Exploring the scope of telehealth in Indian settings in health care delivery and in medical education

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Abstract: Telehealth refers to the distribution of health-related services and information, which essentially includes preventive, promotive, and curative care through the use of electronic or telecommunication technologies. An extensive search of all materials related to the topic was carried out in the PubMed search engine and a total of nine articles were selected based upon the suitability with the current review objectives. In the current era of COVID-19 pandemic, wherein social distancing has been advised at all places to control the transmission of infection, telehealth has to be acknowledged as one of the most important innovations of the modern-day health sector. Considering the fact that telehealth can significantly enhance patient satisfaction levels and thereby health outcomes, there is an indispensable need to train the medical undergraduate students or postgraduate residents during their period of training. In conclusion, telehealth is a holistic concept that needs significant attention from the health stakeholders and medical educators. Owing to the multiple benefits attributed to telehealth in improving the health indices and quality of life of the general population, all the concerned stakeholders should plan the services better and implement the same keeping the interests of the community.

Keywords: India, Medical Education, Telehealth, COVID-19 Pandemic.

Introduction

Telehealth refers to the distribution of health-related services and information, which essentially includes preventive, promotive, and curative care through the use of electronic or telecommunication technologies [1]. Telehealth differs from telemedicine, which predominantly targets remote clinical services like diagnosis and monitoring. Thus, telehealth is a more holistic term, which encompasses telemedicine and much more, including capacity building of health providers. It is important to note that adoption of telehealth in the health care delivery not only broadens the access to health care services, but also augments efficiency, minimizes direct & indirect expenditure on health and improve health outcomes among patients [1-2].

Methods

An extensive search of all materials related to the topic was carried out in the PubMed search engine. Relevant research articles focusing on telehealth in Indian settings published in the period 2015-2020 were included in the review. A total of 15 studies similar to current study objectives were identified initially, of which, 4 were excluded on account of irrelevance to the present study and two were excluded due to the unavailability of the complete version of the articles. Overall, nine articles were selected based upon the suitability with the current review objectives and analyzed.

Keywords used in the search include telehealth, COVID-19, tele-pharmacy, tele-cardiology, medical education, and India. The collected information is compiled under the following headings, namely the scope of telehealth in the Indian context, telehealth in the COVID-19 era, telehealth in medical education, applications of telehealth, lessons from the field, implications for practice in

health & medical education and implications for research.

Scope of telehealth in the Indian context

Telehealth has immense scope in Indian settings as close to two-third of the nation's population still resides in the rural areas, which often have poor healthcare facilities. In addition, owing to the timely availability of health care services through telehealth at times of emergency, there is a significant potential to save a number of lives [2]. Telehealth is the need of the hour as it can overcome the practical problems of people, especially for the underprivileged and underserved sections of the society [3].

In-fact, telehealth has been looked upon as the future of the healthcare delivery in remote and rural settings, which often face challenges pertaining to the shortage of quality health professionals, specialists, or difficulties pertaining to the lack of transport or mobility. Moreover, it can turn out to be an ideal tool for improving the health awareness among the general population and empower them about the different topics of public health concern [2-3].

Telehealth in the COVID-19 era

In the current era of coronavirus disease-2019 (COVID-19) pandemic, wherein social distancing has been advised at all places to control the transmission of infection, telehealth has to be acknowledged as one of the most important innovations of the modern-day health sector [4-5]. The initiation of telehealth services in different settings has prevented overcrowding of health care establishments, which are the potential source of infection, owing to the presence of COVID-19 patients or their contacts in the settings [4-6].

Telehealth in medical education

Considering the fact that telehealth can significantly enhance patient satisfaction levels and thereby health outcomes, there is an indispensable need to train the medical undergraduate students or postgraduate residents during their period of training. Demonstration of improved levels of competence in telehealth prepares the medical students for their future career and can be looked upon as a mode for establishing direct connection with the patients

[7]. In-fact, a short telehealth program has been introduced in the Emergency Department of the Thomas Jefferson University and the residents are benefited because of the same [7].

Application of telehealth

As establishment of telehealth services is a resource intensive program, it is a must that before we initiate such services in any area, a thorough needs assessment should be carried out [1-2]. Subsequently, based on the needs of the people, appropriate services can be organized [2]. In the modern era, telehealth can be offered in a wide range of ways, namely provision of emergency care, tele-nutrition, tele-pharmacy, tele-rehabilitation, tele-cardiology (including transmission of ECGs), awareness activities, and other specialists care delivery [1,7-9].

On a similar note, a wide range of models has been proposed to effectively implement tele-pharmacy in community settings [8]. Further, tele-cardiology has also found immense scope and utility in the current set up of patients and the basic purpose is to save the lives of people suffering from cardiac emergencies and have no or limited access to prompt medical care [9]. We should not ignore the value of telehealth in improving the awareness of people about common ailments or prevailing health problems / condition in a specific locality, so that the general population is empowered and can actively participate in their own and community well-being [1-3].

Lessons from the field

Telehealth enables the delivery of an integrated, holistic and uniform healthcare with the help of technology. In-fact, it has been regarded as an approach to improve the quality, access to health services and a way to deliver ready-made health care. In the mission to improve the health status of the rural population and for the organization of health camps, a state-of-the-art Mobile Telemedicine Unit is being run in Mahatma Gandhi Medical College and Research Institute, a constituent institute of Sri Balaji Vidyapeeth, Pondicherry, with multiple facilities, including tele-cardiology and teleradiology.

Implications for practice in health and medical education

Telehealth has immense scope in the field of health and medical education delivery. All the multi-specialty hospitals, specialty hospitals and tertiary health care centers, including medical colleges should explore the possibility to initiate telehealth services within their settings and aim to benefit not only their catchment population, but also remote sections of the community.

Institutions with an existing telehealth facility can look to start elective courses for the benefit of undergraduate students. Further, medical students during their internship can also be posted for a brief period to expose them to the functioning of the telehealth system and the range of services that can be offered. Similarly, postgraduate students can also be exposed to telehealth during their period of residency through a structured program.

Implications for research

As the branch of telehealth continues to expand in a developing nation like India, there is a definite possibility to explore and carry out research activities to gain insights into the wide range of fields wherein telehealth can be employed. The conduction of research activities will also help in the needs' assessment of the local residents and accordingly the health care facilities can plan for more tele-interventions.

Conclusion

In conclusion, telehealth is a holistic concept that needs significant attention from the health stakeholders and medical educators. Owing to the multiple benefits attributed to telehealth in improving the health indices and quality of life of the general population, all the concerned stakeholders should plan the services better and implement the same keeping the interests of the community.

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