



CEGA

Center for Effective Global Action

Impact of an Instructional Video for TB Case Detection in Tanzania

8th Annual EASST Summit

Grace Mhalu, Ifakara Health Institute
Adrienne Mocello, UC Berkeley





Contents

Motivation

Study context

Pilot Study

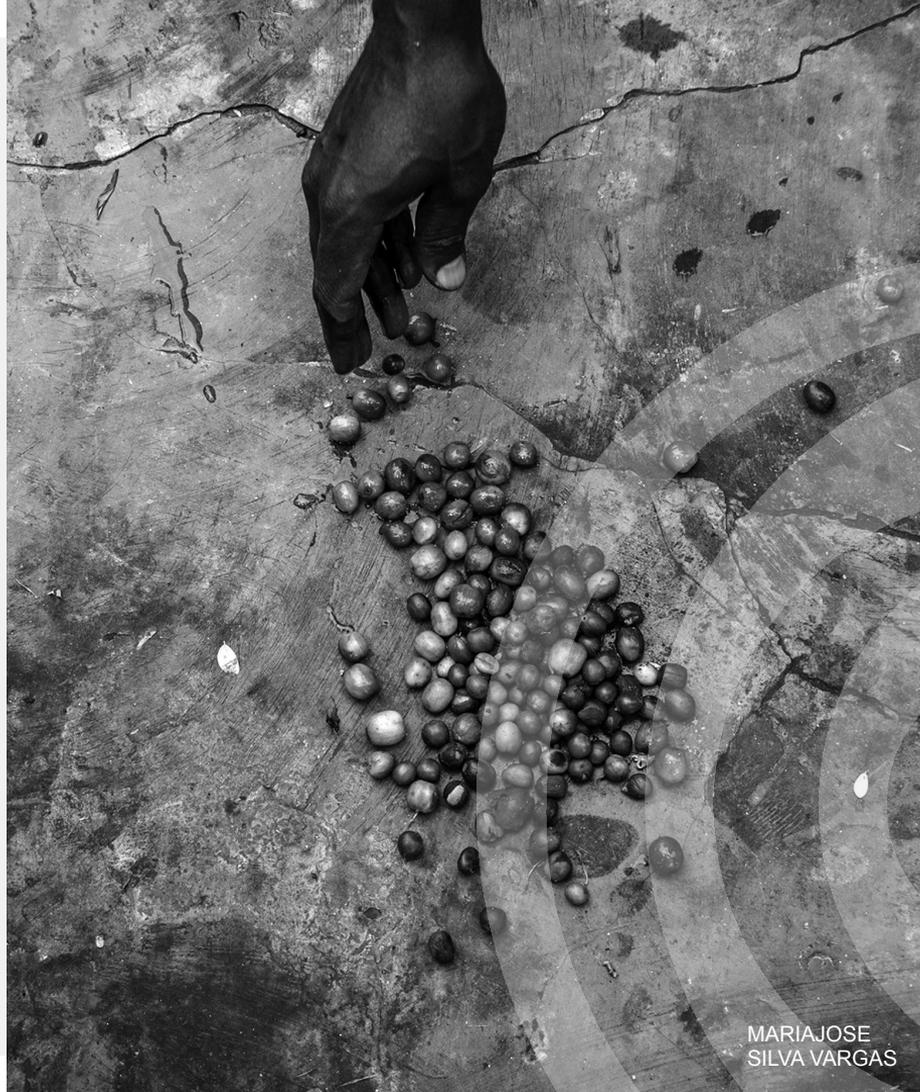
Tuberculosis

Research Questions

Instructional video

Standard of care

Study design and settings





Motivation



Background on tuberculosis (TB)

- Ninth leading cause of death worldwide from infectious disease above HIV/AIDS
 - 10.0 million TB cases
 - 1.4 million deaths in 2017
- Approximately 85% of the global burden due to pulmonary TB
- Tanzania among 30 countries with highest burden (295 cases per 100,000 population) ([Global TB report, 2017](#))



Motivation

- Diagnosis and the performance of laboratory testing for tuberculosis (TB) bacilli
 - Adequate sputum samples
 - Quality of sputum samples
- Presumptive TB patients are asked to spontaneously produce sputum from the lungs
 - An adequate biological sample is not readily available
 - Low concentration of TB bacilli
- Patients often give saliva from the mouth
 - Decreases sensitivity of the test
 - Results in missed diagnosis





Study Context

- National TB prevalence survey data in Tanzania case detection rate as low as 50 %
([Ministry of Health Tanzania, 2013](#))
 - Sub-optimal diagnostic procedures
 - Lack of knowledge about the disease and sputum submission
- Gender differences in TB notification rates and prevalence in sub-Saharan Africa
- Women are at risk of under-detection, less likely to test smear positive than men
 - Cultural inhibitions about producing sputum in public areas
 - Less knowledge about TB diagnosis

Pilot Study





Pilot Study

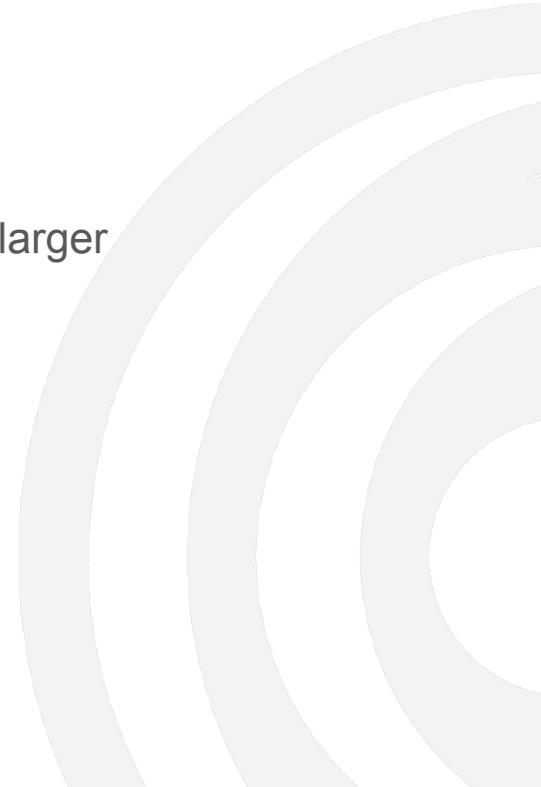
- Previously shown in a pilot study use of an instructional video
 - Increased specimen volume
 - Increased specimen quality
 - Higher proportion of confirmed TB cases
 - Highly accepted to provide sputum submission instructions
- **Shortcomings**
 - Conducted in a single TB clinic in Tanzania
 - Small sample size, only one early-morning sputum sample
 - Did not assess gender differences ([Mhalu et al, 2015](#))





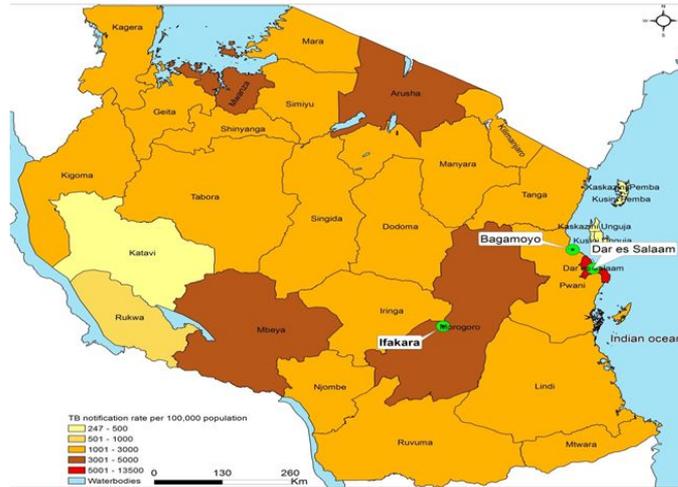
Research Questions

- Can we replicate the previous pilot findings on the impact of an instructional video in improving sputum quality and quantity on a larger sample and in different settings?
- Do the effects of the video vary across gender?





Study settings





Study design

- Randomized control trial
 - Unit of randomization: All presumptive TB patients seen at the selected TB clinics
 - Intervention arm: Sputum instructional video
 - Standard of care (verbal instructions)
- Labelled sputum containers (in each cluster) with different colour sticker
- Laboratory staffs blinded to the intervention status of the specimen



Individual randomization





Instructional video

Instructional video “on how to produce a good sputum sample for better diagnosis”:
Tanzania version



<https://vimeo.com/88749231> or https://www.youtube.com/watch?v=92dT_1kbbek



Standard of care

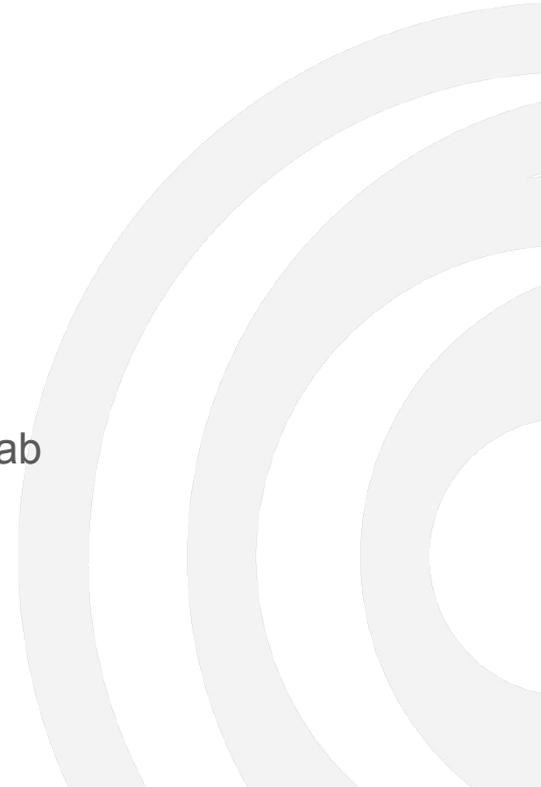
- Verbal instructions on how to produce sputum samples
 - Instructions to sit or stand in an open space
 - Inhale deeply two to three times and to cough
 - Collect the specimen in a container





Sputum evaluation and volume determination

- Appearance of sputum sample classified
 - Salivary
 - Muroid
 - Purulent
 - Blood stained
- Previously validated point sputum colour chart (BronkoTest; Heredilab Inc., Salt Lake City, UT, USA)
- Specimen volume assessed in millimetres
 - Recommended sputum volume 5.0 ml





Policy translation

- Offers to ease the burden on health workers' time, might be translated into a policy in the country
- Findings from the study will enable follow-up research for improved TB control





CEGA

Center for Effective Global Action