

# Potential Support of Telemedicine for Lung Cancer Eradication in India

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**Abstract-** Cancer is likely to emerge as the largest killer in India. World Health Organization (WHO) has estimated That 91% of oral cancer in South-East Asia is directly attributable to the use of tobacco and this is the leading cause of oral cavity and lung cancer in India. The people in India, particularly in rural and remote Areas are found struggling to receive timely medical treatment. The most common cancers are largely preventable. But, it is very difficult for these patients to get cured. Telemedicine might not be the only and ultimate solution for the problems identified within healthcare for lung cancer patients at Radiumhemmet, but it can work well as a supplement. The two major types of lung cancer are small cell lung cancer (SCLC) and non small cell lung cancer (NSCLC). There are several different kinds of treatments for lung cancer, which one is the most suitable depends on the type and stage of the cancer.(a) Surgery, (b) Radiotherapy, (c) Chemotherapy. Telemedicine can be defined as using information and communication technology such as telephones and/or computers to deliver healthcare services. Telemedicine originally emerged to serve rural populations or anyone who is geographically dispersed, Telemedicine helps in prevention, early detection, a faster cure, palliative care and rehabilitation in the management of cancer. The purpose of this study is to analyze if a telemedicine solution can empower the efficiency of today's follow-ups of lung cancer patients in India. Lung cancer is a global problem and the incidence all over the world is increasing. Telemedicine helps in prevention, early detection, a faster Cure palliative care and rehabilitation in the management of Lung cancer. The purpose of this study is to analyze if a telemedicine solution can empower the efficiency of today's Follow-ups of lung cancer patients at Radiumhemmet, in India.

**Index Terms-** Telemedicine, Types of Lung cancer, tele-education, Cancer Awareness, Rehabilitation.

## I. INTRODUCTION

Telemedicine increases the information passed from Physician to Physician about opportunities for patients to enroll in clinical trials. The Clinical trials give our patients the option to consider new techniques. Awareness of cancer and its management are being taken as a high priority at the national level because of the increase in the incidence of the disease in the country. Telemedicine provides expert-based health care to understaffed remote sites and advanced emergency care through modern telecommunication and information technologies. Telemedicine is the transfer of electronic medical data (i.e. high

resolution images, sounds, sometimes video briefings, records of specific operations and patient records) from remote areas to centres where experts or well-equipped hospitals are available. The potential of Information and communication technology (ICT) as a method to improve care is widely acknowledged. This investigation has established the feasibility, acceptability and cost-effectiveness of using video telephony to improve the clinical and psychosocial support provided to regional and remote .pediatric oncology patients and their families. A telehealth intervention using a simple telemessaging device has developed to provide daily education, guidance, and encouragement for patients undergoing initial treatment of Lung cancer. Environmental variables such as exposure to radon gas, secondhand smoke, and asbestos can also play a critical role in increasing an individual's risk of lung cancer.

Lung Cancer Alliance a national non-profit organization dedicated primarily to providing support and advocacy for those living with or at risk for lung cancer. They sponsor an online community called Lung Love Link, which has various forums, blogs, and groups to link individuals affected by lung cancer to resources and support. Telemedicine has been directly used by Lung cancer patients on a more limited basis. Unlike diabetes and heart disease, the use of telemedicine in Lung Cancer does not typically focus on physiologic vital sign monitoring or clinical data capture. Rather, patient-facing telemedicine applications in oncology involve patient-provider consultations, treatment, symptom, or side-effect monitoring, and counseling. Lung cancer is now the second most common cancer among men in India. In India patients have to wait for a longer time before active treatment of cancer is started. This may be due to various factors like confirmation of diagnosis, arrangement of finance, seeking expert's opinion, getting date for surgery etc. In this circumstances 'Telemedicine' services can be of great help. Regional Cancer Centre (RCC) at Thiruvananthapuram the only referral cancer hospital in Kerala has developed a web-based telemedicine system, linking various cancer centers of the state. Depending on which type of lung cancer, the treatment looks different. Since cancer is a very aggressive and unpredictable disease there is no assurance that the patient can ever get rid of the cancer. Lung and heart monitoring are two common types of examinations during a follow up meeting, and with today's technologies it can be done by using a Bluetooth stethoscope. However, X-rays and blood sample that also are parts of the follow up cannot be done with today's telemedicine technologies.

## II. PROCEDURE

Telemedicine has provided and improved access to Lung cancer care in previously un-served or under-served areas. Reduced Cost: The travel cost of the patients for specialty care to the premier centres, the personnel/equipment cost for not having to keep specialty care facility in rural hospitals and other costs can be reduced. The rich experience in research related to tobacco was utilized in helping and guiding decision makers in matters related to tobacco control. Some of the specific areas where major inputs were provided, included, economics of tobacco in India. The North East states have a far higher incidence of cancer than many other regions of the country. Public welfare organizations in India and the media have to come together to pursue the campaign against tobacco use in every form. Governments cannot be relied upon because they impose ban on tobacco on the one hand and encourage tobacco cultivation on the other. The Potential of Telemedicine technology in providing healthcare access to rural populations. All across the country, several telemedicine initiatives have been taken up by both government and private sector organizations with federal and state funding. Some have adopted a few modules into their health system. Telemedicine infrastructure: Specialty centre in India at RCC-T (regional cancer centres- Thiruvananthapuram) includes the following infrastructure for Cancer care. 'Telemedicine' services can be of great help. Regional Cancer Centre (RCC) at Thiruvananthapuram the only referral cancer hospital in Kerala has developed a web-based telemedicine system, linking various cancer centers of the state. (a) Telemedicine network (b) Video-conferencing (c) Telemedicine PC (d) Oncology Resource Centre (e) Digital microscope, and (f) Web-based HIS.

Web Choice provides the patient with information about symptoms and cancer related consequences and effects. Telemedicine can deliver health-care services to places where distance is the critical factor. The application system follows the recommended guidelines and standards for practice of telemedicine in India. *Video-conferencing system*: Interaction between the patient and doctor is provided with the help of videoconferencing systems which meet the communication requirements for cancer patients.

*Web-based telemedicine software and HIS*: Telemedicine software is used to create, store and share the EMR of patients. Tele pathology/tele radiology system with a digital microscope and an X-ray film scanner used for capturing medical images is compatible. *ONCONET*: incorporates the audio-, video- and data conferencing capabilities. Most cancer patients on long term follow-up need just reassurance from their doctor.

## III. CONCLUSION

Telemedicine technology can bring revolution to the field of Cancer care. Using a number of high-speed satellite and terrestrial telecommunications links, centralization and coordination of resources, and support of government, it has been possible to reach and access the Indian population spread out in heterogeneous geography and thus achieve the goal of health for all who is surviving with Lung Cancer. The ban on the manufacture, sale and use of Gutka and pan Masala in many states of India is a big stride in prevention process of tobacco-

related oral and or pharyngeal cancer (Pai 2002). Despite the nonphysical contact in the telemedicine consultations, the patients felt a "social presence". It is concluded that in general tele medicine Benefit patients. It can improve clinical outcomes, and increase quality of life. Telemedicine offers several advantages in the practice of oncology. The number of emergency visits to the hospital can be reduced.

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