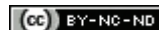Public Health Section

Telemedicine: A Paradigm Shift in Healthcare in the wake of COVID-19 in India

RIA SAHA[1], VINOTH GNANA CHELLAIYAN[2]

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ABSTRACT

The COVID-19 pandemic has severely affected the delivery of essential healthcare services in India. The massive disruption of the routine healthcare services had been circumvented to a certain extent with the application of telemedicine. In the wake of the COVID-19 pandemic, the Government of India has issued regulatory guidelines and approved Registered Medical Practitioners (RMP) to adopt the usage of teleconsultation service which can be real-time or asynchronous to minimise the risk of disease transmission. The commentary provides an in-depth review of the regulatory guidelines implemented by the Government of India and discusses the inherent structural and fundamental challenges associated with its wide scale adoption, accessibility, and utilisation. Though the Government of India had issued national guidelines to promote safe and effective usage of telemedicine practice, there remains certain primary structural, technical and institutional challenges regarding expansion of uninterrupted services to periurban and rural peripheral health facilities and its nationwide sustainability. The article demands the attention of the policymakers and relevant stakeholders to identify the inherent bottlenecks intrinsic to the guidelines and amend the regulatory framework accordingly to ensure its long-term sustainability.

INTRODUCTION

As of 28th September, 2020, there are more than 33 million COVID-19 confirmed cases, taking almost one million lives globally. India alone has recorded over six million confirmed cases with death toll approaching 100,000 [1]. The pandemic has escalated challenges on the already crumbling health systems of India to efficiently deliver quality and timely essential healthcare services. Despite emerging as the fifth largest economy in the world, India's public health expenditure has been historically lamentable (1.28% of the nation's Gross Domestic Product (GDP); the fiscal year 2018) [2]. India holds a deficit in the doctor-population ratio (1:1456) and thus, does not meet the World Health Organization (WHO) recommendation (1:1000) [2].

Urban India holds a greater availability of healthcare workers with nearly 60% compared to the lesser concentration in rural areas. Strong evidence suggests a brutal division between the urban poor and rich where the poor grapple with access to healthcare and are usually served with low-quality healthcare services [3]. The skewed ratio of healthcare workers is not only stretched at the urban/rural and urban rich-poor intersections, but among the states too [4].

This existing condition has been further exacerbated by a huge task shifting through the direct diversion of already meagre financial and human resources for prevention and management of COVID-19. There has been a significant lockout of essential services like accessibility and uptake of maternal health services, cancer treatment, vaccination, outreach healthcare delivery, etc. The routine hospital services were severely disrupted with a 64% and 52% drop in outpatient oncology treatment and chronic cardiovascular-related disorders, respectively [5]. With an alarming shortage of hospital beds (0.55 per 1000 population), ventilators (estimated 17,800-25,600 in ICU), paucity and unequal distribution of trained health workforce and facilities, the healthcare facilities are overwhelmed with the sudden surge of COVID-19 affected cases and failed to adequately respond to the pandemic [4,6,7]. This has resulted in numerous preventable deaths and unwanted public sufferings.

The aim of this commentary is to identify the contribution of telemedicine services in maintaining routine healthcare services in response to COVID-19. Also, to seek the inherent structural and fundamental challenges associated with its wide scale adoption, accessibility, and utilisation, an in-depth review of the regulatory guidelines implemented by the Government of India in response to COVID-19 is required.

Telemedicine in the COVID-19 Pandemic

Due to lack of facility preparedness and skewed distribution of hospitals stretched throughout the country, social distancing imposes an immense challenge in India. While practicing social distancing appears as a paradox, telemedicine has emerged as a first-aid optimal plan of action to support patients with immediate evidence-based solutions [8]. Several healthcare facilities are currently leveraging telemedicine consultation (diagnosis, routine check ups, follow-ups, remote patient monitoring) platforms which is effectively reducing the burden at the hospitals when an in-person visit is not necessary. Strategic designing of telehealth should integrate standardised screening, using evidence-based epidemiological information (trends and patterns of most common COVID-19 symptoms) for timely and accurate diagnosis and treatment thereby, reducing the waiting time of suspected patients. Although the platform has provided rapid access and timely delivery of services amid the nationwide lockdown, it is important that there should not be any prioritisation of COVID-19 over non COVID-19 patients. There should be an accurate allocation of technological and financial resources to provide safe, equal, timely and emergency consultations to all the citizens in need. The doctors and other associated health workforce should be appropriately trained and certified to be able to efficiently adopt the medium as part of routine service delivery.

The use of asynchronous technology for healthcare delivery proved to be helpful in remote monitoring chronic diseases like diabetes, hypertension, cardiovascular ailments, and cancer thus, reducing the chances of contamination during an infectious pandemic. Patient images are being captured, stored, and transmitted to far

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away experts for monitoring and intervention. Monitoring of blood pressure, glucose readings, and weight could be conducted by the healthcare provider. Monitoring and recommendation for Emergency Department (ED) admission of patients with congestive cardiac failure have also been successful [9-12]. In an emergency like COVID-19, telemedicine enables connecting patients to experts for triaging assessment, treatment guidance, and training of medical staff [13].

Telemedicine Practice in India

With the goal of equitable access to healthcare, the Government of India has promulgated the practice of telemedicine, since March, 2020. In developing countries like India, given the higher population and larger geographical distance, telemedicine practice could provide the right solution in achieving timely and rapid access to essential healthcare services [14]. It would cut down the expenses incurred towards the travel to healthcare facilities from rural areas [15].

The guideline clarifies principles to be followed by RMP of India using channels of communication to carry outpatient consultation via telemedicine. The RMP could use chat platforms such as WhatsApp, Skype, Facebook, Messenger, etc., which is being commonly used by people of all geographical locations in India. As per the guidelines, mode of communication could be audio, video, or text-based. The exchange of information is a real-time or asynchronous exchange and first or follow-up consult. The scope of the guidelines allows four different interactions- patient to an RMP, caregiver to an RMP, health worker to an RMP and RMP to RMP [14].

An RMP may proceed with his/her professional judgment to provide health education, counseling, and prescription of medications. There has been a specific restriction on the prescription of medications and a list O, A, and B can be prescribed via any mode of teleconsultation. Medicines listed under Schedule X of Narcotic Drugs and Psychotropic Substances Act, 1985, and Drug and Cosmetic Act and Rules are prohibited to be prescribed under teleconsultation. The RMP should follow professional norms in protecting the confidentiality and privacy of patients who are teleconsulting as per the Indian Medical Council Act. However, the breach of confidentiality and privacy is possible with technology. And it is the responsibility of an RMP to maintain a log or record of all telemedicine consultation. Both, RMP and patients have the liberty to discontinue or refuse teleconsultation with due notice during any time of teleconsultation proceedings [14].

In emergencies, the patient should be attended in-person by an RMP. Though the scope during an emergency is limited-first aid, counseling, and advice on referral, in certain instances, teleconsultation would be the only possible way to provide timely care [14,15]. In addition to the healthcare delivery, the role of telemedicine in the screening of diseases and disaster management should not be undermined [16]. Especially in situations such as COVID-19 pandemic, a wider gap in resources available and required healthcare, telemedicine would be a time-saving pragmatic tool in addressing and sorting out issues to a greater extent. Given the current pandemic, the use of chat platforms could be considered and all the platforms to provide telemedicine must be standardised.

Challenges

In certain circumstances, when a physical examination of patients is crucial for decision making, immediate referral to a nearby health facility should be advised. There is a possibility of breach of privacy involved in the telemedicine set up in certain situations. The existing digital divide in India for a lack of technological infrastructure and structural barriers to utilise technological services, especially in the rural and periurban regions pose a serious challenge to flexible adoption and usage [17]. However, the Ministry of Health and Family Welfare, Government of India has recently launched National Teleconsultation Service which provides online Outpatient

Department (OPD) services to citizens of the country by directly delivering routine healthcare services to patients at their residence. The service which is colloquially known as E-Sanjeevani OPD is a citizen friendly web-based application, providing services such as audio-video consultation-prescription and SMS/Email-based notification. The government is currently envisioning the new platform as a long-term sustainable service to be followed in future, even after the pandemic subsides [18].

Similarly, like India several other countries which are severely affected by COVID-19 are also grappling in maintaining healthcare delivery services and have adopted telemedicine as an efficient way to cater the current demand. There are several examples from high income countries such as USA, UK, and Canada where healthcare was provided via digital platforms, telephone services, electronic health records, video conferencing etc. This resulted in reduced social interaction, less virus transmission, avoidance of high-risk zones e.g., hospital grounds. Further, it also helped reduce the burden on practice resources. Similar examples of telehealth have been observed in China and low income country like Iran where live videos, messaging software, emails etc., were deployed to serve the immediate need. This helped in avoiding over-populated hospitals (especially suitable in low income countries) and real-time access to health experts within the country. Further, in China live video training of nurses were performed which helped to overcome the lack of clinical nursing teaching resources [19-23]. Though telemedicine has shown its potential with recent advancements in technology in India, targeted training (along with refresher training) and orientation of medical personnel towards the practice of telemedicine are crucial.

Recommendation(s)

The Government of India should consider refining pre-existing policies put forth by the special task force. Experts from the technology and medicine sector to be deployed for framing design of robust encrypted systems to avoid a breach of confidentiality. Permission to only standard technology firms and subsequent monitoring of telemedicine consultation should be ensured. Though the guidelines issued by the Government of India emphasises the importance of training and recommended mandatory training within three years of intended practice, it is imperative to incorporate mandatory training within medical graduation courses to ensure the readiness of the telehealth workforce, especially in disaster management and pandemics [14]. Over the past few years, funding towards the platform has been inconsistent under the National Health Mission budget [24]. The recognition of its importance and commitment towards the allocation of funding by the relevant policymakers is peremptory for its expansion from the localised urban centers to rural peripheral healthcare facilities to bridge the rural-urban health divide. The guideline lacks in certain areas such as protocols for medicolegal proceedings and infrastructure regulations that need to be addressed.

CONCLUSION(S)

In India, the concept and uptake of telehealth is still complex, fragmented, and is sluggardly reaching its impetus. Though the Government of India has recently recognised its importance and issued national guidelines to promote its safe and effective usage, it requires a structural health system change to integrate the platform in the national health system in the form of a decentralised sustainable model of care to not only adequately respond to the current high demand situation, but for future maladaptive consequences. Future evaluation incorporating patient feedback mechanisms and rigorous monitoring should be conducted by a regulatory task force, constituted to ensure its wide scale acceptance, accessibility, affordability, and utilisation of services.

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PARTICULARS OF CONTRIBUTORS:
1. Independent Research Consultant, Department of Public Health, NA, London, United Kingdom.
2. Associate Professor, Department of Community Medicine, Chettinad Hospital and Research Institute, Chettinad Academy of Research and Education, Kelambakkam, Chennai, Tamil Nadu, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:
Vinoth Gnana Chellaiyan,
Associate Professor, Chettinad Hospital and Research Institute, Chettinad Academy of Research and Education, Kelambakkam, Chennai-603103, Tamil Nadu, India.
E-mail: drchellaiyan@gmail.com

AUTHOR DECLARATION:
• Financial or Other Competing Interests: None
• Was Ethics Committee Approval obtained for this study?   NA
• Was informed consent obtained from the subjects involved in the study?   NA
• For any images presented appropriate consent has been obtained from the subjects.   NA