



The Advent of Tele-medicine: Implication, Challenges, Future and the Laws

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Abstract

Telemedicine plays a vital role in providing health-care services to the victim of both natural and human made disasters. This technology is also applicable in providing domicile treatment to the elderly or home-bound patients suffering from terminal illness. With the sudden pandemic hit, this technology has managed to save many lives. Taking birth from the effective amalgamation of Information and communication Technologies with that of Medical Sciences, telemedicine is a booming area in the health care sector, which have great potentiality in meeting the challenges of the health care industry.

India is witnessing an accelerated pace in telemedicine deployment. The 800 million mobile users have widened the scope of e-health in the near future. Though the adoption of information and communication Technology in the health care sector have been initiated by the government, no attempt has been taken up for framing legal and ethical guidelines. In the year 2003, the Ministry of Communication and technology brought out the first policy which defined the standards regarding telemedicine but those recommendations are yet to be converted into effective statutory provisions.

This paper is a doctrinal work based on research articles, books, journals, government notification and publication. It attempts to envelop the advantages, disadvantages, legal implications and challenges the telemedicine is going to witness in the upcoming days and also suggests certain policy reforms for its effective implementation in the Indian Scenario.

Keywords: Telemedicine, Technology, Health-care, Medico-legal, Ethics

INTRODUCTION

With the advancement in technology and the better accessibility and affordability of tools, the area of telemedicine is witnessing a rapid growth. Telemedicine concept was initiated to get along the patients in remote areas who have limited access to health care services. Around 90% of the secondary and tertiary medical facilities in India are available in cities and towns which are quiet far away from the rural India where 68% of the population resides. We witness a high inadequacy of Primary health care facilities for the

population in the rural areas. Though various initiatives have been undertaken by the Government and several private entities, the rural areas continue to succumb in inadequate health care services.

The most triggering factor accountable for the onset of telemedicine is the increase in the use of mobile phones and internet. The availability of smart gadgets and various health applications helps the patients to self-monitor their health status.¹ During Covid 19 pandemic it is seen that not only India but also the rest of the world, took the process of telemedicine as a survival weapon to save themselves from various ailments. With this not only social distancing norms were completely followed but a wide door was opened for telemedicine.

E-Health was defined by the World Health Organization as the application of Information and Communication Technology in Health-care services. Similarly, M-Health is defined by International telecommunication Union as the usage of mobile for the application of E-Health. Various technologies have been instigated to upgrade the quality and access of telemedicine in the remote areas. With the advancement of technology to enable medical service at doorstep gives rise to medico-legal and ethical issues in this field.² These challenges envelops informed consent, maintenance of standard of treatment, privacy of patients etc. these grounds are likely to have an adverse effect upon the acceptance of telemedicine in the modern society.³

CONCEPT OF TELEMEDICINE AND VIRTUAL CONSULTATION

The term telemedicine connotes the utilization of Information and Communication technologies in providing health-care services from a remote location. The World health Organization suggests Telemedicine 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 continuing education of health-care service providers, all in the interests of advancing the health of individuals and their communities.”⁴

On the other hand, a virtual consultation is the undertaking through which a medical opinion can be received without stopping by the specialist in person. This is how Virtual Consultation is different from the traditional health-care consultation.⁵ Through Virtual Consultation one medical service provider consults with another regarding certain medical records.⁶

¹ Silverman RD. *Current legal and ethical concerns in telemedicine and e-medicine*. J Telemed Telecare 2003; 9 suppl 1:S67-9

² Siegel G. *Telemedicine: Licensing and other legal issues*. Otolaryngol Clin north Am 2011, 44:1375-84, xi

³ Langarizadeh M, Moghbeli F, Aliabadi A. *Application of ethics for providing telemedicine services and information technology*. Med Arch 2017; 71: 351-5

⁴ Telemedicine: Opportunities and developments in member states. Available at www.who.int/goe/publications/goe_telemedicine_2010.pdf

⁵ Raposo VL. Telemedicine: The legal framework (or the lack of it) in Europe. *GMS Health Technol Assess* 2016;**12**:Doc03.

⁶ Rosenkrantz AB, Sherwin J, Prithiani CP, Ostrow D, Recht MP. Technology-assisted virtual consultation for medical imaging. *J Am Coll Radiol* 2016;**13**:995-1002.

Not only WhatsApp Video Call, Google-Meet, Zoom is used, but for the efficiency of telemedicine and virtual conferencing certain apps and sites like practo, Lybrate, e-hospitals, Ohzas is used. Telemedicine is broadly classified under two categories: -

- (i) Real time telemedicine- This type of telemedicine involves both simple and complex features. It can be a simple telephonic call but on the other hand it may be complex as video conferencing etc. in this process both the patient and the doctor is the prime requirement at the same time. It involves an established network link between them.
- (ii) Store and forward telemedicine- This type of telemedicine is quiet simpler and easier. In this process, the patient logs in and uploads all the details including medical history and reports and then transmits it to the specialist and it is checked by the specialist later on convenient hours.

We witness the application of Telemedicine in various branches. They are the following: -

- (i) Tele-education- the Telecommunication technologies aids in distance-learning and also helps in providing flexible and interactive environments.
- (ii) Tele-healthcare- It aids in providing medical services across distances in the form of consultation or follow up.
- (iii) Disaster management- telemedicine has a front role to play in providing health care services to the victims of both natural and human made disaster.
- (iv) Tele-home health care- The technology of Telemedicine can be used in providing domicile treatment to the elderly as well as home bound patients suffering from terminal sickness.

ADVANTAGES OF TELE-MEDICINE

In the modern society, where technologies play a vital role, telemedicine have a great advantage.

Firstly, it provides easy access of medical services in the remote areas and to those people who are suffering from mobility issues.

Secondly, it aided in overcoming the distances and geographical barriers.

Thirdly, it acts as a time saver for both the doctor and the patient.

Fourthly, it aids a medical service provider to consult with a specialist irrespective of any distance.

Fifthly, it helps in establishing a good doctor-patient relationship as they can interact with each other frequently in a convenient manner.

Lastly, during the onset of Covid 19 pandemic it was witnessed that the whole world took the process of telemedicine as a survival weapon to save from various ailments. Through this not only social distancing norm were followed but a wide door was opened to the new era.

DISADVANTAGES OF TELE-MEDICINE

Everything has some downsides. Due to virtual nature, telemedicine also suffers from certain shortcomings.

Firstly, infrastructural facilities and proper training is the basic need of the hour.

Secondly, it reduces direct interaction and for a complete diagnosis physical examination is a must which is not possible in this procedure.

Thirdly, there is no standardization and absence of informed consent may lead to legal complications.

Fourthly, the medical students are not yet skilled in this field as it does not find its place in the medical curriculum.

Fifthly, miscommunication may lead to rise of medical negligence cases.

Sixthly, this involves cyber and telecommunication technicalities which may pose a threat to the privacy and security of patient information.

Lastly, there is no provision for health insurance policy in India with regard to telemedicine.

MEDICO-LEGAL ISSUES

Medico-legal is one of the most commonly used term in the modern society. It is basically the crossroad where the medical sector crosses the legal pathways. Though we consider doctors as gods because they have the capability of saving lives. There is a saying in Sanskrit “*Vaidya Narayana Harih*” which means doctors are equivalent to Lord Vishnu. But we should not forget the fact that they are also humans and mistake is bound to happen, at this juncture legal issues arises. Telemedicine is the new ray of hope in the modern world. From here also legal issues is bound to arise. Telemedicine witnesses a lot of legal issues.

Doctor-Patient Relationship

The medical service providers are under the obligation of entrenching good doctor-patient relationship.⁷ For meeting the legal requirements, it is mandatory to maintain the trust of the patient. While undergoing treatment it is very important that the patient trusts the medical service providers. The deficit of face to face and physical contact in telemedicine accts as a barrier in developing adequate doctor-patient relationship.

Informed Consent

While treating a patient whether through traditional consultation or through telemedicine consultation, informed consent is an important medico legal mandate, and failure to do so is a tort and a crime.⁸ Consent is very essential for any sort of medical interaction. It is one of the debatable topic in the Indian Scenario as there is no standard format for the normal circumstances. Moreover, it is very important to understand whether informed consent in both telemedicine and traditional consultation is same or different. Whereas in countries

⁷ Arné JL. Ethical and legal aspects of telemedicine. *Bull Acad Natl Med* 2014; **198**: 119-30.

⁸ *ibid*

like Malaysia, France, U.K., South Africa informed consent in telemedicine is a must. Therefore, to avoid legal consequences the scenario of India must change and the concept and process of informed consent in a standardized format must be introduced as early as possible.

Privacy

Starting from the period of Hippocrates, the privacy rights became the inseparable area of medical ethics and presently it is being supported by various codes which includes International Codes of Medical Ethics.⁹ It states the obligation of the medical practitioner in maintaining secrecy regarding the personal data of the patient even after death of the patient. Therefore, it can be concluded that every patient has privacy rights even after taking up telemedicine. During telemedicine the data of the patient is recorded in electronic form. In the present scenario data theft is posing a threat to the cyber world and in this situation potential leakage of patient's records is on the edge of the cliff. The burden of protecting patient's information is upon the health care service providers. Various modes of telemedicine do not ensure end to end encryption which poses a threat on data security. However, in the use of telemedicine, the privacy of the patients cannot be guaranteed.¹⁰

Malpractice and Liability

Once the bridge between the doctor and patient is built, the onus lies upon the doctor to provide due care and treatment. Now the question arises whether a medical practitioner can be sued in telemedicine and virtual consultation and the second question that arises whether the patients can be shielded by medical indemnity insurance. There are certain points which must be highlighted in this regard: -

- (i) In every telemedicine encounters the 'duty of care' must be well established as it clarifies the responsibilities of patient-doctor as well as other involved health care providers.
- (ii) The roles and responsibilities of the health care professionals should define without any ambiguity the various aspects and extent of treatment.

Rights of Patients and Reimbursements

Various rights of patients like right to receive treatment, choose a doctor freely, change a doctor at any stage of treatment, right to confidentiality, right to grievance redressal, right to information, right to refuse treatment etc. have been recognized under the traditional medical practice. Similar rights must also be recognized under the telemedicine practice. The patient has full right to be informed regarding authorization and registration status of the service provider and also must be aware of the various complaint process which the patient can avail if he or she suffers from any harm during the procedure of consultation.¹¹

⁹ WMA International Code of Medical Ethics. Available at www.sls.se/PageFiles/229/intcode.pdf

¹⁰ Caryl CJ. Malpractice and other legal issues preventing the development of telemedicine. *J Law Health* 1997;**12**:173-204.

¹¹ Raposo VL. Telemedicine: The legal framework (or the lack of it) in Europe. *GMS Health Technol Assess* 2016;**12**:Doc03.

Speaking about reimbursement, there is no procedure as such in medical insurance which covers telemedicine practice.

CURRENT EFFORTS

Department of Information technology, Indian Space Research Organization, State Governments and various private organizations proactively supports telemedicine programs in India. In the State of Kerala, the teleoncology network is so strong that annually 10000 cancer patients are consulted and treated. During Maha-Kumbhmelas and other festivals telemedicine is also practiced by Government of Uttar Pradesh.

After the large expansion of SARS-CoV-2-virus, the World Health Organization declared the state of pandemic on March 11, 2020. The outbreak of Covid 19 has triggered the imposition of lockdown worldwide, which strongly affected the daily life and also the health system of both infected and non-infected patients. We are really grateful to the previous epidemics which paved the path for technological advancement and during this period the use of telemedicine helped in controlling the situation to a great extent. The gap between people, physician and health system is being bridged by Telehealth which ensures that especially symptomatic patients are staying home and communicating with physicians for the treatment. This ensures the reduction of the spread of virus and also ensures safety to the health workers to a certain extent.

Even after the vaccination drive started, to ensure smooth vaccination procedure the Indian government developed the cowin site so that all the people can book their vaccination slots easily without any hassle.

CHALLENGES AND THE FUTURE

Telemedicine provides the ray of hope in combating the insufficiency of doctors with respect to the increasing population in the future. With the rapid advancement in technology, telemedicine will become easier and more widely accepted in the upcoming years. We are required to develop policies and guidelines for the successful implementation of telemedicine with the existing health care infrastructure. The future directions and challenges are the following:

1. Institution of a regulatory authority is a mandate
2. Standardized format of information to patients and consent form with option to opt in/out of telemedicine is the need of the hour
3. Mandatory telemedicine courses for all medical students and refresher courses for medical practitioners and technical staff is required for their skilful growth
4. Responsibility for privacy, confidentiality and security of patient information and treatment should be undertaken through proper infrastructure
5. Accreditation/licensing of doctors using telemedicine is required
6. Building confidence of both the patient and distant doctor is necessary to fill up the virtual gap
7. Clear guidelines for teleconsulting insurance should be made by the government
8. Clear guidelines on issues of telemedicine across national borders must be enacted

9. Standardization of equipment and teleservices with periodic checks and submission to a regulatory authority is required
10. Equipment liability, maintenance and safety
11. Telemedicine laws for information storage and access
12. Dedicated staff to manage telemedicine services
13. Establishing telemedicine unit at every hospital
14. Proper communication and documentation
15. Maintenance and regular upgrading of the hardware and software

There is an urgent need to clarify medicolegal issues pertaining to the use of telemedicine through legislation so that doctors can use these services without reservation. There is also a need for an open platform for connectivity to use telemedicine, which means that telemedicine facility should be available easily in a secure manner to maintain confidentiality and privacy in the doctor- patient relationship. The use of smartphone-based applications should be developed to avail healthcare services so that a patient can contact a doctor without the need to go for a consultation physically.

CONCLUSION

Access to affordable medical services has always been a problem in India. The advent of telemedicine provides immense benefit to the public at large. A new form of doctor-patient relationship is established based upon mutual trust and acceptance. Though World Health Organization has given gravity to telemedicine, no legislation governing it has yet been enacted in India.

Specific laws governing the practice of 'tele-medicine' are required for addressing legal issues and resolving technical glitches. It is also very important that health related telecommunication undergoes regular assessments.