

## Teleophthalmology and use of Artificial Intelligence in Ophthalmic Care

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Telemedicine means ‘medicine from afar’ using a Greek prefix ‘tele’ meaning ‘from a distance’. The demand for telemedicine has suddenly boosted after the world was hit by Covid-19 pandemic. It has been used in a wide range of medical illnesses but eye care is probably the most benefitted one from telemedicine. Ophthalmology has a great potential to be benefitted by the technological advancements right from the remote evaluation to monitoring of patients for their illnesses. All these new ophthalmic care tools have their own utility, effectiveness and challenges towards their facilitation and implementation with artificial intelligence.<sup>1</sup> There is a wide spectrum of eye diseases which can be benefitted from telemedicine during health emergencies, disasters and pandemics.

Teleophthalmology is a subsection of telemedicine involving tools like smartphones, wireless devices, strong hardware, remote video tools and other telecommunication tools with applications of artificial intelligence. Applications of AI and devices provide great opportunity for eye diseases which need to be diagnosed early for prompt management, early referrals, self-monitoring, evaluation and prevention of complications. Diseases of Retina like wet age-related macular degeneration, diabetic retinopathy, retinopathy of prematurity and glaucoma can be easily diagnosed and monitored by using these AI applications.<sup>2</sup>

There are two different methods used in teleophthalmology for data recording, synchronous and asynchronous. In synchronous method eye photograph is taken on video calling, immediate diagnosis and counselling is done and data is recorded. While in asynchronous

method eye photograph is taken followed by file uploading, consulting and delayed diagnosis and recording is done. Time difference is huge among these two methods for diagnosis and consultation although both are recording the data.<sup>3</sup>

In conclusion ever since there is provision of healthcare from the distance, teleophthalmology has been in the limelight of modern medicine which got further triggered by pandemic. No doubt teleophthalmology practices are important in remote rural areas, poorly resourced areas and also areas where accessibility to healthcare services is a challenge. However, there are few concerns which must be addressed and kept in mind. It can seriously affect the doctor-patient relationship and immediacy of the procedures. Also, thorough trainings are required to get familiar with the technology both for the healthcare professional and for the patients.

### References:

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