

## Commentary: Telemedicine: The unsung corona warrior

*"The world changes materially. Science makes advances in technology and understanding. But the world of humanity doesn't change."*

– Pierre Schaeffer

Telemedicine, or the use of telecommunication to screen, diagnose, treat or educate patients, has been around since the advent of the telegraph and the telephone. Although it held the promise to bring a revolutionary change in the field of medicine, it is yet to be used to its full potential. The challenges were mainly technological in the past century; however, legal and ethical challenges have played the major inhibitory role in the past two decades.<sup>[1]</sup> The ongoing COVID-19 pandemic has made humanity face an unprecedented crisis. However, it may also be the breaking point for the shackles that has been binding this technology for years.

The scope of telemedicine in the field of ophthalmology is particularly interesting since it is considered to be one of the "visually intensive" specialities, along with pathology, dermatology and radiology.<sup>[2]</sup> Our diagnosis and treatment protocols are mainly based on pictorial evidences from 2-D or 3-D images, which makes telemedicine all the more relevant to us. One of the earliest uses of this technology in ophthalmology was to study the retinal vessels of astronauts in the space shuttle Columbia during Mission STS-50 in 1987.<sup>[3]</sup> The technology has evolved a long way in the last 33 years and it is now time to utilize this old friend in a new avatar in this emerging crisis.

The most crucial help which can be provided by this technology across the specialities of medicine in the next two years is what has been termed "forward triage" in disaster management policies.<sup>[4,5]</sup> At a time when "social distancing" has become the latest buzzword, it is imperative to expose our medical fraternity as well as our patients in a minimalistic way. The best way to do so is to use telecommunication to grade and judge the severity of a disease remotely and then counsel whether the patient can be treated at home, can wait and come later or needs to come urgently to the hospital. This will reduce the patient load at the medical centres manifold, while still ensuring continuing medical assistance and advice to all.

However, excited as we are regarding this emerging prospect, it is imperative to utilize this time to identify and once and for all break all the barriers which restricted the use of this technology for so many years.

### The legal barrier

In India, the major limiting factor had been at the legal front. This has been lifted to an extent, following the historic call from the

Prime Minister encouraging telephonic calls over personal visits to the doctor for minor ailments during the COVID-19 crisis. This was subsequently followed by the issue of the telemedicine practice guidelines from the Ministry of Health and Family Welfare.<sup>[6]</sup> Similarly, in USA, regulatory guidelines have been relaxed allowing Medicare to reimburse telemedicine consultations, and the Drug Enforcement Administration to permit e-prescriptions even with controlled substances without prior in-person visits.<sup>[7]</sup> Despite what may seem to be a giant leap, it is important to ensure that these guidelines take a permanent shape and continue to facilitate the easy and fearless use of telemedicine – both from the practitioner's and patient's point of view. Regulations regarding license to practice and e-prescribe also need to be redrawn in order to prevent cross practice across the borders.

### The technological barrier

The quantum leap in technology over the last two decades has made this barrier smaller and modest than before. If the experience from the doctors all over the nation in the last two months is any indication, it is heartening to note that technological jargon is hardly an issue for most practitioners and patients, who are already well equipped to use a smartphone for a variety of purposes such as social networking, banking, online shopping etc. Despite that, access to the internet and technological illiteracy does remain an issue in our country and will have to be addressed in the future if we truly aim to reach the remotest of areas.

### The financial barrier

Even though the technology and internet has become cheaper than before, the financial part of the consultation still remains a grey area. In India, telemedicine is still not covered under health insurance policies. Furthermore, many doctors are still perplexed if and how they can charge for these consults. This is an important barrier which must be looked at and clearly defined for telemedicine to be universally accepted.

### The ethical barrier

One of the biggest question marks on the fidelity of telemedicine remains its ethical aspect. The internet remains a largely uncontrolled and unregulated universe with substantial loopholes detected from time to time. How patient confidentiality and data can be secured from malware and phishing attacks also remains a significant concern. Secure portals need to be developed, which need to replace the commonplace apps being used at present.

### The scientific barrier

One of the deepest concerns from the old school practitioners remains the scientific accuracy of the examination being performed over the internet. From an ophthalmological point of view, even a simple assessment such as visual acuity or colour vision still remains unreliable and unproven on any

internet-based platform. Herein lies the vast importance of extensive evidence based research being done to test the efficacy of these platforms. The present study,<sup>[8]</sup> we hope, will pave the path for many large, unbiased, randomised controlled trials proving and disproving every technological assistant in place, so that over time, we can finally have reliable tools we can use with confidence.

To conclude, telemedicine is not just an interesting, but gradually becoming essential tool for all ophthalmologists. In order to fully utilise its benefits, one needs to be trained, prepared and aware. The COVID-19 pandemic, in its devastating wake, has provided us with a unique opportunity to permanently strengthen the infrastructure of this technology. It is only our imagination which has limited its potential in the past, and it is now time to recognize its role in re-building the world once again: A world where no individual is too remote for healthcare.

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