

REVIEW ARTICLE

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Assessing the Impact of Information Communication Technology on Medical Education and Healthcare Delivery in Nigeria During Covid-19 Pandemic Lockdown

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The Coronavirus disease 2019 (COVID-19), despite claiming millions of lives, has also made a devastating impact on the economy, education, and healthcare delivery of almost all the countries of the world. Notwithstanding, it seems the information and communication (ICT) sector 'boomed' and made a gross contribution to the global economy, education, healthcare delivery among others. Following the COVID-19 lockdown, health and education sectors were badly affected as access to healthcare delivery was impaired and most countries migrated their teaching and learning to an online mode for the continuation of learning; Nigeria was not left out either. This paper assessed the impacts of ICT on medical education and healthcare delivery in Nigeria during the covid-19 pandemic and the new normal.

Keywords: ICT, COVID-19 pandemic, Nigeria, medical education, healthcare delivery

Introduction

The coronavirus disease 2019 (COVID-19) pandemic that popped into the world from Wuhan city of china, has no doubt affected almost every sphere of life. Most of its effects are damaging to varying degrees. Both the developed and the developing countries are counting their losses due to the pandemic with over 200 million cases of the COVID-19 infection as of mid-August 2021 (1). With the daily increase in casualty figures, the COVID-19 pandemic became dreadful, and its damaging

effects cannot be overemphasized (2). The COVID-19 outbreak has had a varying degree of impact and is still impacting almost all the industries across the globe, ranging from healthcare delivery, education, tourism, etc. Following the pop-up of the COVID-19 pandemic, telecoms or telecommunications industries across the globe have experienced a remarkable surge in demand through Information Communication Technology (ICT). ICT enables access to information through

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telecommunications by using the internet, wireless networks, smartphones, and other mediums of communication (3,4). There was a spike in data consumption and voice-related services following the lockdowns (5). Most academic activities migrated online for the continuation of learning and many people also seek solace with ICT resources to work from home, access entertainment, socialize, sustain the family and social bond, attend conferences, seminars etcetera (5).

Even though not all, many academic institutions in Nigeria also migrate to an online platform in varying degrees thereby making ICT more popular. It seems the COVID-19 pandemic has launched the country's ICT to the limelight as some companies also interacted and engage with their clients or customers through online conferences, webinars, and live sessions using popular social media handles like Instagram, Facebook, and other online platforms. Virtual assistance and virtual job interview also became the order of the day.

Medical Education and ICT

During the heat of the pandemic, schools were closed globally with over 85 million students sitting at home (6). This prompted most of the institutions of learning to switch teaching and learning online (7, 8). Teachers and students were being compelled to go online using video conferencing platforms like zoom meetings, google scholar, skype among others (9). Besides, some private medical schools ran their entire classes for the academic semester including examinations online (10). This is indeed a giant stride in the history of education in Nigeria. This is probably the first time in Nigeria where most of her schools, primary, secondary and tertiary

institutions of learning will shift teaching and learning almost completely online in real-time using video conferencing applications (9). Before the COVID-19 pandemic, online learning is not popular in Nigeria, although some institutions, especially her open university do run online lectures but not in real-time (9,11).

Aside from medical education, ICT seems to have a positive impact on the entire education system in Nigeria. During the lockdown, there were cases of virtual screening for prospective students, virtual matriculation, virtual graduation, or convocation ceremonies among others (12). Besides, a virtual debate was also held in one of the public universities in Nigeria for about 18 professors contesting for the position of the university's vice chancellorship (VC) (13).

This is indeed a positive move in the academic environment. Nigerian students will now be able to stand shoulder high with their contemporaries across the globe. Many students and lecturers are now exploring the numerous advantages of technology in education. This will open the eyes of students including the medical ones on how to improve more on technology to enhance medical education and the healthcare delivery system in the country. With online lectures in vogue, many Nigerians or even African students and lecturers are now being exposed to exploring several academic opportunities abroad. They can now seamlessly attend a series of lectures and enroll in courses online regardless of the continent. This will make it easy for lecturers to give their lectures both locally and internationally without a distance barrier. It will also strengthen the harmony among schools in Africa and the international communities.

Healthcare Delivery and ICT

It is without a doubt that the pandemic might have launched the global healthcare delivery system to a digital revolution. In Africa and Nigeria, the COVID-19 pandemic has worsened the overburdened health system due to the shortage of healthcare professionals and dilapidated health facilities (14). According to David et.al, 31 of the 54 countries in Africa have a doctor-patient ratio of 1:10,000 as against 1:600 recommended by the World Health Organization (WHO) (14-16). Nigeria has 1:6400 compared with USA 1:100, Italy 1:270, and Germany 1:417 (15,16). Although telemedicine is not new in Nigeria, however, its adoption has been very low, as many healthcare professionals and managers are not willing or ready to adopt or invest (16,17). Political will, poor internet bandwidth, poor infrastructural facility, and lack of manpower are other factors responsible for the unwillingness (16).

With the ICT taking the lead during the COVID-19 pandemic, telemedicine is also coming to the limelight and becoming popular in Nigeria. During the first phase of the COVID-19 pandemic lockdown, the Health Management Agency of the state (Lagos) which is the epicenter for COVID-19 launched the 'Eko Telemed'; an initiative that will augment health delivery and deal with health issues that are not associated with SARS-CoV-2 in the course of the pandemic (18). Now, telemedicine is gradually becoming popular in Nigeria, with many Health Maintenance Organizations (HMO) offering its services. With telemedicine, patients can access healthcare within the country and abroad (14). Besides, the availability of smartphones, laptops, and improved internet coverage will also avail patients of the opportunity for audio-visual

consultation (19). This will help catapult Nigeria's healthcare delivery to operate like a 21st-century organization. It will also facilitate doctor-to-patient telehealth services, timely access to care, online pharma-retail, and other related health services.

Other Impacts of ICT during the Lockdown

Aside from the medical education and healthcare delivery in Nigeria, some other sectors like telecommunication and banking also benefitted immensely from using ICT during the COVID-19 pandemic lockdown. For the first time, the telecommunication sector, a non-oil sector leads the growth of the gross domestic product (GDP) in the second quarter (Q2) of the 2020 fiscal year (20). This, therefore, made the country's ICT as an umbrella expand by 15.1%, contributing about 17.87% to the ground-sum of the GDP which is about N15.9 trillion in Q2 2020 (21). This helped to serve as financial succor for the country's economy to cater for some basic COVID-19 equipment as the lockdown already affected its oil-dependent economy.

The banking sector also recorded more online transactions as a result of the lockdown measures and besides witnessed the launch of the next-generation FastTrack automated teller machine (ATM) also known as Touchless Solution; a machine designed to enhance financial transactions on the ATM without any form of physical interaction or contact with the ATM interface; the first of its kind in Africa (22). The touchless ATM was designed to help reduce contact-contact COVID-19 mode of transmission and the increase in online transactions avail patients the opportunity to access healthcare regardless of the lockdown.

The judicial arm in Nigeria also advocated for an online or electronic court (23-25). Before this time, despite the awareness of the use of electronic resources for the enhancement of judicial proceedings, it is poorly utilized in the judicial system of Nigeria (26), which makes court cases to be delayed and often adjourned with many awaiting trials. Following the COVID-19 lockdown, almost all the court proceedings were suspended and the Attorney General of the Federation (AGF) and Minister of Justice in Nigeria declared court proceedings to be held via teleconferencing (25). This will help to recover the time lost to the pandemic. It will also help to complement the traditional court hearings, clearing the backlogs, and improve the speed of dispensation of justice in Nigeria (23-25). Improvement in the speed of justice dispensation will help to further decongest the police cells and prisons, thereby eliminating any form of COVID-19 transmission due to mass gathering.

Conclusion

Without mincing words, despite the havoc made by the COVID-19 pandemic, it has also made some 'positive' impacts on Nigeria's education, healthcare delivery among others through the use of the ICT. COVID-19 has revolutionized the way people interact, as people now look up to technology for their businesses, education, religion, health, among other transactions and interactions. This is an eye-opener for medical education in Nigeria to invest more in and adopt the use of ICT in training medical students as some practical sessions were on hold during the lockdown. Medical students should also be tutored comprehensively on computer software development that will further enhance medical training and health care delivery in the country.

Nigerian government should further improve on the level of internet access and coverage in the country. Internet or data subscription should also be regulated and be affordable by most of the public, as these are some of the hindrances to keying into this digital revolution occasioned by the COVID-19 pandemic. In reality, only organizations, businesses, and individuals that can adapt to these changes in technology will succeed during the COVID-19 pandemic and beyond.

Conflicts of Interest

The authors declared no conflict of interest for the review article.

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