

# Telemedicine Health Care Delivery in India: A Boon During COVID-19 Pandemic

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Telemedicine Health Care Delivery (TMHCD), a digital revolution in the field of remote public health care stood to be a real time boon to the suffering mankind in this COVID-19 pandemic times. India, which occupies the second top position in population statistics globally and also a known hub of rural population with a diverse cultural heritage is in a dire need of TMHCD to combat the worst hydra headed widely spreading COVID-19 pandemic. The pandemic forced Indian government to bring about different revolutionary strategic implementations in the public health care domain of the country to provide easy access to health care for every citizen of the country. Even though the TMHCD has its debut during the new millennium of the 21<sup>st</sup> century but its accelerated implementation is being visualised real time live during this pandemic. Analysing the historical perspective of TMHCD, the word 'Telemedicine' dates back to 1970 whose literary meaning is "healing from a distance"<sup>1</sup> but its powerplay implementation in health care properly existed in the new millennium. Various definitions existed but the one adopted by World Health Organization (WHO) authenticated an elaborate description for it as – "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 for diagnosis, treatment and prevention of disease and injuries, research and evaluation, and for

the continuing education of health care providers, all in the interests of advancing the health of individuals and their communities" showing its significance in promoting remote public health care. A survey conducted globally in 2009 by WHO showed that 30% of the countries possess a national agency for promotion and development of TM and almost 50% of countries reported that scientific institutions are involved in the development of telemedicine solutions. Furthermore 70% of countries represented the need for more information on the cost and cost-effectiveness of telemedicine solutions, about 50% expressed need for more information on the infrastructure necessary to implement telemedicine solution and additional information on the clinical uses of telemedicine<sup>2</sup>.

In India, Ministry of Health and Family Welfare (MOHFW) laid its clear TMHCD guidelines in March 2020 in which the standard operating procedures for TMHCD for its effective implementation in the management of the crisis situation aroused during this pandemic<sup>3</sup>. The medical professionals stretched themselves to the fullest extent delivering health care remotely helping the public in an integrated manner. Apart from the pandemic disaster, the pre-existing co-morbid conditions and the anxiety, fear component among the public is also of major concern which was not possible to handle through physical consultations owing

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to the COVID-19 appropriate behavioural guidelines. AYUSH (Ayurveda, Yoga, Unani, Siddha, Sow-Rigpa, Homoeopathy) health care system plays a major role in public health care of India as a reflection of Indian culture and heritage also has released specific standard operating procedures for TMHCD in the respective systems of medicine separately to ensure the delivery of TMHCD in a qualitative manner<sup>4,5</sup>.

## 1. TMHCD Strategies During COVID-19 in India

The following are the important aspects being covered through TM especially in these pandemic times in India:

1. Effective assistance for the diagnosis of COVID-19 in rural areas where health care facilities and medical expertise are meagre.
2. Education and counselling:
  - i) Myths and Facts of COVID-19 – educating and counselling of patients to understand the COVID-19 phenomenon.
  - ii) COVID-19 appropriate behaviour counselling.
  - iii) Psychological counselling to remove fear and panic of pandemic.
3. Medical management – standard medication could be suggested remotely.
4. Proper guidance provided to tackle the emergency situations and advising appropriate referrals.
5. Vaccination related expert guidance, immediate assistance on registration facilities and execution.

## 2. Mode of Operation for TMHCD in India

Primary modes of technologies used to deliver telemedicine services are as follows –

1. Asynchronous TM – store and forward type through email, fax etc.
2. Synchronous Audio or Video conferencing or interactive TM includes basic & specialist consultations – Telephone, WhatsApp, Skype etc.

3. Remote access as mobile applications helping people giving advises about COVID-19 safety measures, immunity boosting methods, home remedies for example AYUSH Sanjivani app. released by Ministry of AYUSH<sup>6</sup>.
4. Real time access also can be termed mobile health (m-Health) as helpline numbers directly assisting in counselling, treatments, hospital bed availability, oxygen availability and facilitating vaccination information etc. For example, official helpline numbers local and central<sup>7</sup>.

## 3. Future Health Vision of India

The vision of India emerging as a global leader in digital health was planned through NITI AAYOG during 2018-19 and has been launched by Shri Narendra Modi, prime minister of India on 15<sup>th</sup> August 2020 in the form of National Digital Health Mission (NDHM) to further revolutionize the health sector of India in the field of advanced technology<sup>8</sup>. In this context, the TMHCD would evolve as a global integrative health care delivery strategy with its various aspects as ease in access, time & cost-effectiveness, multidisciplinary integration and many more advantages<sup>9</sup>. Though TMHCD is not the solution for all health care problems but especially it was found to be an effective solution for rapid action in response to the COVID-19 pandemic combating the deadly virus<sup>10,11</sup>. Further, TMHCD initiative calls for a proper global research agenda to be evaluated for its effective implementation in future.

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