

PERSPECTIVE/PERSONAL VIEW

Medical Training for Undergraduates in the Time of COVID-19: Education Cannot Wait in DR Congo

La educación no puede esperar: entrenamiento de estudiantes de pregrado en tiempos de COVID-19

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Introduction

COVID-19 pandemic is a fractious time for medical education. During the COVID dilemma, all human effort is being harnessed to meet this unprecedented challenge. While many natural disasters, attacks and epidemics have challenged the delivery of education in the past, nothing compares to the level this potentially fatal pandemic has wrecked. While the need for medically trained doctors have never been so important globally, preparing doctors for the same hasn't been more challenging. World over, in education, VIRTUAL classrooms (with flipped and blended learning approaches) are now the norm, the bedside has changed to the 'Web-side of Telemedicine', and Competency Based Medical Education(CBME)[1] to a large extent are being taught using Simulation Based Medical Education. In India, for instance, CBME was embarked upon in 2019 for UG batches throughout India for producing a competent Indian Medical Graduate with Training skills in Empathy, Ethics, Attitude, Communication[2] (AETCOM Module), with early preclinical exposure.

But in the Democratic Republic of Congo (DRC), like many other low income countries(LMIC), the practical and logistics trials are immense and things

are far from the 'norm' in other developing countries.

Unique health implementation problems in DR Congo

Before suggesting recommendations for medical education to low income countries like DRC, it is important to fully appreciate the complexities and challenges of each of the considering countries, and in that lies the key to achieve better quality of education. DR Congo's current situation with respect to health is as described below:

1. Poorest country in the world

While its poverty rate has fallen to some extent over the past 20 years, particularly in the rural areas, the DRC nevertheless remains one of the poorest countries in the world[3]. DRC is one of the countries with the highest maternal and child mortality ratios in the world. Here, women have an average of 6.6 children; and 42 percent of women in the age group 15-19 years are mothers or pregnant with their first child. For every 1,000 children born, 58 die before the age of 1, and 104 die within the first five years of life.

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Chronic malnutrition affects 43 percent of children under five[4].

2. Educational

The DRC ranks 135/157 in terms of human capital. With a human capital index score of 0.37%, which is below the average in Sub-Saharan Africa (0.40). This translates into the fact that a child born today will be 37% less productive in adulthood than a child who received a complete education and proper health care in other parts of the world. Congolese children on an average spend only 9.2 years in school and more than 43% of children are malnourished[3]. There are 08 medical schools in DRC[5].

3. High demand for healthcare

Long before COVID-19, infectious diseases have swept throughout this country. Hepatitis A, Ebola, measles, Malaria, Lower respiratory infections, Tuberculosis, Diarrheal diseases, HIV/AIDS are some of the major causes of death. Neonatal disorders, ischemic heart disease, Stroke, Congenital defects & Road injuries being the remaining major contributors[6]. Mental health and the consequences of violence are major public health challenges. With significant cases under each category, along with malnutrition and other diseases, the demand for healthcare is immense.

4. Insufficient resources

Health financing in the DRC is almost totally dependent on external aid which is essentially based on humanitarian assistance. COVID-19 has frozen many external supply of funds, due to allocation of those funds into their own health systems. With no public funding and fragmented national leadership, regulation of the health sector is essentially broken. Developing a strategy for medical education with such scarcity of funds is unthinkable.

5. Dysfunctional Health System

The lack of a strategy for developing organised human resources for health, combined with stopping recruitment in the public health service for more than 20 years, has led to dwindling of HCW densities in the DRC. With 0.28 physicians, and 1.91 nurses and midwives per 10,000 population, DRC has one of the least number of skilled health professionals and medical educators in the world[4]. The existing health sector workforce is also aging and the quality of work has compromised considerably[7].

Above all these, chronic political instability, social unrest and armed conflict have made it difficult for DRC to increase domestic spending on health care

and education. But COVID-19 has spelled uncertain, uncharted territories, and we are all grappling to find alternatives for a new norm.

Challenges to education

1. No face to face is a challenge: Medical students in face-to-face classes have a consistent schedule that is easy to follow, guided by regular physical classes where they can be taught the 'science and art' of the practise of medicine. Online classes makes it the student's responsibility to ensure they stay organised and follow the class[8].

2. Coping with clinical responsibilities: While the whole world and especially DRC is struggling with the magnitude of patients; an already huge deficiency of doctors, makes coping with clinical load and online classes demanding.

3. Top- down process from educators to students, with hardly any or no inputs from students, is an established hindrance to learning, irrespective of the domain.

4. Long hours of classes is a traditional class format, but with online classes, the need to re-invent teaching styles, time frames and methodologies are important.

5. Other factors affecting teaching/classes worldwide are:

- a. Lack of COVID19 testing facilities
- b. Decreased attendance of patients in OPDs
- c. Cancellation of elective surgical cases
- d. Lack of PPEs

6. Assessment is a vital component of competency based education[9]. In addition to making the pass/fail decisions, a very important role of assessment is to provide feedback to the learner and help him/her to improve learning. Skill Assessment assesses the skill of the student including those in the practical laboratory, skills lab, skills station that uses mannequins/paper case/simulated patients/real patients as the context demands. This cannot be evaluated in the online scenario.

Recommendations

1. Most of the countries have moved onto virtual/online teaching (Asynchronous learning), but this

process has further accentuated the digital divide between developed and LMIC. A practical alternative for LMIC like DRC is to utilize radio and television platforms which are comparatively more accessible and available even in remote areas[10]. The precise duration of each class during asynchronous learning remains debatable, however, it is recommended that the medical educator stick to one key concept/point per class/interaction for better grasp with judicious management of time.

2. WHO collaborating Centres- The collaborating centres of WHO[11] (eg. The Institut National de Recherche Biomédicale (INRB) in Kinshasa which was primarily tasked for research on human African trypanosomiasis), can be transformed to provide medical education. Also, community based learning practices [community-based education and service (COBES) [12]- which merges medical education with its concurrent application in community could be incorporated into the medical curriculum. This will yield dual advantage - continuing medical education and augmentation of health care workers at the same time.

3. Towards Unity for Health (TUFH) - The active assistance and participation of WHO can help harness the potential of international organisations such as TUFH, which can provide necessary financial and human resources required to continue medical education and enhance community health services[13].

4. Reducing attrition among students- This pandemic has created havoc in the world economy and consequently amplified the repercussions of the same in poor countries whose economy relies majorly on humanitarian aid. To combat this, students have been forced to leave studies and somehow manage to earn daily living. If a need based financial aid such as take-home food rations and cash transfer support can be provided, it can help improve the attendance[12].

5. Accessibility - Podcasts[14] can be used at places where the network is available intermittently in which students can download and listen to education material in their own time. Venezuela's Mission Barrio Adentro model[12] is another intervention which can be applied in remote areas where a medical educator

can give supervised practical training in an already existent primary health care facility (eg. a dispensary) in batches of 8-10 students.

6. Skill development in teachers and students for grasping content in asynchronous learning- The teachers can not utilize the monotonous top down approach of PowerPoint presentation model in virtual teaching because they can not monitor any inputs from students and also students can become easily distracted due to poor self-regulation[8][15]. On the contrary, teachers need to be innovative by incorporating an active process[16] of teaching such as voice modulations, sticking to one key concept and keeping the class duration to an optimum time (20-25 min).

Conclusion

Learning in medicine is a conglomerate of acquiring knowledge, skill and art of dealing with the patients. As we adapt ourselves to this "new - normal", medical education hasn't been more unhinged. While integration of technology is a critical and required part of medical education, it should not cause over-reliance to it and decrease our human skills like compassion and empathy, which form the core cultural value of DRC. So as we cultivate plans to re-introduce elements of face to face teaching, we need to ensure that these nuances are also integrated with medical education. There is also a need for leveraging funds from donors, and finding innovative financing models to improve medical infrastructure and education. The need of the hour is to think outside the box, and set objective standards for the online format of classes. We need forward thinking and scholarly approach to review the curriculum for future doctors and find solutions to have a near-authentic patient experience, but at the same time, in low income countries, like the DRC, what we need to prioritise is that education doesn't stop. While this is a time for both students and medical educators to help contribute to the advance of medical education, and to formulate skills for the times ahead, this could also be the defining time in history while the new code of medical education is written.

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