TELEMEDICINE IN INDIA DURING COVID-19 PANDEMIC AND FUTURE POSSIBILITIES: A REVIEW

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ABSTRACT

The Covid-19 pandemic provided an unparalleled opportunity for national health systems to make a concerted effort to expand telemedicine access and coverage. Telemedicine services have been integrated by health care providers to eliminate doctor-patient visits and help break the chain of infection transmission. In March 2020, the Medical Council of India issued practice guidelines in anticipation of the increased need for telemedicine from health care providers. The goal of this paper is to address the current scenario, potential prospects and applicability of telemedicine in India.

Index terms: COVID-19, health care, telemedicine

1.INTRODUCTION:

Telemedicine is a rapidly emerging service to provide expanded access, especially in the midst of the current COVID-19 pandemic, to high-quality healthcare that is reliable and cost-effective. Telemedicine is the use of electronic information to communicate technology where distance divides the participants to provide and sustain healthcare [1].

"Tele" is a Greek word meaning "distance" and a Latin word meaning "to heal" is "mederi. "Time magazine called "healing by wire" telemedicine. Telemedicine, although initially considered "futuristic" and "experimental," is a fact today and has come to remain. In patient care, education, science, administration and public health, telemedicine has a range of applications [2].

The use of electronic communication and information technology to provide or assist remote health treatment is telemedicine. The use of electronic information and telecommunications technology to facilitate long-distance health care, patient and clinical health-related education, public health and health-related education is a wider term called telehealth administration [3][4].

2.Types of telemedicine

Telemedicine can be broken into three main categories: store-and-forward, remote monitoring and (real-time) interactive services [5]

2.1 Store-and-forward telemedicine entails the collection of medical data (such as medical photographs, biosignals, *etc.*) and then the transfer of this information to an offline examination doctor or medical professional at a suitable time. The involvement of both parties at the same time does not involve it. The common specialties that are conducive to asynchronous telemedicine are dermatology (cf: teledermatology), radiology and pathology. A part of this transition should be a properly organized medical record, ideally in electronic form. The omission of an actual physical evaluation and history is a crucial distinction between conventional in-person patient meetings and telemedicine meetings. The 'store-and-forward' process requires the clinician to rely on history report and audio/video information in lieu of a physical examination.

2.2 Remote monitoring, also known as self-monitoring or checking, requires medical professionals to use different electronic equipment to remotely monitor a patient. This technique is mainly used to treat chronic illnesses, such as heart disease, diabetes mellitus, or asthma, or serious conditions. These programs may offer typical in-person patient experiences with equivalent clinical outcomes, provide greater patient satisfaction, and can be cost-effective.

2.3 Interactive telemedicine programs, including telephone calls, online contact and home visits, offer real-time connections between the patient and the provider. Similarly to those conducted in typical face-to-face appointments, certain tasks such as history review, physical examination, psychological tests and ophthalmology evaluations can be performed. In addition, "clinician interactive" telemedicine services may be less costly than in-person clinical visit.[6]

3. Indian scenario

In India, telemedicine is catching up, although a few private telemedicine service providers/clinics have recently come up in large cities of India (for second opinion with their counterparts in developed countries) [7]. Due to the low cost and almost universal availability of the Internet, Web-based telemedicine solutions are gaining popularity. The Government of India's Ministry of Communications and Information Technology has classified "telemedicine" as one of the country's key areas for growth [8]. The cheapest as well as quickest way to bridge the rural-urban health divide may turn out to be telemedicine. Telemedicine will help to introduce advanced health care to the most remote corners of the world, taking into account India's tremendous developments in the field of information and communication technology. [7],[9].

The effectiveness of telemedicine has already been demonstrated through the network developed by the Indian Space Research Organization (ISRO), which, through its geostationary satellites, has linked 22 super-specialty hospitals with 78 rural and remote hospitals across the country. This network has helped thousands of patients in remote locations, such as the Jammu and Kashmir Islands, the Andaman and Nicobar Islands, the Lakshadweep Islands and the Central and Northeast Indian Tribal Areas, to gain access to consultations with experts from super-specialized medical institutions[10]. ISRO has also provided mobile telemedicine units with connectivity in villages, particularly in the fields of community health and ophthalmology. [11].

4 .Telemedicine in India during Covid-19 Pandemic

Despite its steps to contain the spread of the virus through social distancing and strict lockdown measures, India has seen an increase in COVID-19 cases. In the lockout era, the lack of access to health care is a major problem [12]. Such incidents have paved the way for recognition of telemedicine where health care delivery could be made ubiquitously available.

Telemedicine was introduced by the Indian government to eliminate direct physician-patient interaction during the course of the pandemic. In view of the growing value of telemedicine at the time of the COVID-19 pandemic, the telemedicine practice guidelines published in 2005 were updated in 2020 to focus on medical ethics, privacy of data, confidentiality, recording, digital consultation records, and process setting of fees for telemedicine. It stresses medical ethics principles, including ethical standards, as per the Indian Medical Council Act, to protect patient privacy and confidentiality. [13] .

In the midst of the current pandemic, telemedicine is an additional boon that gives the health care provider as well as the patients the following added benefits.

- Telemedicine can be used to treat chronic diseases such as bronchial asthma, hypertension and diabetes mellitus on an ongoing basis, particularly during a period in which social distance is encouraged. Individuals with these conditions are especially vulnerable to COVID-19, and compliance with medicines and optimization of illnesses are effective ways to minimize severity. Telemedicine can serve as a safe and effective alternative to in-person care [14].
- Telemedicine may also be used to provide patients and their family members with social help without being exposed to infection.
- Telemedicine could also help reduce the burden on tertiary hospitals during the COVID-19 pandemic by providing diagnosis and care to patients in their own geographical location and reducing the chances of patient exposure due to hospital visits.
- Telemedicine may also help provide care providers with training for sick and disabled children and the elderly.

5.Future of Tele medicine in India

We hope that this COVID-19 pandemic will mark a shift in the delivery system of health care, with more people embracing teleconsultation and a transformation in the face of the nation's health system. There is a leap in the adoption of digital health platforms in the health sector following the release of National Health Policy 2017 with the goal of achieving universal health coverage in India. The National Digital Health Roadmap focuses on patient confidentiality and privacy requirements that health systems can implement to enable electronic health records to be implemented [15].

Telemedicine can further benefit efficiently from such existing systems. E-Sanjeevani is a web-based online telemedicine project launched in 2019 under the Government of India's Ayushman Bharat scheme to provide patients with health services at home. This service delivery has been implemented free of cost by around 21 states and union territories through the Health and Wellness centres. During the COVID-19 pandemic, the use of the e Sanjeevani portal for non-covid patient care increased, minimizing direct contact with health care professionals.

With exponential growth and advancement in information and communication technology (ICT) systems, telemedicine holds a promising future in India. In suburban and rural India, satellite communication, high-speed internet access, mobile and cellular phones are making their way into [7].

The widespread use of wireless and web-based services and the improvement of technology, including the introduction of 3G and the upcoming launch of 4G spectrum and optical networks, are other primary growth factors. There is a need to

incorporate telemedicine into national systems, including public health preparedness. Strategies must be available to easily identify telemedicine structures, operating strategies, communication toolkits, and processes for data sharing. Assessment and analysis to describe and analyze the effect of telemedicine during outbreaks can help this process [16]. Rapid establishment of telemedicine can spearhead change in the overall health care delivery, simultaneously addressing contemporary global health issues.

II. Conclusion:

Strategies must be available to easily identify telemedicine structures, operating strategies, communication toolkits, and processes for data sharing. Assessment and analysis to describe and analyze the effect of telemedicine during outbreaks can help this process. In the area of healthcare, facilities such as tele-health, tele-education and tele-home healthcare are proving to be wonders. It is held back by a lack of understanding and acceptance of emerging technologies by both the public and professionals.

III .References:

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