

HIGH TUBERCULOSIS TREATMENT ADHERENCE OBTAINED USING MOBILE PHONES FOR VIDEO DIRECTLY OBSERVED THERAPY: RESULTS OF A BINATIONAL PILOT STUDY

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ABSTRACT

Over 8.8 million people become ill and 1.4 million people die annually from tuberculosis (TB). TB is treatable with antibiotics; however, poor adherence to daily medication regimens lasting >6 months promotes ongoing disease transmission, higher mortality, and development of drug resistance. "Directly observed therapy" (DOT) is recommended to minimize these problems. DOT healthcare providers watch patients take each dose of medication, hence DOT is costly, time consuming, invasive for patients, and is limited to patients who live near a health center. Informed by focus groups and expert opinions among patients and providers, we developed and pilot-tested a method called Video DOT (VDOT) whereby patients use mobile phones to record and securely transfer time-stamped videos of themselves taking their medications, which are then watched remotely by their provider. The study was conducted in San Diego, CA (n=43) and Tijuana, Mexico (n=9). To date, 38 patients have completed TB treatment using VDOT. Patient ages ranged from 18 to 86 years, 54% were male, and 77% were non-white. Overall, 90% and 97% of the expected videos were received on-schedule from patients in San Diego and Tijuana respectively. Post-treatment interview responses were similar across cities. Patients and providers easily adopted the technology. Patients required only 3 training sessions on average before being able to perform VDOT independently. Overall, 89% of patients reported never or rarely having problems recording videos, 92% preferred VDOT over in-person DOT, and 81% thought VDOT was more confidential. All patients said they would recommend VDOT to other TB patients. Three participants were more compliant after switching to in-person DOT, suggesting the need for both DOT options. VDOT provides a promising mobile solution to the high cost and burden of in-person DOT for monitoring TB and other conditions that require strict treatment adherence.