

## TELEMEDICINE – A NEW HORIZON IN THE REFORM AND PROPAGATION OF AYURVEDA

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### ABSTRACT

Telemedicine is the technique which uses electronic information to communicate technologies and provide health care support to people situated at a distance. It has been in use for over four decades and has helped in treating about 250 000 patients already in India. The incorporation of this telemedicine facility in the Ayurveda sector will prove to be a major boon for providing and improving the health care facility in India.

Ayurveda has all the potential to preserve the health of people, life prolongation and improvement of quality of life, disease prevention and treatment. With the help of telemedicine it will be able to aid both the urban as well as the rural population of India in terms of the above specified aspects. Telemedicine in Ayurveda can help bridge the gap of specialist medical care to the people of even the remotest area. This paper discusses about the rationale for the application of Telemedicine in Ayurveda and the challenges to be faced.

**Keywords-** Telemedicine, distance, Ayurveda, health care, information technology.

### INTRODUCTION

Telemedicine can be a boom for India where the majority of population resides in the rural areas and they face lot of trouble in finding good medical services. Telemedicine is a system which can provide medical support and consultation to patients sitting at any distance[1] from the physician within a short span of time, saving time, money and the trouble of travelling of the patient and attendants. This system is equivalently beneficial for the doctors also as by this method they can provide their services in any part of the country as well as abroad. In this paper we will deal with the different aspects of telemedicine in context to Ayurveda and its effects for the patients.

**What is Telemedicine** – Telemedicine means medicine at a distance.[2] Telemedicine is a system of telecommunication technology[3] which allows health care professional to assess, diagnose and manage the patients situated at remote locations.[4] It is the use of two way medical information exchange from one side to another via telecommunication i.e. video, email and wireless tools etc. Telemedicine is not a separate branch of medicine; it is actually a technology based system by which an expert can communicate with patients of remote location with the help of tools of information – technology irrespective of their specialty. Telemedicine is sometimes referred to as Health Information Technology (HIT), e –

health and telehealth.[5] Telemedicine is closely related with these terms, however HIT is mainly concerned with medical records and information managed electronically and telehealth or e –health is mainly concerned with wellness or improving the general health of the society. Major difference between telemedicine and telehealth or e – health is that the object persons are at a distance from service provider (in both), but object persons are not necessarily ill or wounded.[6] Some of them may only want to know the way of healthy living by following good practices of daily routine, healthy lifestyle, diet, precautions etc., but the telecommunication element is common in all of these and HIT or e – health or Telehealth are considered as sub – concepts of telemedicine.

**Status of Telemedicine in India** – In India, the use of information technology and smart phones has been on a rise in the recent years and the trend is still continuing. The addition of computer education in the school curriculum has led to a raised computer awareness and friendliness in increasing number of families and has led to increase in the usage of internet facilities also. The usage of telemedicine has also increased in India, the major contribution for which was made by the department of information and technology and Indian Space Research Organisation (ISRO).[7] Some of the state governments as well as private sector hospitals as Apollo, Narayana Hrudayalaya, and Asia Heart foundation are providing this service. The three apex medical institutes and hospitals of India - All India Institute of Medical Sciences (AIIMS, New Delhi), Sanjay Gandhi Post graduate Institute of Medical Sciences (SGPIMS, Lucknow) and Post graduate Institute of Medical education and

research (PGIMER, Chandigarh) stay connected[8] to each other using a software developed by the Centre for Development of Advanced Computing (C - DAC) and others are using the software and hardware developed by Apollo Telemedicine Network Foundation, Online Telemedicine Research Institute,[9] Televital India and Vepro India. About 245 community and remote hospitals and 40 super specialty hospitals are using this service being connected by ISRO's network. The apex medical institutes and hospitals of the majority of states are joined by this network.

**How telemedicine facility can be utilized in Ayurveda sector** – Though telemedicine or telehealth services are prevalent in Ayurveda but the usage is not in a generalized and organized form. Some of the Ayurvedic consultants are providing this service telephonically or using video – conferencing method. If this service is used in an organized form in the structure of a network then much work can be done. Some of the examples are –

**Preventive and Health promotion Services** – The education and awareness of the healthy daily and seasonal regime, their do's and don'ts as well as the measures to prevent the occurrence of diseases in the prevalence area can be provided from a single control centre. This medium can also be used to spread awareness amongst the common people about the methods of prevention of the lifestyle disorders. A consultant from a target location can deliver his services to various remote locations, thus helping the people to know the ways of health maintenance and promotion as well as the ways to prevent the various diseases.

**Referral Services** – This service can also be utilized to refer the patient to some other

doctor for their opinion or consultation, using live interactive video service in place of sending him physically. This will save the trouble of the patient, his time, money and at the same time will also be very convenient for him.

**Assistance in the Panchakarma/Ksharasutra procedures** – A physician can take the help of a *Panchakarma* specialist for deciding the type of procedure needed to be done in a patient and can also get his supervision using live video service while performing the procedure. This will help in better treatment facility for the patient. Similarly, a superspecialist of *Ksharasutra* may monitor and help in the diagnosis and treatment of various ano-rectal cases and may also aid with the help of robotic surgery. With the help of such facilities as live video, expert services can be provided in the remotest of areas and the smallest of setups.

**The Monitoring of good manufacturing practices (GMP) in the Pharmacy and the maintenance of drug quality** –A close monitoring and vigilance can be kept over the various techniques being adopted in the pharmacy, the drug manufacturing procedure, packaging of drugs, the storage of the unprocessed raw drugs and the formed medicines, drug standardization etc.[10] All this will ensure better quality drugs and thus better relief to the patients.

**The knowledge about drug availability in Medical stores** –Because of the enormous number of medicines and drugs preparations in Ayurveda (both branded and classical drugs) it is a difficult task for the patient to find all the prescribed medicines. In such conditions knowledge about another option in case of unavailability of a particular drug in a medical store can lead to immediate exchange of information between the doctor

and the store and amongst all other stores leading to convenience for the patients.[11] In some cases medicines in Ayurveda are prepared by mixing of classical drugs as per the need of the patient. In such circumstances in case of unavailability of a particular drug, the pharmacist can directly contact the doctor with the help of conferencing facility for the substitute which can be used.

**Health information and online discussion** – The help of other consultants and information available on the net can be utilized in case of need, for the accurate diagnosis of the patient as well as for their better management.

**Ayurvedic Education** –Telemedicine can provide extensive benefit in the field of Ayurveda education as it can help the students get the best knowledge by the experts of the various fields in Ayurveda through web lectures. This will not only aid their knowledge but will also cut the cost of travel expenses. Similarly the demonstration of various *panchakarma*, *ksharasutra*, *agnikarma*, *jalaauka* and other specialized procedures can also be given to the children from the best faculty in the field.

**Re – orientation and CME programs** – The Ayurvedic doctors and teachers can be trained from a single control office by the help of this facility. This will help in the knowledge enhancement and the better adequacy of the consultant of even the remotest area; without requiring him to leave his station or workplace.

**Administrative Monitoring** –The chief administrator of Ayurveda can keep a strict vigilance over his subordinate employees, their attendance and assess their duty dispensing from his office only, using this facility. Some of the medical institutes of Ayurveda don't have the required number of

teachers or show them only in their papers. The apex bodies governing such norms can make a sudden verification of the live working presence in such institutes using this facility.

**Online consultation and patient care** –A patient can consult a physician for his problem sitting in his home. A consultant living anywhere in the world who is joined with this technique can provide his services to a patient sitting in his home without the travel expenditure and can manage the patient at his home only.

**Benefits of Use of Telemedicine** –

**Easy approach** -The facility of telemedicine makes the approach easy for both the patient as well as the doctor. With the use of this technique Ayurveda can be made to reach every peep and corner of India and can help in the wellness maintenance, disease prevention and health promotion.

**Time and economic efficiency** – This technique is time and money saving as it cuts the time and expenditure made for reaching the physician. The consultant also can provide his services at several places from a single place. Similarly seminars, conferences, training programs made by this technique provides the facility to the expert as well as the participant to participate in them without leaving their workplace, thus saving their time. This will also reduce the cost of the organizers made in arranging for the transportation, fooding, lodging etc. of the participants as well as that of the experts.

Similarly in patients of chronic diseases as Hemiplegia, paraplegia, palsy etc., patients and their attendants can be saved from unnecessary expenditure made in prolonged stay in the hospital, because by this technique of telemedicine, the patient can be discharged after providing the necessary in-

terventions and for the rest part, he can be managed from his home only under the supervision of the doctor. This will also reduce the paperwork needed to be done in the record maintenance of the patient and will also reduce the workload of the hospital staff and will resultantly increase their efficiency.

**Patient Friendly technique** –Telemedicine is a technique which is very patient friendly as it saves their trouble of going to hospitals, from one physician to another for their referral, to take reports, then for showing the reports to the physicians etc. It also saves the patient from the psychological effect some of the patients have on seeing the medical consultant (described as white coat syndrome) and provides them the facility to see the doctor from the comfort of their home.

**Improvement in the treatment quality** – Generally, the traditional method is employed for the treatment practice in Ayurveda. Adoption of this telemedicine facility will improve the quality of management received by them. A patient can take the consultation from the best physician and the services as advised by him, can be provided either at his home only or at the local hospital or health centre, under the guidance and monitoring of the experts of the field. This will improve the quality of their management and will increase the patient satisfaction.

**Least chance of transmission of infection** – This facility will also reduce the chances of infection occurring amongst the patients in the hospitals. This will also reduce the overall time of disease of the patient and will speedup the recovery process.

**Freedom of practice anywhere in the country** –With the use of this technology a consultant can provide his service to any

part of the country. This will end the compulsion to register separately for practicing in the different states.

### **Challenges of Telemedicine in Ayurveda –**

However, the application of this technique which is so patient friendly has got several challenges which need to be faced and met. Some of them are being described below –

- A much reduced proportion of Ayurvedic practitioners are aware and well versed in the usage of information technology services. They are also not very comfortable with the usage of such kind of services due to a bias in their mind.
- The Ayurvedic approach requires that the physician judges the patient himself and diagnose and treat the patient on the basis of his clinical experience. By telemedicine method it will not be possible to examine the patient directly by touching, palpating etc., due to which *Nadi pareeksha* (a method of pulse examination of Ayurveda), *sparsha pareeksha* (examination by touching/palpation) etc. cannot be performed in the patient and this will affect the diagnosis and the treatment process of the patient to some extent.
- About 40 % of population in India is situated at or below the poverty line[12] and they don't have access to facilities such as electricity, internet, transport etc. Therefore it will not be able to use this service.
- There is a great preponderance of illegal practitioners in Ayurveda and the usage of this facility has the chances of further increasing their number as there is no monitoring service for their control.
  - To use this service a considerable amount of money has to be spent in-

initially and it will be a bit difficult for a practitioner of small set up to use this.

- Leaving some of the major cities in India, most of the cities and towns don't have the high speed internet facility and continuous electrical supply which is required for the proper and regular usage of the telemedicine facility. So, in this condition it will be difficult to properly communicate with the patient and will eventually lead to patient dissatisfaction.
- In the circumstance of poor focus of the various governments on Ayurvedic system and its promotion as seen today, it is a very rare thing to think of promotion of telemedicine system in Ayurveda.
- In case of any acute adverse effect of a drug, immediate management is not possible by telemedicine as it is not necessary that the consultant may be in touch with the system at that very moment. The second problem is the unavailability of emergency drugs at that very time and the overall management setup at home, which can further aggravate the problem.
- Some legal aspects are also there regarding telemedicine as some of the medicines can't be procured without the signature of the physician. In case of Medical and fitness certificates, regarding insurance covers, it is essential to meet the consultant physically, which is a lacuna in the setup of telemedicine.

### **CONCLUSION**

Telemedicine is a technological boon for the medical science. It can revolutionaries the practice of medicine. The role it can play in Ayurveda is also very crucial as it can help

spread Ayurvedic method of health maintenance, life prolongation and health preservation amongst the common people. Ayurveda has a very good role in the management of chronic disorders, lifestyle disorders and in the improvement of quality of life of the healthy as well the diseased patients. Thus, if telemedicine is promoted in Ayurveda, then it can play a very crucial role in newly launched National AYUSH Health Mission. However, some drawbacks can be seen in the form of poor information technology awareness and friendliness in the Ayurvedic consultants and the decreased availability of high speed net facility. If these major problems are solved this facility can help numerous students, practitioners and experts of Ayurveda to improve their skill and serve the mankind in a still better way.

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