Virtual Health Care in India in the Era of COVID-19 Pandemic

Mayushi Gupta[1] and Rohit Raina[2*]

[1]*Department of Internal Medicine, Acharya Shri Chander College of Medical Sciences, Sidhra, Jammu, Jammu and Kashmir, India.*
[2]*Department of Internal Medicine, All India Institute of Medical Sciences, Rishikesh, Uttarakhand, India.*

Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

Original Research Article

ABSTRACT

Aims and Objectives: To know the role of telemedicine in fighting the pandemic situation of Covid-19 in India and facing the double burden of diseases (Communicable and non-communicable).
Material and Methods: Maintaining the norms of social distancing, we have tried to collect secondary data from different sources which will help us know how physicians and patients' consultations are being done in this pandemic situation through teleconsultation or telemedicine.
Results: According to Bain and Company's India Venture Report 2020, healthcare investments saw a rise in 2019 across wellness and health platforms, e-pharma, and even some telemedicine-focused players. Telemedicine space in India has gone up by almost 40 percent in 2019 – $178.4 million across 16 deals.Advancements in technology have enabled doctors from urban India to treat patients in rural areas remotely through video-call consultations. In addition,services like self-monitoring devices, disease screening solutions, and healthcare management solutions can be

---

Corresponding author: E-mail: rohitraina103@yahoo.com;

provided for newer threats like the recent novel coronavirus where video-call consultations aren't enough.

Conclusion: The entire healthcare system is under attack by the novel COVID-19 virus that has no proven treatment. Hospitals are being stretched beyond their capacity and healthcare workers are falling ill. Telehealth providers, enablers, and suppliers represent a tangible resource that can remove certain patients from the hospital setting by evaluating them remotely, tracking their progress, and helping all stakeholders remain in contact as the intensive efforts for a vaccine and effective treatment are underway. Telehealth is inappropriate for all COVID-19 patients, but some patients could be examined, treated, and followed up using a mix of virtual visits, remote patient monitoring (RPM) devices, and mobile health services, apps, and wearable devices.

1. INTRODUCTION

Over the past 3 months, the world witnessed historic and dramatic developments related to the rapid emergence of a novel coronavirus.[1] Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. Older people, and medically unfit persons with cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness. COVID-19 has now been declared a pandemic by the World Health Organization (WHO).

In the era of COVID 19, the concept of telemedicine has gained enormous importance. Telemedicine is a term coined in the later 1970's which literally means "healing at a distance".[2] According to WHO, Telemedicine is "The delivery of health care services, where distance is a critical factor, by all health care professionals using information and communication technologies for the exchange of valid information or diagnosis, treatment and prevention of disease and injuries, research and evaluation, and further continuing education of health care providers, all in the interests of advancing the health of individuals and their communities".[3].

Although initially considered "futuristic" and "experimental," telemedicine is today a reality and has come to stay.[4] Worldwide, people living in rural and remote areas struggle to access timely, good-quality specialty medical care. Residents of these areas often have substandard access to specialty healthcare, due to the concentration of specialist physicians in urban population. Telemedicine has the potential to bridge this distance and facilitate healthcare in these remote areas. [5,6].

1.1 Telemedicine or Telehealth- Same or Different?

Some distinguish telemedicine from telehealth with the former restricted to service delivery by physicians only, and the latter signifying services provided by health professionals in general, including nurses, pharmacists, and others. However, for the purpose of this report, telemedicine and telehealth are synonymous and used interchangeably.[7]

2. OBJECTIVES

To know the role of telemedicine in fighting the pandemic situation of covid19 in India and facing the double burden of diseases (communicable and non-communicable), initiatives taken by the government, private, corporate sectors in healthcare industry and the guidelines, strategies implemented by the government in practicing telemedicine in India.

3. MATERIALS AND METHODS

Maintaining the norms of social distancing, we have tried to collect secondary data from different sources which will help us know how physicians and patients' consultations are being done in this pandemic situation through teleconsultation or telemedicine.

India has one doctor for every 1,445 people according to the parliament in November 2019,. The World Health Organization's prescribed norm states one doctor needs to be available for every 1,000 people.[8]

3.1 Telemedicine Practice Guidelines

NITI AAYOG prepared guidelines for telemedicine consultation. These should be used

in conjunction with other national clinical standards, protocols, policies and procedures. Within the broad paradigm of telemedicine, these guidelines will be published under the IMC Act.These guidelines are designed to serve as an aid and tool to enable RMPs to effectively leverage telemedicine to enhance healthcare service, access to all. The guidelines are meant for RMPs under the IMC Act 1956. The norms and standards are covered by guidelines of the RMP for patients telemedicine consulation. 'Registered Medical Practitioner' is defined as a person who is enrolled in the State Medical Register or the Indian Medical Register under the IMC Act 1956.

3.2 Exclusions

The guidelines specifically exclude the following: specifications for hardware or software, infrastructure building &maintenance, data management systems involved, standards and interoperability, use of digital technology to conduct surgical or invasive procedures remotely, other aspects of telehealth such as research and evaluation and continuing education of health care workers and does not provide for consultations outside the jurisdiction of India.

Registered Medical Practitioners are entitled to practice telemedicine. An RMP can provide telemedicine consultation to patients in remote areas. RMPs using telemedicine shall uphold the same professional and ethical norms and standards as applicable to traditional in-person care, within the intrinsic limitations of telemedicine. RMPs must need to complete a mandatory online course within 3 years of its notification to provide online consultation. In the interim period, the principles mentioned in these guidelines need to be followed.

3.3 Modes and Tools for Telemedicine

There are 3 primary modes: Video, Audio, or Text (chat, messaging, email, fax etc.)
Telemedicine applications can be classified into four basic types.

3.3.1 According to the mode of communication

Video based applications are Telemedicine facility Apps, Video on chat platforms, Skype/Face time etc.

Telemedicine chat-based applications which are text based consists of specialized telemedicine smartphone Apps, Websites, other internet-based systems etc. General messaging/ text/ chat platforms (WhatsApp, Facebook Messenger etc.)
Asynchronous (email/ Fax etc.)

3.3.2 According to timing of information transmitted

Real time Video/audio/text interaction - Video/audio/text for exchange of relevant information for diagnosis, medication and health education and counseling.
Summary of patient complaints and supplementary data including images, lab reports and/or radiological investigations between stakeholders are transmitted as asynchronous exchange of relevant information.

3.3.3 According to the purpose of consultation

For Non-Emergency consult:

First consultation - Patients may consult with an RMP for diagnosis and treatment regarding all health issues.

Follow-up consult with the same RMP- Patients can be followed up by same RMP using telemedicine consultation.

Emergency consult for immediate assistance or first aid etc. - In case alternative care is not present, tele-consultationcan be used as an emergency.

When alternative in-person care for emergency care is available, telemedicine services should be avoided and telemedicine consultation should be limited to first aid, life-saving measure, counseling and advice.

3.3.4 According to the individuals involved

Patient to RMP -Telemedicine services may connect patients to an RMP.
Caregiver to RMP -Telemedicine services may connect Care givers to an RMP, under certain conditions.

RMP to RMP -RMP can discuss with other RMPs issues of care of one or more patients by using telemedicine.

Health worker to RMP -A Health Worker can facilitate a consultation session for a patient with an RMP. Health worker can take history, examine the patient and convey the findings to RMP. They can also convey the advice to the patient given by the RMP.

3.4 Guidelines for Telemedicine in India [9]

Two important guidelines for telemedicine in India include identification of patient and RMP and the consent. Anonymous Telemedicine consultation should not be done . Identification of both patient and the RMP should be known to each other. An appropriate verification of patient's identity by name, age, address, email ID, phone number, registered ID or any other identification may be done by RMP. The registration number should be shown by RMP accorded to him/her by the State Medical Council/MCI, on prescriptions, website, electronic communication (WhatsApp/ email etc.) and receipts etc. given to his/her patients. The consent can be Implied or explicit depending on the following situations: If, the patient initiates the telemedicine consultation, then the consent is implied. An Explicit patient consent is needed if a Health worker, RMP or Caregiver initiates a Telemedicine consultation. Patient can send an email, text or audio/video message giving an explicit consent. Other elements to be considered before any telemedicine consultation: context, mode of communication type of consultation whether first consult or follow-up consult, patient evaluation and patient management [9].

3.5 Health Education, Counseling & Medication

Telemedicine consultations have certain limitations on prescribing medicines depending upon the type and mode of consultation. Medicine prescription of various categories via tele-consultation will be as notified in consultation with the Central Government timely.

3.6 Prohibited List

An RMP providing consultation via telemedicine cannot prescribe medicines in this list. These medicines could harm the patient or the society if used improperly. List of medicines are given in Schedule X of Drug and Cosmetic Act and Rules or any Narcotic and Psychotropic substance listed in the Narcotic Drugs and Psychotropic Substances, Act, 1985.

3.7 Issue a Prescription and Transmit

Prescription shall be issued by RMP as per the Indian Medical Council (Professional Conduct, Etiquette and Ethics) Regulations and the provisions of the Drugs and Cosmetics Act and Rules shall not contravened. A photo, scan, digital copy of a signed prescription or e-Prescription shall be provided by RMP to the patient via email or any messaging platform. In case the prescription directed to a pharmacy by RMP, consent of the patient must be explicited by him/her that entitles him/her to get the medicines dispensed from any pharmacy of his/ her choice.

3.8 Fee for Telemedicine Consultation

Fee perspective should be same for telemedicine consultations as in-person consultations. Appropriate fee can be charged by a RMP for the Telemedicine consultation .[9]

4. RESULTS

According to Bain and Company's India Venture Report 2020, healthcare investments saw a rise in 2019 across wellness and health platforms, e-pharma, and even some telemedicine-focused players.

In India, Telemedicine space has risen by almost 40 percent in 2019 – $178.4 million across 16 deals. This year, $500,000 has already been raised by Bengaluru-based Cure Skin, which has a remote treatment solution for skincare and hair fall with Artificial Intelligence (AI)-enabled solutions [10].

5. DISCUSSION

The health care system has adopted telemedicine which not only provide health services to patients in distant areas but also lessen the burden of hospital sectors, medical staff through direct contact as they are more prone to infections as well. Almost 70 percent of doctors are concentrated in urban areas while the rural population remains grossly under-served.[11] According to estimates, Community Healthcare Centers in India face up to 82 percent shortage of specialists."[12] Video-call consultations can be done by doctors from urban India to treat patients in rural areas remotely. In

addition,services like self-monitoring devices, disease screening solutions, and healthcare management solutions can be provided for newer threats like the recent novel coronavirus where video-call consultations aren't enough. [10] At present, Apollo Telehealth runs about 700 healthcare centers in Public-Private-Partnership mode across India majorly spread across Andhra Pradesh, Himachal Pradesh, Uttar Pradesh and Jharkhand, touching more than 11.4 million lives. Although in country like India where vast population live in rurat areas with shortage of electricity as well as internet facility telemedicine my not ne properly accessible to them during COVID times regardless of this fact in rural India, a sustainable telemedicine system is provided by many Healthtech startups. Practo – one of the example in the Indian healthcare segment that allows patients to chat with expert doctors online.[10] Startups from beyond the metros like Kota-based Med Cords connect patients, doctors and pharmacies for smooth access and sharing of medical data. Services are being provided to more than 20 lakh users, across Rajasthan, Madhya Pradesh, Gujarat, Uttar Pradesh, Bihar, and Chhattisgarh. The population less than three lakh called Tier-III cities, including towns and villages are usually the startup targets. Vadodara-based Healthtech startup I Online Doctor provides secure video call consultations connecting doctors and patients using a simple and easy-to-use mobile app. The platform consists of more than 2,000 doctors, and more than 45 healthcare specialists, super specialists, family physicians, Ayurvedic, and homoeopathic doctors [13].

6. CONCLUSION

The entire healthcare system is under attack by the novel COVID-19 virus that has no proven treatment. Hospitals are being stretched beyond their capacity and healthcare workers are falling ill. Telehealth providers, enablers, and suppliers represent a tangible resource that evaluate patients remotely, tracking their progress, and helping all stakeholders remain in contact as the intensive efforts for a vaccine and effective treatment are underway [14].

Telehealth is inappropriate for all COVID-19 patients, but some patients could be examined, treated, and followed up using a mix of virtual visits, remote patient monitoring (RPM) devices, and mobile health services, apps, and wearable devices [14].

DISCLAIMER

The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

CONSENT

As per international standard or university standard, patients' written consent has been collected and preserved by the authors.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Wuhan Novel Coronavirus2019-nCoV; 7 February, 2020. Available:https://jglobalbiosecurity.com/articles/10.31646/gbio. 52/.
2. Strehle EM, Shabde N. One hundred years of telemedicine: does this new technology have a place in paediatrics? Arch Dis Childh. 2006;91:956-959.
3. WHO. A health telematics policy in support of WHO's Health-For-All strategy for global health development: report of the WHO group consultation on health telematics, 11–16 December, Geneva, 1997. Geneva, World Health Organization; 1998
4. Ganapathy K. Neurosurgeon, Apollo Hospitals, Chennai, Telemedicine in India-the Apollo experience, Neurosurgery on the Web. 200
5. Bashshur RL, Armstrong PA, Youssef ZI. Telemedicine: Explorations in the use of telecommunications in health care. Springfield, IL: Charles C Thomas; 1975. [Google Scholar]
6. Bashshur R, Lovett J. Assessment of telemedicine: Results of the initial experience. Aviation Space Environ Med. 1977; 48:65–70.

7. Tenforde AS, Hefner JE, Kodish-Wachs JE, Iaccarino MA, Paganoni S. Telehealth in physical medicine and rehabilitation: A narrative review. PM R 2017;9: S51-8.

8. India's doctor-patient ratio still behind WHO-prescribed 1:1,000: Govt Nov 19,2019. Available from: https://mybs.in/2XAhxH1

9. Dinakaran D, Manjunatha N, Kumar CN, Math SB. Telemedicine practice guidelines of India, 2020: Implications and challenges. Indian J Psychiatry. 2021;63(1):97-101.

10. Debolina B. Telemedicine may be on the rise, but it is reaching rural India that needs it the most? March 11,2020. Available:http://yourstory.com/2020/03/sstartup-bharat-telemedicin-practo-mfine-prime-venture/amp

11. [11] Karan A, Negandhi H, Nair R, et al. Size, composition and distribution of human resource for health in India: new estimates using National Sample Survey and Registry data. BMJ Open. 2019;9:e025979.

12. Singh, A. Shortage and inequalities in the distribution of specialists across community health centres in Uttar Pradesh, 2002–2012. BMC Health Serv Res. 2019;19:331.

13. Rashi V. Coronavirus: This Kota-based startup is providing healthcare beyond metros amid lockdown;Apr 4; 2020. Available:https://yourstory.com/2020/04/coronavirus-kota-startup-healthcare-telemedicine-lockdown/amp

14. Telehealth - A Technology-Based Weapon in the War Against the Coronavirus; May 12,2020. Available:http://apnews.com/pressrelease/Business%2520Wire/0337f64852ab475390eaac9923fa099c