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Letter to the Editor

Enhancing preventive medicine over curative medicine: Role of telemedicine

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ABSTRACT

Historically, healthcare has been skewed towards curative medicine neglecting preventive care leading to high cases of preventable diseases and mortalities. Preventive medicine does not only contribute towards improving health and well-being (SDG3) but also reduces poverty (SDG1). This article aims to highlight the need for prioritizing preventive medicine over curative medicine and also explore opportunities of telemedicine in its promotion.

Dear Editor

Curative medicine implies therapies made available to a patient with the aim of fully resolving an ailment and bringing the patient - ideally to their health status prior to the ailment. However, preventive medicine entails actions that guard against disease occurrence, which involves actions targeted at eliminating or supressing the impact of disease, or if not attainable, delaying the progress of disease [1]. Preventive medicine can be observed today in the promotion of vaccination to guard against the spread of infectious diseases [2]. Historically, healthcare has been skewed towards curative medicine neglecting preventive care leading to high cases of preventable diseases and mortalities. Preventive care reduces health expenditure, clinic admissions, hospital overcrowding, and radical treatments [3]. Hence, it should be prioritized globally especially in low and middle income countries where preventable diseases take the lives of millions of people yearly [4]. This article aims to highlight the need for prioritizing preventive medicine over curative medicine and also explore opportunities of telemedicine in its promotion.

The COVID-19 pandemic and other outbreaks in history has exposed the limitations of curative medicine [5]. Lessons derived from these outbreaks were not how to treat patients with those illnesses using drugs, instead it showed the importance of saving lives by reducing vulnerability through preventive measures adopted [6]. As the hindrances of curative medicine become clearer, and cost of medical care rises in all countries, disease prevention is getting due attention [7]. According to a recent study, at least 70% and as much as 90% of the cardiometabolic risks are directly attributed to modifiable behaviours, hence, must be prevented through lifestyle changes [8]. Evidence have shown that interventions aimed at behavioural risk factors and lifestyle changes could significantly prevent premature death worldwide with or without preventive medications and supplements [9,10]. Moreover, most public health interventions are cost-effective [11]. An integrated approach to health care may be a better option to reduce the disease burden in developing and resource-poor countries [12].

Previous studies have shown that, impediments to the utilization of preventive care include; perception of not needing hospital visitation when not sick and also procrastination by people [13].

In order to promote preventive medicine and to achieve its numerous benefits toward improving health and well-being of individuals and communities, innovative strategies and policies need to be implemented. Telemedicine provides unique opportunities to enhance preventive care and adherence of individuals to healthy lifestyle, early detection of conditions and quick access to treatment. For instance, in diabetes and obesity prevention, utilization of behaviour prevention apps, synchronized with an individual's electronic health records, sending timely and periodic notifications and remainders can decrease diabetes-promoting habits [14].

The objective of telemedicine is to get the best out of healthcare delivery, with enhanced possibilities among individuals, and the population on a larger scale [15]. Telemedicine applications involve the use of mobile phone applications, website, SMS, video conferencing, and other ICT tools [16]. Telemedicine provides the opportunity for the triage of severe cases [17]. There is also an avenue to exploit the ability of Artificial Intelligence (AI) to create a better pandemic preparedness and response [18]. Telemedicine has also been used to accelerate the progress of, and streamline local COVID-19 screening procedure, thus lessening the burden on healthcare facilities and practitioners [17]. Psychotherapy and counselling from experts through video conferencing and messages are effective in prevention of mental health disorders [19].

Although beneficial, the application of telemedicine in preventive medicine has been met with limitations. Considerable training of patients and health workers is required for familiarization with related technologies [17]. There is also limited access to broadband and internet facilities in many areas (especially developing countries). In addition, many groups of people are excluded from interoperability like the deaf, dumb and elderly [17]. All these constitute severe constraints to the smooth running of telemedicine in preventive medicine.

The biggest challenge is providing seamless user-friendly connectivity between diagnosis, data collection, data dissemination, risk prediction and risk management [20]. Some of the challenges impeding the application of telemedicine in developing countries include little or no connectivity in rural areas, slow growth and usage of telemedicine and requirement of additional training [21]. Lack of basic amenities in some countries is also a hindrance. In India, nearly 40% of the population lives below the poverty level [22]. Basic amenities like transportation,

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electricity, telecommunication, safe drinking water, primary health services etc. are missing. No technological advancement can change anything when a person has nothing to change [22].

The difficulty of engaging in studies like randomized controlled trials to determine outcomes of telemedicine measures applied in preventive medicine and public health can be accounted for as among barrier factors of telemedicine use in preventive medicine. Ethical approvals for such studies are rare, therefore resulting to less use of telemedicine solutions in preventive medicine [23].

While telemedicine/telehealth (TMH) can foster efficiency and convenience, its reliance on continuous, real time transmission of data over computer networks also creates risk notably patient's privacy violation. In addition, operational and technical hazards accompany telemedical communication which include file corruption, damage of transmission medium, cyber insecurity [24].

Development and implementation of telemedicine innovations should involve relevant stakeholders in health, academia, government, economic and others to share best practices to ensure delivery of quality and affordable health services. There is every need for the expansion of telemedicine through community engagement and training directed at understanding working principles and usage of telemedicine technologies [21]. Also, to enhance the application of telemedicine in health care, there ought to be access to fast and reliable internet in most cases [21]. It is expected that the health facilities providing telemedicine options, must spend additional time as well as money for training the experts in order to enrich them with the much needed technical knowledge [21].

In conclusion, although curative medicine remains crucial, preventive medicine needs to be prioritized in modern healthcare. However, promotion of preventive medicine requires innovative strategies which include the use of telemedicine to increase adherence and access to quality healthcare information and services.

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Declaration of competing interest

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