

Utility of Tele Camp in Plastic Surgery - Provision of Health Care Facilities in Remote Areas

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Abstract

Telemedicine is becoming an important tool in today's modern clinical practice. With the help of advanced network facilities, low cost gadgets and smart phones, practice of telemedicine is possible even at places having minimum available infrastructure. Health care centres with advanced facilities may not be available for poor patients living in remote areas. Use of advanced technology by medical person in remote areas can provide the same quality of medical care as given to urban population. Organisation of 'tele camps' is an initiative taken by our department to provide facilities of a tertiary care centre in remote areas. We found it as an easy, effective and relatively low cost modality. As telemedicine is actively being practised in our department, once the patients are enrolled in the digital data base of the camp they can contact any time by using our telemedicine facilities without actually waiting for next camp.

Keywords: Telemedicine; Remote Areas; Tele Camp.

Introduction

Telemedicine is defined by WHO 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 the continuing education of health care providers, all in the interests of advancing the health of individuals and their communities" [1]. The term 'tele' is derived from Greek meaning 'at a distance' [2].

One of the greatest problems with the 21st century is delivering healthcare to all [3]. The population of India is 1.252 billion. There are over 600,000 villages in India. Its rural population is 73.2% of the total. Urban population is only 26.8% [4]. As most of India's population resides in the villages where reach of expertise medical care is a challenge, telemedicine aids in bridging the barrier. The difficulty in achieving equitable health care is that the provider and recipient should be present together at the same time. This is made possible by the use of telemedicine.

We use to conduct tele camp frequently from our department with the purpose of serving those patients who are devoid of adequate medical care due to lack of infrastructure. Through this article we would like to highlight the use of telemedicine through 'Tele camps' in providing cost effective medical care to patients living in the remote areas where advanced medical care may not be available.

Methodology

The study was an observational study conducted in Department of Plastic Surgery, JIPMER, Pondicherry from February 2015 to June 2016, after obtaining the departmental ethical clearance. A total number of 18 camps were conducted in and around Pondicherry by the department of Plastic Surgery, JIPMER. A Senior Resident from the Plastic Surgery department along with a paramedical staff would attend the camp (Figure 1). From the camp site,

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teleconferencing would be done to the consultant present at the department through the laptop or mobile phone. The software used was Skype™ Version 7.21.0.100 or Polycom™ Converged Management Application (figures 2, 3). If necessary, images of the wound, deformities, X Rays would be sent to the consultant using Whatsapp™. All patients seen at the camp would be shown to the consultant present in the department through video conferencing (Figures 4, 5). Suggestions given by the consultant would be carried out accordingly.

Among the camps conducted 10 were Smile Train camps where care was provided exclusively to children and adults with cleft lip and palate. The expert opinion of the consultant as well as advice



Fig. 1: Tele camp team

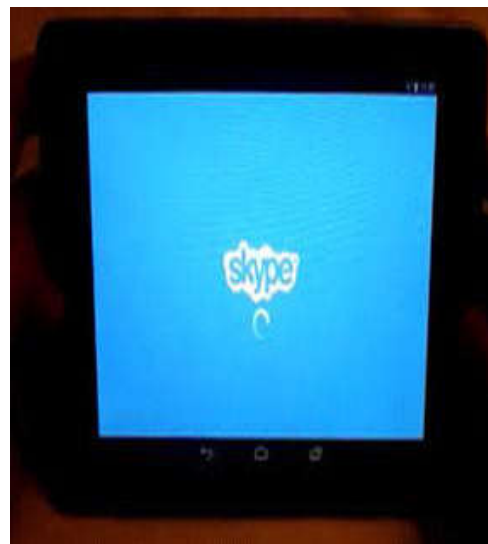
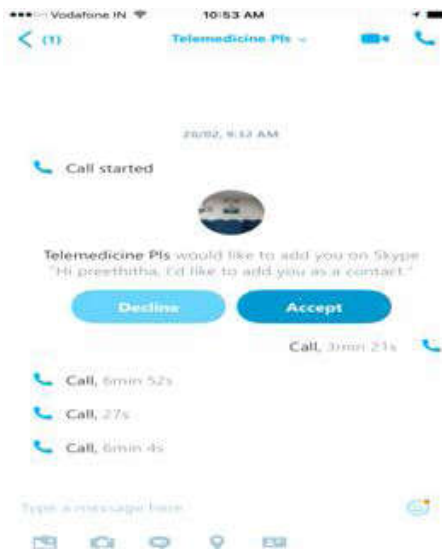


Fig. 2 and 3: Software used for videoconferencing

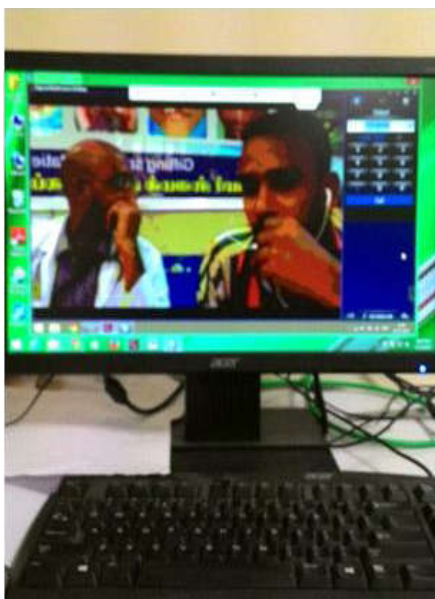


Fig. 4: Residents interacting from camp site



Fig. 5: Consultant giving expert opinion from telemedicine centre of the department of plastic surgery

from the speech therapist was also provided to the attendants and patients.

Results

It was found that, by using teleconferencing while conducting camps, the expert opinion of the Plastic Surgeon was available to people who were not able to readily access such care. Management that was possible at the camp site was given to the patients on the spot thus saving time and money of the patient. Only those patients who required further evaluation in the form of investigations or surgical treatment were asked to visit the hospital for further management. The financial burden on the patients was reduced. At the same time, the plastic surgeon's time at the hospital was saved as simple cases were managed at the community level. Integrated management of the patients was also possible.

Discussion

Indian Space Research Organization's (ISRO) Telemedicine pilot project was started in the year 2001. It aimed at introducing expert health care to the grass root level population. This facility connected the remote district hospitals/health centres with super specialty hospitals in cities, through the INSAT satellites for providing expert consultation to the needy and underserved population. Presently, ISRO's TM Network has enabled 382 hospitals with the TM facility. 306 Remote/rural/district hospital/health centres and 16 mobile TM units are connected to 60 super specialty hospitals located in the major cities⁵. The telemedicine facility at JIPMER, Pondicherry serves as a nodal centre for providing health care services to remote areas.

There are five main types of telemedicine [6].

1. Store and forward (SAF) or pre-recorded (asynchronous) TM
2. Real-time or video conference (VC) (synchronous) TM
3. Hybrid TM
4. Mobile or cellular TM
5. Integration model

In our study, the synchronous form of telemedicine wherein real time videoconferencing was used for patient health care was the method followed. In some

instances, Hybrid telemedicine where both synchronous and asynchronous forms are combined were used. Problems such as wounds, post burns contractures, scars of various etiologies, nasal deformities, cleft lip or palate, gynaecomastia etc were managed with the help of the telemedicine facilities. Intralesional steroid injections for keloids, dressings for wounds and other small procedures were conducted locally under the guidance of the consultant.

The major limitations that were encountered when the tele camps were conducted were firstly, connectivity issues causing interrupted streaming. In such situations, the cases were discussed over the phone and images sent to the consultant via Whatsapp™. The second major limitation encountered was hesitation from patients to accept telemedicine initially. However, when patients realised that they were being given consultations by senior doctors, their inhibitions decreased.

Rural households in India rely mainly on the healthcare provided by informal biomedical workers who lack medical qualifications [7]. Through telemedicine care of qualified medical professionals can be given to the rural population of India.

Conclusion

One of the major issues with health care in India is the provision of specialised care to the remote corners of the nation. Through these tele camps, cost effective, expertise medical care can be provided to all those without easy access to the same. Laptops and mobile phones have become accessories in day to day life for all healthcare professionals. With the installation of free software used for videoconferencing and moderate to good internet connectivity, cost effective, specialized healthcare can be given to one and all.

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