Effectiveness of Telemedicine and eHEALTH to Share and Maintain Cancer Patients

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ABSTRACT

The principal benefit of telemedicine involves its ability to reduce or minimize geographic barriers to care by connecting patients and providers through advanced telecommunication technologies offering bi-directional audio or video interaction. Telemedicine can provide a compelling alternative to conventional acute, chronic and preventive care, and can improve clinical outcomes for cancer patients. Telemedicine will mainly be used in applications that link providers based at health centers, referral hospitals and tertiary centers. Telemedicine possesses the ability to bridge gaps and overcome barriers in a way unthinkable to traditional forms of healthcare. Non-communicable diseases including cancer are emerging as major public health problems in World. Telemedicine provides expert-based health care to understaffed remote sites and advanced emergency care through modern telecommunication and information technologies. Telemedicine helps in prevention, early detection, a faster cure, palliative care and rehabilitation in the management of cancer. Telemedicine is a useful alternative by which to provide cancer genetic services when geographical distance is a major issue. Tele medical services such as videoconferencing, the most influential trends are the spread of digital hospital infrastructures with unlimited, secured access to all relevant patient information. The benefits of information provision for cancer patients by the help of eHEALTH and telemedicine include a positive impact on feelings and attitudes, improved coping ability, a reduction in anxiety and mood disturbances, and allowing the patient to prepare for the future. Following objectives of telemedicine: a) Improve access to cancer care and cancer initiatives in underserved areas. b) Reduce cost of cancer care delivery. c) To standardize and ensure practice of Evidence Based
Medicine. And d) Export clinical expertise, increasing the availability of cutting edges cancer protocols and procedures to all affiliate facilities.

**KEYWORDS:** Telemedicine, Effectiveness, Cancer related anxiety, cancer genetic services, eHEALTH, rehabilitation in the management of cancer

**INTRODUCTION:**

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 people in India, particularly in rural and remote areas, are found struggling to receive timely medical treatment. Telemedicine originally emerged to serve rural populations or anyone who is geographically dispersed, where time and cost of travel make it difficult to receive the best medical care. It is evident that the most common cancers are largely preventable. But, it is very difficult for these patients to get cured and they are always treated by palliative care with much cost and morbidity. Thousands of people are still suffering and having painful deaths every year due to cancer. For cancers of the skin, in particular, telemedicine has played an increasingly large role. Using store-and-forward technology, dermatologists can review images of suspicious marks or lesions to determine if skin cancer is a possible diagnosis. Telemedicine has been directly used by cancer patients on a more limited basis. Unlike diabetes and heart disease, the use of telemedicine in oncology 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, and symptom. In oncology, telemedicine has been used by providers for remote consultation, to extend the reach of specialty care, and to assess and diagnose certain types of cancers. For patients, telemedicine can facilitate patient-reporting of symptoms, side-effects, and outcomes and has been used to provide information, education, and social support. As a result, many of the eHEALTH tools available for cancer patients have focused on helping those with cancer to manage information, alleviate the mental and physical impact of treatment,
and obtain social and emotional support.

PROCEDURE:

Telemedicine is a generic term for applications within health care where telecommunication is used as a tool for transferring information between two sources. The use of telemedicine would have most impact when it comes to the follow up of the patients. It enables the transportation of a vast variety of information such as voice, sound, video, still picture and text using communication technologies such as telephone lines, satellite, wireless, cable and Internet. Telemedicine opens up the opportunity of teamwork between doctors and nurses that have never worked together before. It can, if applied correctly, provide more efficient health care.

There are three major types of telemedicine services that are being used around the world today.

a) Remote monitoring, b) Interactive telemedicine services, c) Store and forward telemedicine

a) Remote monitoring: This type of telemedicine service requires both parts to have access to hardware and software that enables this kind of communication.

b) Interactive telemedicine services: The hardware and software used for this service varies between users. The connection, operating system, sound, image quality, context of use etc. If Bluetooth equipment is available, some medical examinations could be done using this service.

c) Store and forward telemedicine: refers to the transfer of images, medical information and biosignals between healthcare professionals and patients. Web Choice is an online application designed for people with breast and prostate cancer.

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.

CONCLUSION:
By the use of telemedicine and tele-health services in ONCONET, not only doctors but also other professionals, researchers and decision makers can work to reduce the miseries of cancer patients. The result was reduced travelling and cost for the patients, which were highly appreciated by the participants. 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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