

## Application of Tele-Health Camps in Plastic Surgery

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### Abstract

**Objective:** To study the role of Tele-Health Camps in Plastic Surgery. **Methods:** It is a retrospective analysis of the feedback given by patients and doctors attending the tele-health camp. Total number of feedback forms analyzed were 1183. **Results:** 97% of the patients have found tele-health camps, very useful and satisfactory. All of them agreed with benefits like reduction in waiting period & overcrowding in Out Patient Department (OPD) and saving of their travel time & expenses. All the resident doctors who attended tele-health camp agreed that tele-health camps provided good learning experience and the consultants were agreeing in giving satisfactory consultation through tele-health camps and felt that their valuable time is also saved. **Conclusion:** Tele-health camps are useful for both patients and doctors in the field of plastic surgery.

**Keywords:** Tele-Health Camps; Tele-Consultations.

### Introduction

Developing countries like India face a big challenge in health care delivery due to its increasing population and lack of sufficient health care worker's [1]. The growth of information technology and communication has made it possible to deliver health care to rural and remote areas. Tele-health serves as a

bridge to deliver health care to inaccessible areas [2]. The term Tele-health in brief includes telemedicine, telemonitoring, telecounselling, teleconsultation, teleassistance etc [3,4]. It is often not possible for all the specialists to be available in health care camps conducted in remote areas. Tele-Health, enables transfer of various kind of information needed for patient monitoring, education and medical interventions in delivery of health care [5]. Telehealth clinics allows the consultant to access people beyond distance [6]. This study is done to evaluate the effectiveness of tele-health camps in department of plastic surgery based on the feedback from patients, residents and the consultants.

### Materials and Methods

This is a retrospective study conducted in the department of Plastic surgery in Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER), Pondicherry by analyzing the feedback data given by the patients and the doctors of various tele-health camps conducted from May 2012 to April 2017. Feedbacks from three sets of population were analyzed.

1. Patient population – these include the people who attended the tele-health camp. Feedback data analysed from this population were regarding the satisfaction of consultation, and save of time and money.
2. Junior/Resident doctors- who conducts the tele-health camp at distant site. Feedback data obtained from this population include regarding the satisfactory learning experience, satisfaction in giving consultations, the connectivity (audio and video clearance).

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3. Consultants - who gives guidance and consultation to the Junior/Resident doctors through the tele-health network from JIPMER.

(i). *From the JIPMER end:* Tele-Consultation room (10 x 10 feet) setup facility included Desktop with mike, camera & speaker and Internet connectivity (512 kbps). National Knowledge Network (NKN) internet connectivity, provided free of cost to JIPMER by Ministry of Health & Family Welfare (MOHFW), Govt of India & coordinated by National Informatics Centre (NIC) Pondicherry. Using the free video calling applications like Skype/Hangout, Real Time (Video Conferencing) tele-consultations were given by the consultants (Figs. 1 & 2).

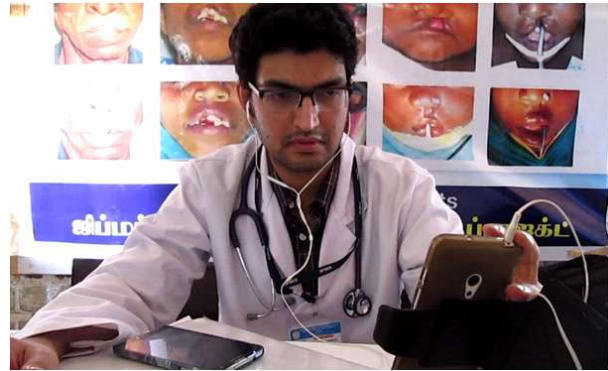


**Fig. 1:** Doctor / Consultant giving Tele-Consultation (over Video Conference) Skype/Hangout from JIPMER telemedicine centre.



**Fig. 2:**

(ii). *From the rural camp end:* Tele-Consultation room (available dimensions) setup were made with the facility of Laptop & speaker/smartphone and internet connectivity using Data Card (Dongle) in Tele-Health camp with bandwidth of (512 kbps) was used. Using free Video Calling applications resident/junior doctors were connected to consultants and getting the guidance from them. (Fig. 3).



**Fig. 3:** Resident communicating the patient's information to the consultant through tele-conferencing.

At the end of the each consultation feedbacks were obtained from the patient/ relative and at the end of each camp feedbacks were obtained from the Resident/Junior doctor and the Consultants.

## Results

Total of 57 Tele-Health Camps were conducted during the period of 2012-2017. Outreach Camps covered around 200 kilometer surrounding including 24 rural areas. Total number of tele-health camp consultations given were 1047. Feedback forms obtained from the Residents/Junior doctors were 72. Feedback forms obtained from the consultants were 64. Total number of feedback forms analyzed were 1183. Of all 98% of feed backs were satisfied of connectivity. Of 2% feedbacks (24) who are not satisfied 21 are from doctors. All the patients (100%) were satisfied with their consultation and they agreed that, their time and money are saved by attending the tele-health camp. All the Junior/Resident doctors (100%) have given feedback as they had obtained satisfactory learning experience and all of them were satisfied in the consultations given in the tele-health camp. All of the consultants have given satisfactory feedback in giving consultation to the patients and guiding the Junior/Resident doctors.

## Discussion

Health camps are often attended by residents from JIPMER and the residents examine the patient and refer the patient to JIPMER for further opinion / advice by the consultants if needed. With the help of Tele-Consultation facility, the consultants are available online and it is easy for the residents to get the opinion of the senior consultants in real time. The patient can get immediate advice by the consultant without having to travel physically to JIPMER.

Telemedicine is used to examine, screen, treat and follow up patients with the help of information and communication technology [7]. In remote areas, lack of accessibility, resources and health care workers are the main challenges in delivering health care [8]. Telemedicine is used as a boon to bridge this gap between the patient and the doctors [9]. Tele-health includes preventative, promotive and curative care delivery to remote areas [10]. Advantages of tele-health camps are that the patient can get immediate real time opinion from the experts staying far apart. It also saves the traveling time & expenses for patients who otherwise have to come to JIPMER for consultation. From doctor's perspective, telehealth camps also save the consultant's time and the residents are able to get a real time learning experience from the senior consultants.

### Conclusion

The outcome of this study clearly depicts the healthy and satisfactory acceptance of tele-health camps by both the patient and doctors using telemedicine technology in the rural areas.

*Conflicts of interest:* Nil

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