

Expanding Telemedicine to Reduce the Impact of a Post-Coronavirus Disease on Healthcare Systems and Poverty in Africa 2019 (COVID-19) the Reformation of the Pandemic

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Abstract

The worldwide public health emergency of coronavirus disease 2019 (COVID-19) has highlighted the vulnerability of health systems. As a result of the new coronavirus, healthcare providers and resource-poor communities became scarce. As a result, this study focuses on Africa's readiness to integrate telemedicine into its underdeveloped health systems and how its adoption may assist in relieving poor healthcare and poverty after COVID-19. On January 20, 2021, we did a narrative review in Scopus using various search algorithms to discover accessible literature documenting the adoption of various telemedicine modalities in Africa from January 1, 2011, to December 31, 2020. We classified 54 studies based on geography, field, and implementation methods. The findings suggest a willingness to employ telemedicine in resource-constrained settings and with hard-to-reach people, which would alleviate overcrowded healthcare systems and reduce poverty among those who suffer the brunt of healthcare expenditures. Telemedicine can enhance the treatment of communicable and non-communicable diseases while also supporting health infrastructure if properly funded by the government. It can help reduce poverty among vulnerable populations and hard-to-reach locations in Africa with adequate government financing. However, given Africa's lack of financial resources, the challenges of implementing telemedicine demand global and national policy before favourable results can be attained. This is especially true in the post-COVID-19 age when it comes to eliminating the multidimensionality of poverty.

Keywords: Telemedicine • Resource-poor • Health issues • Poverty alleviation • Coronavirus disease 2019 (COVID-19) • Post-COVID-19 reformation

Introduction

The coronavirus disease 2019 (COVID-19) pandemic's exponential influence on African health systems and health-related concerns is clear. The World Health Organization (WHO) proclaimed a pandemic and notified the public, healthcare workers, governments, and nations about the controversies and concerns regarding COVID-19 risk factors, prevention, and therapies. The worldwide reaction was fast, but it ignored critical concerns regarding the safety of healthcare personnel, facilities, and healthcare delivery to resource-poor nations. The epidemic forced health professionals and state budgets to divert resources from existing illnesses like HIV, TB, and malaria to the front lines of the emerging global health disaster. As a result, health finance disparities have been highlighted, which are exacerbated by poverty [1]. Poverty has historically been a difficult notion to describe or grasp. Global policies have aimed to resolve the 1 USD per day threshold established in 1990, as well as the absolute line, national poverty line, personal consumption, purchasing power parity, and a newly proposed societal poverty line to reflect realities in both high-income and low-income countries [2,3].

Existing literature, however, concurs that poverty is multifaceted [4]. Access to capital and money determines the kind of healthcare and other services that households and families in rural villages, towns, and megacities access and consume [5]. The African poverty cycle is not a new concept. However, it has been exacerbated by public health problems caused by the COVID-19 worldwide pandemic. First, poverty has continually fostered illnesses in Africa before COVID-19, and disease frequency has been related to low living conditions and a lack of access to healthcare services [6,7]. Thus, advancements in healthcare service delivery via telemedicine, as well as Africans' willingness to accept it, may stimulate growth in impoverished locations where healthcare services are already scarce. The COVID-19 epidemic has highlighted poverty and health risks in remote areas throughout the world [8]. Because the characteristics of Africa's hard-to-reach populations are defined by multidimensional poverty, including health poverty, embracing telemedicine is a viable promise for enhancing the quality of life on the continent. Telemedicine in global health is seen as ideal by health stakeholders such as the World Bank and WHO. According to the WHO, telemedicine can mitigate the effects of a lack of healthcare professionals and long hours spent in clinics on routine health cases, promoting efficiency and reducing stress on healthcare personnel. Through mobile applications and other technology devices shared by professionals and patients, the invention provides scheduling flexibility, speed, timeliness, and convenience of delivery of health services, reducing regular physical contact that may otherwise increase health risks. Despite visible benefits for vulnerable healthcare personnel and resource-poor people, the idea has yet to be widely adopted during the COVID-19 epidemic. The global public health emergency highlighted the fragility of Africa's healthcare capacity as well as the vulnerabilities of health workers, but the worldwide surge in the use of technology during the pandemic highlighted a possible solution for overcoming poverty and meeting health assistance needs in Africa's developing countries, namely, wider adoption of telemedicine. The current study's main topics include how the prevalence of and efforts to use telemedicine assist in offering solutions to poverty, as well as its importance in healthcare treatment in underdeveloped African nations. However, there are several challenges to telemedicine adoption and scalability in Africa, particularly where policy and programme execution involve a diverse spectrum of stakeholders. The current study first investigated and summarised the literature on telemedicine applications in various African countries to investigate popular applications, barriers, and scaling-up of telemedicine to combat public health issues such as inadequate healthcare facilities, health worker overload, information sharing, testing, and results in delivery. Second, we investigated how advances in telemedicine may be used to reduce poverty in resource-poor and difficult-to-reach groups. The findings of this research have the potential to expand the use of telemedicine in Africa and give commendable answers to the worldwide multidimensionality of poverty.

Implications for future research and direction

During any global public health crisis, telemedicine offers great potential and technology toolkits that can bring cutting-edge solutions to global poverty and healthcare delivery. In this study, we revealed that, in addition to being accepted by healthcare staff and developing technologically-inclined young Africans, telemedicine provides great aid in healthcare delivery and alleviates the challenges of poverty in Africa. It can be successfully suited to Africa's isolated villages that lack access to health care and employees, while also encouraging social transformation and mobility. However, there are certain issues for which we have proposed solutions. We expect that future research will include additional disciplines, such as economics and finance, to appropriate financial funds for the large-scale implementation of telemedicine in African healthcare institutions. Furthermore, future research might concentrate on digital supply networks, value chains, and the prevention of technological redundancy. Furthermore, connecting telemedicine to tele-financing, investment networks, and private investors is

critical. Most African nations are still experimenting with telemedicine. Its omission from the national health framework's priority list suggests a lack of access to money and mHealth innovation. Global and national telemedicine investment, as well as their motivations and how they interact and develop to address global health and poverty, can all be studied. Future research should look into how policies arise, how norms play a part in telehealth policies, and how they become institutionalised. This research may concentrate on strategies for reconciling competing objectives and conflicts in mHealth technology as well as the functions of social networks. Future research might also look at the governance of mHealth technology. Privacy, abortion, and women's rights are all challenges that the mHealth platform cannot handle on its own. There are still questions about whether value co-creation can solve this challenge and how innovation arises. Future research might look at technological designs to examine how simple, user-friendly, and socio-culturally relevant telehealth technologies can be made, sold, and accessible in developing countries. Finally, future research can focus on digital gaps and how to bridge them, potentially through university collaborations or national and international collaborations.

Telemedicine is still relatively new in Africa, with fifty-four nations having used it. Africa's low-resource communities suffer from a number of challenges, including long travel distances to understaffed hospitals, which are mostly concentrated in major cities. In an emergency, mHealth technologies on smartphones, mobile applications, and online portals offer the distinct advantages of data availability, real-time sharing of health status, training, and a more cost-effective method of obtaining medications. The recent experiences in Africa and the rest of the globe prompted by the global COVID-19 health catastrophe present health systems with an unparalleled chance to learn and collaborate. Lessons acquired should be used to create a more secure road to poverty eradication. To combat new infectious and viral illnesses such as Ebola and COVID-19, Sub-Saharan African nations require national health policies that include eHealth technology and telemedicine tactics. In addition to input from medical researchers, eHealth specialists, social activists, mobile service providers, physicians, nurses, and other medical professionals, national eHealth policies should incorporate stakeholders' contributions to health and information. These methods will enable stakeholders to offer consistent information on the costs and resources required for low-cost yet effective eHealth solutions.

Concerns about data availability, sharing, and privacy should be handled fairly and with regard to the owners' security and interests. Governments may address delicate problems such as stigmatisation, sexual abuse, and rights, as well as the injustices that drive them, through law and public awareness. In order to establish highly dependable healthcare 5.0 frameworks, numerous regional and worldwide players from diverse domains, such as the medical, commercial, legal, and political sectors, must be included. Healthcare specialists should discover smart strategies to promote healthcare 5.0 services in developing nations as part of their future efforts.

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