







Challenges facing telemedicine in low income countries

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ABSTRACT

Telemedicine is the practice of medicine virtually, by means of newly developed technology, such as computers, phones, and videos, to provide different healthcare services including diagnosis, monitoring, and consultations, mainly for patients who cannot be physically presented in the clinics and hospitals. However, there are several obstacles, that inhibit the globally widespread diffusion of telemedicine specifically in low-income countries.

Keywords: telemedicine, challenges, low-income countries

INTRODUCTION

Telemedicine is known to be a new technology in the field of healthcare that uses communications and networks to deliver medical education, medical follow-up and monitoring, consultations, and other services including diagnosis and treatment despite the wide geographic distances, considered to be a barrier between physicians and their patients [1]. Recently, telemedicine has been considered to be a tool used by professionals and healthcare providers across the globe to exchange information about people's health status and provide a variety of clinical services including physician-patient meetings management [2, 3]. Although telemedicine cannot replace the face to face healthcare, it can still provide higher-quality of services. Despite that telemedicine is being deployed around the world, several challenges including technology barriers, lack of the right proper equipment, decrease in effectiveness and efficiency, high cost, and lack of reimbursement have been facing it [4], hence making it unable to meet, anymore, the needs of both patients and providers, mainly in low-income countries [5, 6].

DISCUSSION

Telemedicine or telehealth is known to be a new innovation, that has emerged in the world, especially during the COVID-19 pandemic [7], due to the wide spectrum of services and opportunities it provides to patients, such as sharing medical information, welcoming the patients and discussing their symptoms, learning about treatment options, acquisition of medical images, interacting with the teams, enabling phone and video appointments, and most importantly keeping a caring eye on patients despite the

distances [8, 9]. Moreover, telemedicine promotes nonclinical services such as medical education, training, and administrative meetings [10]. Multiple devices and programs are used in the scope of telemedicine in order to facilitate the interaction between its users and ensure efficacy with medical protocols and general education [11]. These devices include computers, cameras, smart cards, new software to enable data collection, organization and analysis, internet, and other technology-enabled programs [12].

However, in low-income countries, a wide scope of challenges and obstacles are currently facing telemedicine [13], some of which are the inability to get access to a large percentage of the population, the lack of good internet connection, high and expensive costs, technological barriers and the inability to replace the older equipment and software with newer ones, additionally to other financial issues [14].

Firstly, in low-income countries, there are wide disparities and inequalities within the population itself [15], where telemedicine is considered to be a technology adopted only by high-income earners, whereas the low-income earners, who constitute the larger percentage and amount of the population cannot get access to it [16]. The presence of such issues in low-income countries will widen the health disproportion and imbalances between users and non-users of this technology.

Secondly, the availability of good internet and the rapid wide web, are mainly two factors preventing the widespread of telemedicine in these countries [17], due to the fact that they require the presence of two essential components, which are access to broadband internet and internet capable devices [18], which are highly expensive and relatively unaffordable for users in these countries. The Internet speed in poor countries compared to developed ones, is rated slow or very slow, besides the cost of a subscription is known to be extremely high, which will, eventually, stop patients and students from

using sophisticated devices, needed to connect to the internet, in order to use telemedicine [19, 20].

Lack of reimbursement is one of the main top barriers in the field of telemedicine challenges in low-income countries [4]. Getting reimbursement coverage for telemedicine services, including virtual meetings and check-ins imposes several problems for physicians, healthcare providers, and medical centers due to the high amounts of expenses it imposes on them, on one hand [13, 21].

On the other hand, telemedicine, known to serve the needs of both physicians and patients, rests on several pillars, namely, new technology, efficacy and effectiveness, and safety, which are quietly missed in low-income countries [22].

Due to the fact that telemedicine is a virtual care medicine, new digital technologies are needed to connect remotely despite the distances, to deliver information, monitor and maintain the data (e.g., monitoring of blood pressure) such as tablets, computers, smartphones, and cameras. In order to adopt this new online technology, large financial payments must be reimbursed by the institutions, which is mainly non-applicable in low-income countries, as well as good experience in how to use it [23].

Finally, the effectiveness and efficiency of telemedicine are two essential components to provide sufficient data for care continuity, especially, since telemedicine requires continuous and significant changes, which in turn necessitates high costs [4, 24]. However, in low-income countries, healthcare providers must adapt to new changes and workflows, hence will affect both the efficiency and effectiveness of the care [25, 26].

CONCLUSIONS

Telemedicine is considered to be a new technology in promoting healthcare, by improving the quality of lives, by distributing health-related services by means of telecommunications devices, especially in the case of long-distance patients. However, in low-income countries, there are some specific boundaries, that limit or inhibit the telehealth practice, these could be financial and non-financial barriers, such as lack of reimbursement and new technologies.

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