



## Early Evaluation of Video-Assisted Healthcare Training in Low Literacy Remote Settings of Madagascar

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## Background

Ground transportation impediments, lack of human resources, cultural diversity and low literacy are frequently encountered challenges in providing effective healthcare information to patients and community healthcare workers (CHW) in remote settings. Rural villages of Madagascar provide an opportunity to assess the efficacy of innovative tablet-based educational videos that are well tailored for mass training on disease transmission and prevention strategies. This study used soil-transmitted helminths (STH), previously identified as a significant public health issue for these villages, to evaluate the efficacy and acceptability of video education modules.

**Images for this section:**



**Fig. 6**

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## Methods

Volunteering subjects (n=97) from two neighboring villages in Ifanadiana, Madagascar were shown a short video containing either cartoon depictions of hygiene practices narrated in the local dialect or a video showing a recognizable health professional reading the same narration without any accompanying visual aids. Pre-and post-test mix-method surveys were administered to assess changes in knowledge of video content and to collect qualitative feedback regarding the experience of tablet-based video education.

**Images for this section:**



**Fig. 1**

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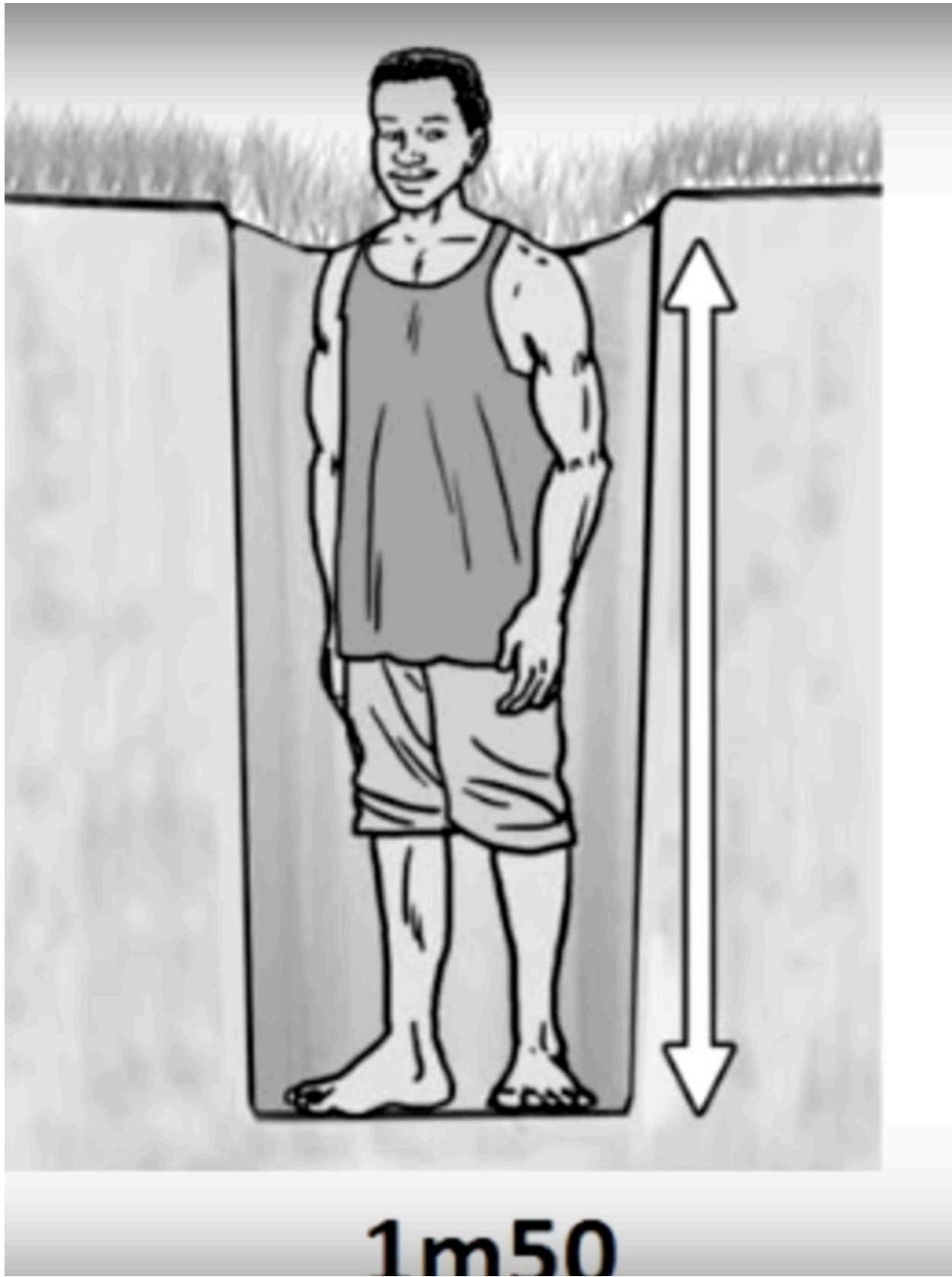
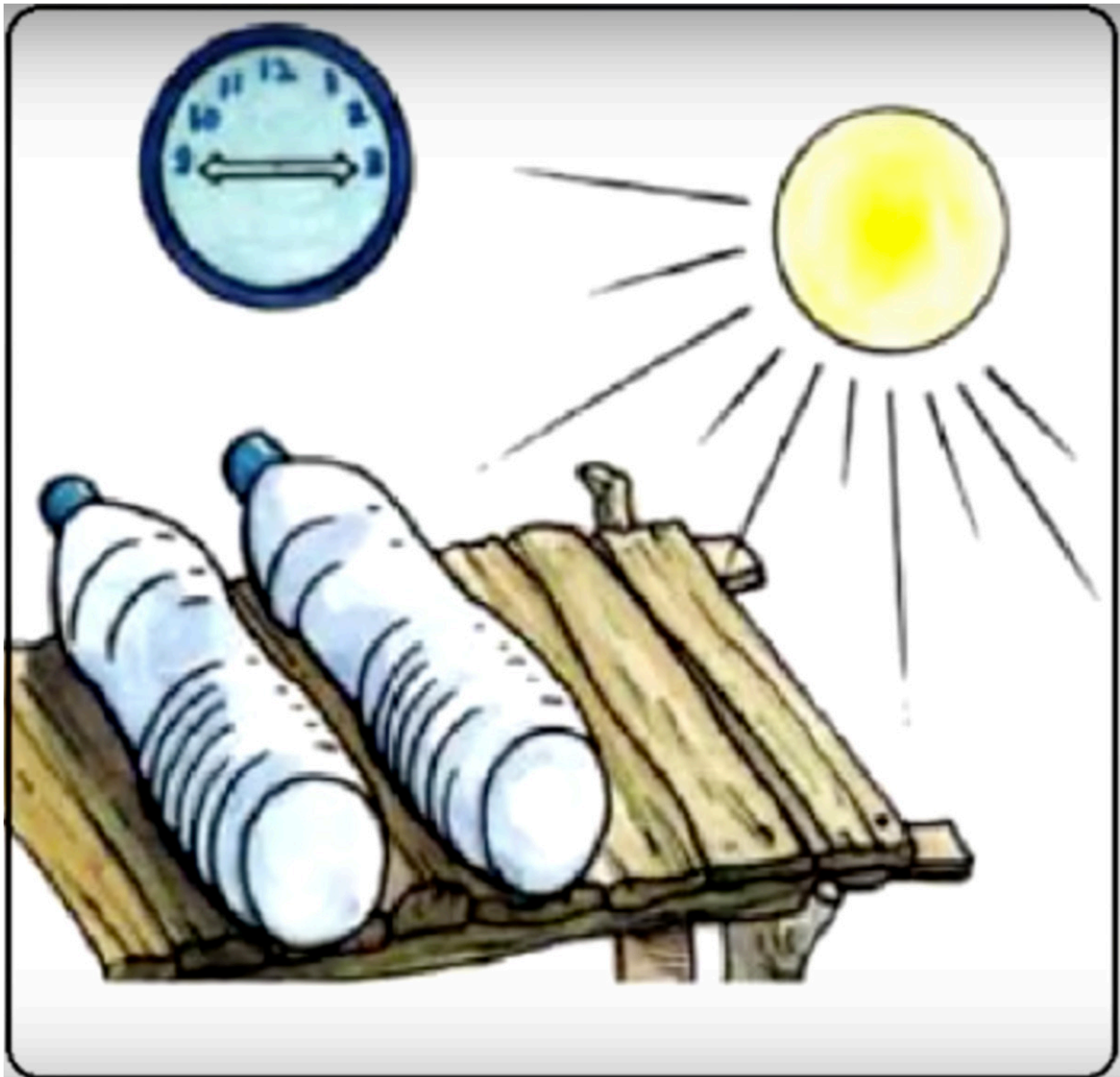


Fig. 2

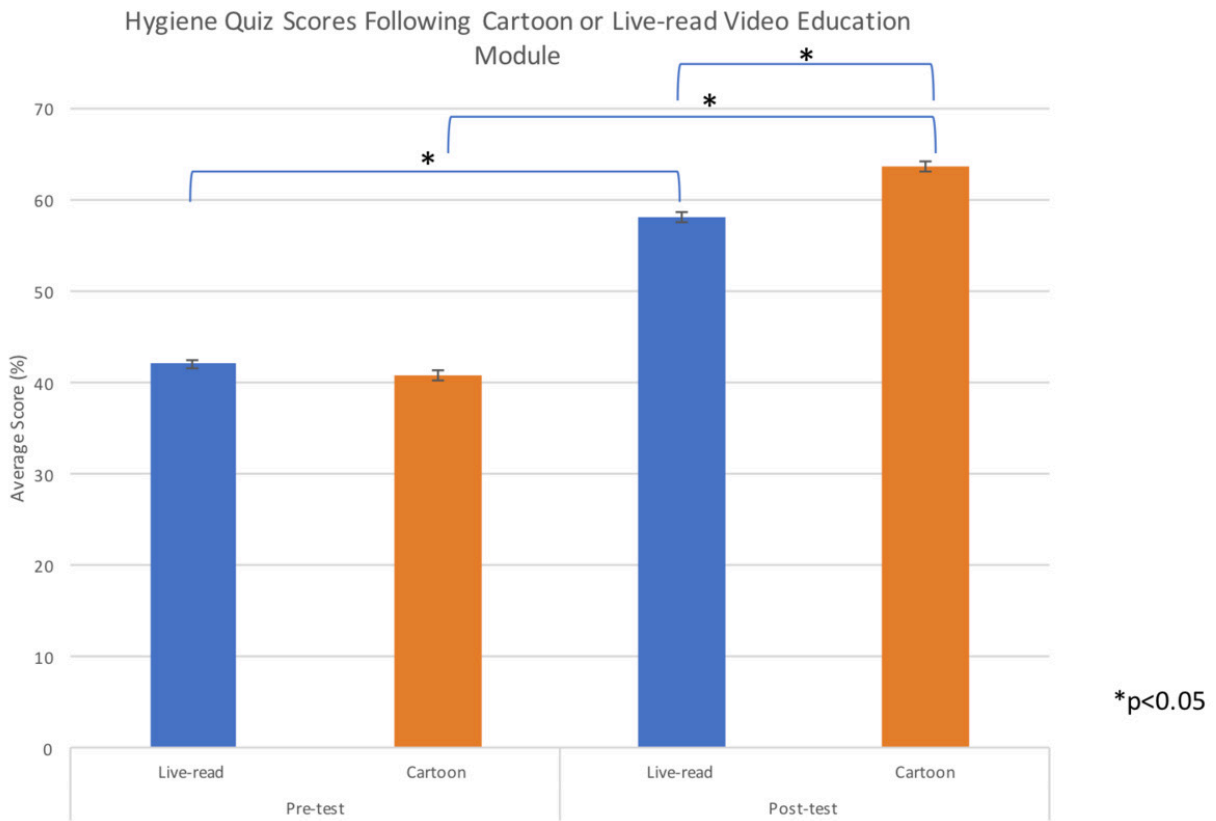


**Fig. 3**

# Findings

In the follow-up assessment 12-24 hours after watching the video, mean scores for the knowledge of hygiene practices, calculated as a percentage, were significantly increased compared to mean scores on the same questionnaire administered prior to seeing the video. There was a 19.4% ( $p < .01$ ) and a 14.9% ( $p < .001$ ) improvement in scores following the cartoon based video and live-read video, respectively, with cartoon based video demonstrating higher efficacy ( $p < .05$ ). Qualitative surveys demonstrated widespread acceptability of tablet-based video education, including hypothetical presentation of personal medical information (such as information specific to a diagnosis or treatment plan) using mobile video technology and cartoon visual aids were identified as a helpful feature, when present.

## Images for this section:



**Fig. 4**

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## Interpretation

Tablet-based video education modules were demonstrated to be effective in improving knowledge of key hygiene practices, particularly with videos containing cartoon visual aids. Additional insight gained through participant feedback will enhance the creation of video education modules focused on key aspects of tuberculosis care in a rural setting. These videos are being integrated into a suite of novel TB treatment technologies being piloted in rural Madagascar.

**Images for this section:**



**Fig. 5**

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## Short Bio (max. 150 words or less)

Born and raised in Oxford, Ohio, Ben attended Miami University where he majored in Zoology with minors in Molecular Biology and Ethics. Upon graduation, he joined the team at Global Health Corps (GHC) at their international headquarters in New York City. In August 2016, Ben began attending the Stony Brook University School of Medicine in Stony Brook, New York. Under the guidance of mentors Dr. Peter Small and Dr. Luis Marcos, Ben joined Annabelle Jones, Emile Redwood, and Liana Langdon-Embry, all first-year medical students from Stony Brook School of Medicine, to conduct a pair of research initiatives based in the Ifanadiana District of Madagascar. This research was done in conjunction with the ongoing work of the Centre ValBio Mobile Health Team.