

Challenges in managing telemedicine centers in remote tribal hilly areas of Uttarakhand

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Abstract

Background: Healthcare Information Technology advances in the Information, Communication and Telecommunication (ICT) sector have made telemedicine a common and alternate medical service delivery in remote areas. Indian Space and Research Organization (ISRO) established village resource centers managed by Non-government Organizations (NGO's) all over the country in 2010. While ISRO provided satellite connectivity and required equipment for communication, tele-education, and telemedicine in Uttarakhand, Himalayan Institute Hospital Trust provided primary health care through tele-consultation to remote tribal hilly areas through village resource centers. This paper features the technical and financial challenges faced in providing tele-consultation. **Methods:** A cross-sectional study of 115 clients, 4 health supervisors and co-ordinating doctor from three districts was done using semi-structured questionnaires for interview. Parameters at both doctor's and patients' end for communication, costs involved, quality of doctor-patient interaction and patient satisfaction from Tele-consultation sessions were assessed. **Results:** Video quality was more satisfactory than audio. The physical presence of a doctor was felt necessary only in 33/115 (30%) of the time. The average cost for telemedicine consultation works out to just Rs. 15 per patient. Around 48.7% of the queries were processed in less than 10 minutes of satellite time. Around 67% of the beneficiaries felt that their privacy was not maintained as per their expectations. The request to extend the timing of the session was made by 85% of the clients. **Conclusions:** Long periods of non- connectivity due to satellite failure, lack of technical staff, lack of patient's privacy during sessions, lack of income generation for self-sustainability, were the major challenges faced. However many patients benefitted, did not have to travel long distances for medical advice and easy follow ups were facilitated. Telemedicine centres can sustain themselves by ensuring uninterrupted connectivity, trained staff, good quality user- friendly instruments and exploring multiple financial sources for sustainability.