

Video Directly Observed Treatment: How Effective Will it be in Indian Setting?

Dear Editor,

The Directly Observed Treatment, Short-course (DOTS) strategy for control of tuberculosis (TB) in India requires the patient to take drugs in presence of a DOTS provider. Though this enhances treatment completion rates and reduces chance of drug resistance, it sometimes becomes difficult for the patients because of job requirements, lack of transport facilities, and stigma associated with the disease. From the health system's perspective also, it may be demanding in terms of time, financial incentives and travel costs of the DOTS provider.

In India, significant proportions of TB patients receive treatment from the private sector. A study from Andhra Pradesh reported that only 21% private practitioners had practiced DOT or used other enablers during the course of treatment.^[1] There is a dearth of human resources in the Government of India's Revised National Tuberculosis Control Program (RNTCP) as well. For instance, out of the 693,628 DOTS provider posts sanctioned under RNTCP, only 68% are in place and have received training.^[2] Thus, it is imperative to look for alternate newer and innovative mechanisms for DOTS provision to complement the existing DOTS strategy, especially in resource poor settings like India.

A pilot study conducted in Kenya to study the feasibility of using multimedia messaging service (MMS) to monitor the drug intake in TB patients has shown promising results.^[3] A person close to the patient (called patient assistant) was trained in recording videos of the patient, while swallowing the drug and sending it to the drug provider using a MMS-enabled mobile phone. In a similar study in the United States, the cost-effectiveness of videophone technology in DOT provision was higher when compared to in-home DOT, with an average cost savings per patient of US \$2448.^[4]

Other aspects of mobile DOT (MDOT), such as short message service have been previously explored mainly for propagating health messages or for sending medication reminders. By enabling patients to send videos at any time, and from any location through their mobile phones, video DOT (VDOT) allows patients to take the medications on a schedule that

better suits their lifestyle, thus resulting in better treatment compliance. The advantage for health system is cost-effective supervision.

India has the second-largest mobile phone user base in the world (with over 900 million users).^[5] Though this is an opportunity for advancement of MDOT services, information regarding number of mobile phones with MMS facility is lacking. Requirement of training for recording and sending MMS videos is a challenge. Others include issues of poor cellular network in hard-to-reach areas, data security, back-up, and large data storage requirements in phones.

Pilot studies are required to explore future possibilities of utilizing VDOT for TB control in India. Initial studies might focus on its utility for TB patients who have specific time or travel constraints, if not for all. Collaboration between RNTCP and the Information Technology sector can bring in innovations like specially made low cost MMS-enabled mobile phones. Considering increase in mobile phone usage and shortage of manpower in the program, VDOT appears to be a viable alternative in selected group of patients.

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