

## **Telemedicine: Need of hour; Effectiveness of telemedicine or m health in management of patients during the pandemic of COVID-19**

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### **Introduction:**

By the end of December 2019, the world has witnessed arrival of a new virus, SARS-Covid 19, the novel corona virus from the city of Wuhan, China. After causing havoc in China, it speeded to each corner of the world. With over 36 lakh cases across the world, corona virus has already claimed around 2.3 lakh lives worldwide, according to data collected by agencies like world meter and WHO. <sup>(1)</sup> On 11<sup>th</sup> March 2020, the World Health Organization (WHO) declared COVID-19 a public health emergency of international concern. With introduction of this illness in India with case reported on 30<sup>th</sup> Jan 2020, it is on a rise since then. However, to control and confine the disease Indian government had taken many measures including national wide lockdown from 24<sup>th</sup> March 2020. <sup>(2)</sup> Apart from other issues health has a big concern during these lockdown periods and to get medical consultation became a real threat to common public. During the COVID-19 pandemic, mandatory social distancing and the lack of effective treatments has made telemedicine the safest interactive system between patients, both infected and uninfected, and clinicians. A few potential evidence-based scenarios for the application of telemedicine have been hypothesized

With so much development in information and communication technologies, telemedicine has been proposed to combat these concerns to improve patient management by facilitating access to HCW for appropriate diagnosis and treatment. This review aims at logically and conceptually establishing the role of digital technology-enabled healthcare delivery platforms in terms of telemedicine as technology adoption and how it may be efficient in enhancing the synchronous care delivery under pandemic and rapid viral spreading situations through the careful stages of pervasive information sharing Patient-physician coordination.

### **Review of literature:**

After manifesting as pneumonia of unknown etiology, later turning out to be novel corona virus -19, in Wuhan city of China, it rapidly spread to every corner of the world creating a series of the dread and fear of COVID-19. With the declaration of COVID-19 as a pandemic by the World Health Organization (WHO) on 11th March 2020, all the economic activities were forced to shut down. <sup>(WHO Website)</sup> And as a measure to hold its spread border-closure, quarantine, sanitizers, thermal-scanning, self-isolation, work-from home, N95 or surgical masks, etc. became the new crosswords and all media weather be printed, electronic or social started bombarding with terminologies like self-reporting, self-hygiene, safe social distancing, etc which in turn across the countries just increased the fear of COVID-19. With each passing day the number of COVID affected people piling up and COVID related death increasing steadily, the daunting task in front of all administrative and health providing bodies happened to be reaching the remote and extensive parts of the country with health care facilities. Even leaders across all SAARC (South Asian Association for regional cooperation) nations highlighted the importance of all countries staying on the same platform and page related to treatment processes and care delivery measures. Specific highlight and importance have been given to enhanced usage and application of Telemedicine and M-health to identify

and extend primary care at the very onset to curb the spread of Novel Corona Virus.<sup>(3)</sup> Since COVID 19 happens to be a highly contagious and rapidly spreading virulent strain, the spread takes place very fast through social and community spreading, leading to exponential growth in the number of affected patients India also witnessed national wide lockdown. Citizens are advised not to come out of home unless it's very urgent. And during these hours of crisis and uncertainty telemedicine or mhealth (mobile health) has turned out to be savior for all those patients who either of their illness or fear of COVID 19 need to seek help of health professionals.

m-Health is applied use of mobile (smartphone) devices and technologies for delivering healthcare-related information<sup>(4,5)</sup> Due to the increase in smart phone users all over the world, mHealth usage also increasing significantly.<sup>(6)</sup> m Health increases the reach to qualified healthcare providers, and physicians can provide services at a lower cost and minimal time.<sup>(7)</sup> Only a few studies have been done on the physician's intention to adopt and use mHealth. System quality, overall quality, perceived value, net benefits, privacy, health improvement programs of mHealth apps helps physicians to adopt.<sup>(8,9)</sup> In recent days, the ministry of healthcare of all countries as well as WHO announced to be in-home quarantine and not to visit other places and doctors' clinic also unless and until it is an emergency. Patients may have a misconception about the symptoms. In this situation, mHealth can be useful. As the patient can call or chat with the doctor and ask for the medical help. On the other side, patients tend to go for regular health checkups, a patient can seek advice from their family doctor using mHealth and avoid going to the clinics and hospitals.

Telemedicine is one kind of collaborative technology which enhances coordination, communication, and cooperation.<sup>(10)</sup> Telemedicine refers to the use of communication technology to provide medical information and services.<sup>(11)</sup> Telemedicine can be defined as a system of healthcare delivery using an information technology tools as a substitute for face-to-face contact between physician and patient, as a solution of problems like access to care, quality of care and cost inflation.<sup>(12)</sup>

Two of the major clinical areas covered by telemedicine are cardiovascular diseases and diabetes, alongside all its chronic complications. Herein, we analyzed the effectiveness of telemedicine during the pandemic, particularly focusing on the management of chronic diseases including diabetes and coronary artery diseases. In fact, during the COVID-19 pandemic, due to the mandatory social distancing imposed to prevent the outspread of infection, the use of telemedicine in these diseases monitoring has been remarkably increasing. This distant management is most useful in the suspect of infection-related symptoms and allows to address subjects to dedicated higher centers. Moreover, positive asymptomatic subjects can be followed up by periodic phone and web consulting. Over the last years, digital globalization further contributed to an improvement of these services. In addition, telemedicine is also useful to take care of individuals either in domiciliary or nosocomial isolation.

It has been recently demonstrated, in a meta-analysis focused on cost efficacy assessment of ophthalmologic screening programs by telemedicine in several countries (e.g., the United States, Canada, Singapore, India, Brazil, and South Africa), that, though with an initial increase of costs related to devices and training, over time, there is an economic saving.<sup>(13)</sup>

**Conclusion:**

In the contiguous and pandemic situation, telemedicine plays a vital role in treatment as well as training. Since travelling of a patient must be stopped during the pandemic situation, telemedicine plays a crucial role not only the management of the disease but also in controlling the spread of disease, as patients will not travel to the city and treatment can be availed at their places only.

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