutions in students' participation in clinical care during a pandemic due to uncertainty and disagreement about the appropriate roles of medical students.⁶ There are examples of medical students helping in the Spanish flu pandemic and polio epidemics in the past⁶ and students from some schools in the current pandemic⁷. Medical students can be of help in the clinical work where the health system and the health care professionals are working at the verge of exhaustion. The safety and protection of these young medical students cannot be undermined while making them work in the clinical settings during such times. Another question that may arise is, the medical students are not at the level of delivering care to the patient as the fully trained doctor, so is it worth using the scarce health service resources like personal protective equipments (PPEs) for the students just to let them have opportunity to learn when the real care giver may become deprived of these essential tools (PPEs)? This question is even more important and relevant in low middle income countries (LMICs) due to inadequate supply of essential resources and inadequate or poor pandemic preparedness. The professional expertise of trained physicians may also provide them with better self-protection in dealing with any infection risks⁸ but the medical students may not have enough of this expertise and could be more vulnerable to such risks. The low risk tasks like care of non-COVID patients, ongoing care of patients with chronic conditions and follow up of discharged patients via telemedicine have been suggested for the medical students.⁶ Involving medical students in pandemic response can reinforce important values like willingness to serve at times of crisis and solidarity with the profession.⁶

Is it ethical to make medical students work? Can they be given alternative tasks?

The undergraduate medical students are still not certified medical professions and do not have an obligation to serve during such pandemics as does a certified doctor. Whether these medical students fall under the category of healthcare worker and should be involved in pandemic response is ethically controversial.⁹ So should we expect the undergraduate medical students to act responsibly and work to help the system at the time of need without compromising personal and patient safety? Is it ethical to make them work with their limited knowledge and skills in the current COVID-19 situation with so many

health professionals getting infected and even died? In spite of the government permission for healthcare student clerkship, most Italian medical schools have not allowed students to work in the wards, despite a shortage of workforce in the COVID-19 pandemic while the American Association of Medical Colleges (AAMC) has strongly suggested that medical students not be involved in any direct patient care activities.⁶ Another important issue raised is, whether it is ethical to expose a young person to a disease whose effects we do not fully know.¹⁰

Some student volunteers are working to help in this crisis while some schools have given an option for early graduation to serve in the crisis.¹¹⁻¹³ It has been said that it should be viewed as a moral obligation based on a commitment to medicine, but ultimately it is the individual's choice to participate.⁹

Alternatively, should schools think of utilizing medical students' capacity and skills in some other ways without putting them at increased risk? One of the several models could be, to make them work in the public health setting, through using their skills in activities like contact tracing, preparing patient education materials and community awareness programs. This can help students' understanding of the pandemic from a public health point of view.¹⁴ This approach could be a step towards community engagement while activities like communicating and counselling the vulnerable people could help sort out some of the pandemic related mental health issues in the community. It has been rightly pointed out that mobilizing future physicians could complicate medical education in the short-term but formalizing an opportunity for future physicians to protect the nation at this critical moment could be an important step.¹⁵

Should medical schools ask doctors to teach medical student amidst the chaos of death and dying?

The COVID-19 pandemic with a massive number of critically sick patients needing intensive care and the ever increasing number of deaths has put a huge challenge on the system and many universities and medical schools have released their clinical teachers to help into patient care.¹⁶ The medical professionals taking care of COVID-19 patients are exhausted not only physically but also mentally and emotionally as they are working in the circumstance not faced before, having to take decisions which they are not comfortable with like allocation of resources (intensive care and ventilators) which fall deficient. Some of the medical professionals, including doctors, report suffering intense tiredness, irritability and even disorientation.¹⁷ Working in the frontline has been identified as an independent risk factor for worse mental health outcomes in a study during this pandemic.¹⁸ Whether the overburdened

healthcare system and the clinical academicians can be further stretched to deliver the educational objective in a situation of pandemic, is it even logical to ask? We should understand that with the increasing burden of COVID-19, disruptions in medical education are inevitable and therefore we need to make arrangements whereby students can retain clinical skills and knowledge.¹⁶

Online teachings during pandemics, is it the right answer for teaching medical students?

One of the several innovative approaches in teaching learning over the years is, integration of information technology leading to development of online, distance learning. During this pandemic many medical schools across the globe have moved their essential courses to virtual classes and online interactive session. The process is challenging to both the students and the faculty and requires proper planning and preparation.¹⁹ The challenge is even bigger in schools of LMICs where internet access, electricity backup, availability of personal electronic devices and technical support are limiting factors.

The doctor patient relation, empathy, compassion, communication skills all accounting for the humanistic values of medicine, requires medical student teachings on a real patient in a clinical setting. Hence online teaching sessions and simulated virtual patient case scenarios could fulfil the gap during such crisis situation but cannot be a replacement of actual learning with the patients. However, these approaches for tackling the current crisis will also help us learn and apply new principles and practices for teaching-learning during future disasters.^{16,20}

Will this pandemic change the career decisions of medical students or those aspiring to become a doctor?

Any incident small or big can have some direct or indirect impact on people's life. The crisis as big as COVID-19 pandemic, could not be an exception to this phenomenon. Medical profession is perceived as a very high profile and of high demand profession. The competition to get into a medical school is very tough all over the world. The current pandemic could change young peoples' decision on several aspects of life and career choice could be one of them. Will there be a decrease in attraction to this career in the post pandemic years with the young population not wanting to risk their life and parents becoming reluctant to let their children take this risk? The answer is not straight forward as the effect of stress on decision making is conceptualized as a multistage process while the individual coping process and adaptability varies widely.²¹ Hence to make an intelligent guess regarding this will be too premature

as of now.

It has been stated that training and graduating in an era of successful antibiotic development, effective public health measures and the relatively long time gap since the last pandemic, have resulted in a generation of physicians entering the profession with little thought regarding work-related risks and mortality.²² Could exposing medical students into the clinical environment in a pandemic response impose resilience and help them cope up in similar situations in future or on the contrary, will such exposure make them feel vulnerable and have them think about choosing another field; we do not have the answer yet.

THE WAY FORWARD

During the course of a pandemic, Medical Schools should be treated differently than other educational institutes. In addition to the teaching & training of the post graduate residents, the interns and senior clinical year students should also be given some clinical exposure to pandemic management while the medical students in their basic science years should be engaged in public health measures of pandemic control without exposing them to much risk. This is important because the current pandemic might be the only opportunity these young medical students and young doctors will get an exposure to, till several decades to come.

The medical schools should be responsible for ensuring the availability and proper use of the appropriate PPE for the students at different levels of exposure and the undergraduate medical students should not be counted as the health workforce unless in a state of dire emergency.

The national medical councils of each country should lay out clear directives on ethical aspects of involving students for teaching purposes versus using them as healthcare workforce.

Based on the current experience (personal communication with faculties of medical schools within the country and THEnet partner institutes/medical schools), online teaching through lectures, PBL or small group discussion sessions can be carried out, to deliver the knowledge component of the curriculum, even in resource limited countries like ours and can be used as a stopgap.

Easy access to technical support and/or short training on online teaching, if needed for the faculties, should be managed by the school while subsidies on internet data packages for students should be facilitated by the government.

Counselling sessions, experience sharing and support

groups should be envisioned for faculty motivation and encouragement while sharing of work load and priority setting of tasks should be systematically planned and implemented by individual institute/ Medical school.

CONCLUSIONS

Medical schools should take this pandemic as an opportunity to learn the modalities of training future doctors as the resilient workforce to appropriately manage future pandemics and disasters. We should explore the alternative ways of teaching learning, engaging medical students without compromising the core values of medical profession and taking care of individual and public safety. The available country or institute specific literatures cannot be generalized and may not be applicable to all. The most appropriate option for the given local context should be discussed and chosen through consultations with all relevant stakeholders. We need to resolve several yet unanswered questions and uncover the approaches not only to tackle the current dilemmas in medical education but also be ready with a road map to handle this in a more organized and effective ways in future pandemics.

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