SPECIAL FEATURE ARTICLES

THE EFFECT OF THE COVID-19 PANDEMIC LOCKDOWN ON MEDICAL EDUCATION IN NIGERIA

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ABSTRACT

During the COVID-19 pandemic which shutdown the nation in March 2020, healthcare systems in global epicenters experienced an unprecedented burden of a fast-moving contagion in form of the novel coronavirus. Schools and Universities were shut down as countries implemented mandatory lockdown. Medical students returned to their home bases across the globe but unlike students in the industrialized world, Nigerian students were not equipped to continue learning. The lack of technology and faculty with pre-requisite skills to scale teaching to a digital platform amongst other challenges grounded medical education in Nigeria.

Nigeria will need to catch up with the West by implementing strategies to train the educators on digital teaching and upgrade the medical schools to be compliant with digital training protocols. The Federal Ministry of Health needs to incorporate a uniform Learning Management System across all the Teaching hospitals such that cross content can be utilized for medical training and engage the technology sector as partners to provide technical support and cyber security. The structure of the medical education partnership initiative (MEPI) with one of its three aims being to strengthen in-country medical education systems, could be a starting point. The Federal Ministry of Health should be able to utilize the Tertiary Education Trust Fund to support technological advances in medical education in Nigeria.

Keywords: Medical students, Medical Education, COVID-19 pandemic, Technology, Nigeria

When we first heard the news of the novel coronavirus affecting people in Wuhan, China in December 2019, little did we know that the world would turn upside down in a matter of 4 months. What followed from news of the first cases resembled a burning inferno with no solution in sight as the novel coronavirus, of which little was known then, spread by air droplets and on shared surfaces was infecting people and leaving in its trail an average of 3% mortality.

We learned that this novel coronavirus called severe acute respiratory syndrome coronavirus [2], shortened to SARS-CoV-2, is the cause of coronavirus disease (COVID-19), a seriously unpredictable life-threatening multi-system infection that to date has infected over 24 million people globally.[(1)]

As the virus spread like wildfire in a never seen global distribution, the World Health Organization in March 2020 announced a pandemic. At this point, movement ground to a halt as countries implemented mandatory lockdowns in a bid to stem the virus from spreading from person-to-person. Every action of lockdown had multi-layer effects that showed us how we are intertwined through globalization.

Nigeria announced lockdown in some major States; Lagos, Ogun and Federal Capital Territory of Abuja.[(2)] The lockdown meant that movement was limited to essential workers. Medical students on clinical clerkship training are vital and instrumental team members to the running of teaching hospitals; but they were not deemed essential workers.[(3)] During the lockdown period, preclinical and clinical medical students in Nigeria who were at their home bases in the

wake of the Academic Staff Union of Universities strike [4] were not allowed to return back to training facilities to limit exposure to SARS-CoV-2. The other factor for consideration was the shortage of personal protective equipment (PPE) for health workers on the frontline. This life-saving equipment was not sufficient in quantity to provide medical students' protection. [3]

In industrialized nations, several changes were implemented to avoid the interruption of medical student education and this was mainly using technology. As the students returned to home base, teaching hospitals galvanized and onboarded medical educators to provide online education using digital technology platforms such as Zoom and Learning Management Systems such as Blackboard. Webcams were utilized by educators to provide a virtual learning experience to medical students at home. [5]

Medical students created online communities to exchange knowledge and information as seen in the United Kingdom with the use of hashtag #MedStudentCovid. This hashtag enabled students to follow the conversations pertaining to current events and happenings in medical education during the pandemic. The United Kingdom General Medical Council permitted provisional registration of final year medical students months before graduation. So, these students were fast tracked and given jobs as foundation Year 1 doctors. [6]

In Nigeria, challenges that are constant include access to reliable broadband and electricity. Too often on Zoom conferences, people were heard complaining about the interruption caused by low bandwidth and lack of internet data. The high cost of data has also hampered access to online classes. Some complained they could not charge devices due to "no light". We imagine the challenges faced by the Nigerian medical student would also have included lack of accessibility to technology to attend online classes.

As digital technology boosts its array of offerings, medical students and health providers in the West are turning to online, point-of care evidence-based clinical decision support resources, podcasts, electronic books and journals to obtain up-to-date current medical information. Textbooks from 2019 and earlier do not have any mention of COVID-19 or its complications, sequelae or care; and will become obsolete as books of medical instruction. We also imagine that the educators of medical students perhaps did not have the opportunity of being trained to provide online education as well as lack of hardware, software, bandwidth, and internet data.

In industrialized countries during the pandemic, Telehealth, which had been rising but slow on the uptake in some areas, immediately skyrocketed to high visibility as everyone jumped on the telemedicine bandwagon- thanks to the easily accessible digital platforms such as Doxy.me [7] and Doximity dialer to mention a few. Some Nigerian private medical facilities also followed the digital telehealth trend as many clinics and hospitals implemented telehealth gateways to provide care for patients while reducing the risk of spread of the virus during in-person visits. In the public health sector, the uptake on digital delivery of healthcare was scant.

The chaos of the COVID-19 pandemic created an opportunity for countries to innovate quickly, as we saw less bureaucracy and fast-tracked processes for the timely delivery of needed and essential supplies. As the lockdown turned from days into weeks, it became clear that technology was the only saving grace as people turned to platforms such as Zoom to stay connected, while social media was abuzz with dialogue. We saw what was possible and indeed what is possible in the future -how to create convenience in certain tasks that hitherto were encumbered with protocols.

There are so many endless possibilities for the use of technology in medical education. Didactic lectures can be delivered by a hybrid of in-class learning with synchronous video learning or podcast. Students in preclinical years can learn procedures by watching video simulations. Medical learning can be enhanced using mobile phone apps and asynchronous learning. Medical education can be provided by diaspora healthcare providers through teaching platforms as well as eConsults. By using a DaVinci robot remotely, a surgeon in the diaspora would be able to perform surgery in an African country. This is just the tip of the iceberg for telemedicine and technology.

What does Nigeria need to do to ensure medical education is not left behind as the world recovers from the pandemic? The technological processes that have emerged out of the pandemic will continue to grow. The West has found some winning formulas in Telehealth and online medical education.

Nigeria will need to catch up by implementing strategies to train the educators on digital teaching, create technology and library media centers, provide laptops or tablets to medical students and lecturers, provide reliable and affordable internet data to medical students and upgrade the medical schools to be compliant with digital training protocols. The Federal Ministry of Health needs to incorporate a uniform Learning Management System across all the Teaching hospitals such that cross content can be utilized for medical training and engage the technology sector as partners to provide technical support and cyber security.

The structure of the medical education partnership initiative (MEPI) could be a starting point. MEPI awarded grants to 12 African countries including Nigeria (University of Ibadan) in 2010. MEPI funded foreign institutions in Sub Saharan African countries that receive the US President's Emergency Plan for AIDS Relief (PEPFAR) support and their partners to develop or expand and enhance models of medical education.[8] The initiative aimed for the following: advance PEPFAR's goal of increasing the number of new health care workers by 140,000; strengthen in-country medical education systems and build clinical and research capacity in Africa. MEPI has created a network of partners across the globe via regional ministries of health and education, as well as US and foreign-based collaborators. The members of the network enjoy the experience and knowledge sharing which can be extended to other institutions especially where it concerns education of medical students.

The Tertiary Education Trust Fund (TETFUND) agency was established by a law in Nigeria to support the development and transformation of Nigerian universities into globally recognized institutions.[9] The agency is responsible for ensuring that all Education Taxes (2% of profits) paid by Nigerian companies are collected and disbursed to Tertiary institutions in Nigeria. These funds can be used by universities to develop and build the necessary infrastructure required to provide internet access to staff and students. Training, hardware and all internet technologies for staff and students can be funded by these sources. Medical students and staff should be able to apply to this pool of funds for research grants to develop relevant apps for training and online learning.

Technology will allow medical education in Nigeria to meet or surpass the standards of industrialized nations. As we await Facebook's internet cable and the SpaceX internet access, technology services need to expand capacity to prepare for a time when even those in remote villages will have access to the internet's Telehealth services. Multi-Ministerial collaborations will play an active role in ensuring implementation of sustainable and scalable technology programs in medical education. The COVID-19 pandemic presented an opportunity; we should grab it by its bull horns, innovate, and pivot to strengthen and improve Nigeria's healthcare system.

Acknowledgement: None

Conflict of Interest: None

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