Prevalence of TB symptoms, diagnosis, and treatment among HIV-positive adults not yet on ART presenting at outpatient clinics in South Africa and Kenya

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Abstract 0720

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BACKGROUND

For HIV-positive patients not yet on ART, the possibility of co-infection with TB remains a major reason for delaying treatment initiation among those with TB symptoms (cough, weight loss, fever, night sweats). Symptom screening has been shown to have good sensitivity (89%) but poor specificity (28%) to identify TB in ART-naïve patients. In both South Africa (SA) and Kenya, patients who report >1 TB symptoms require further investigation for active TB disease before ART initiation. Current data on the distribution of TB symptoms and their relationship to TB disease is important for achieving rapid and same-day ART initiation goals.

METHODS

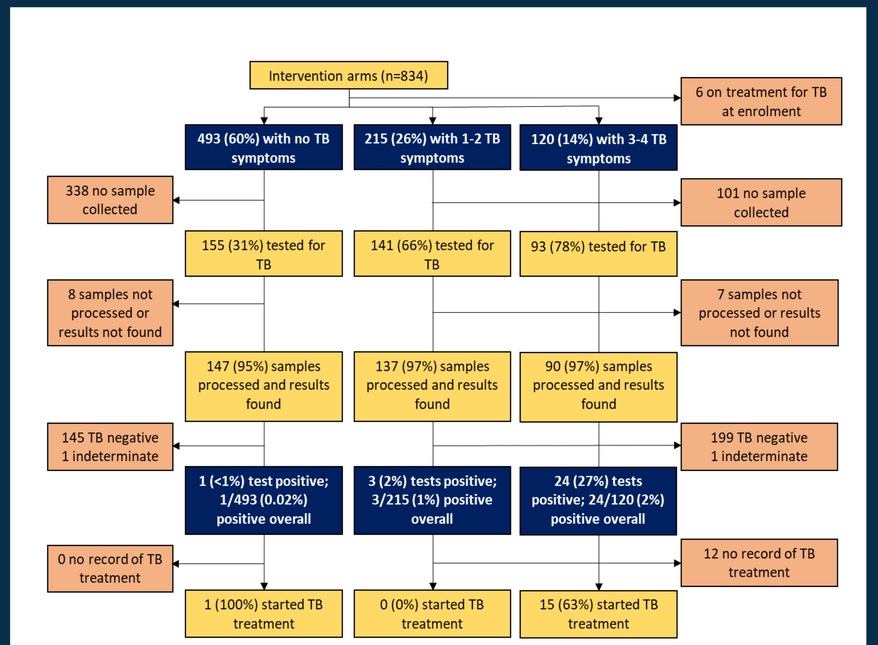
- SLATE I and II in SA and Kenya were 1:1 individually randomized trials to evaluate two variations of a simplified algorithm for eligibility for same-day ART initiation.
- We report baseline data at study enrollment for intervention arm patients, for whom we have TB symptom data.
- Participants were non-pregnant, HIV-infected adults >18 not currently on ART.
- TB symptoms were self-reported at baseline and included any cough, fever, weight loss, or night sweats of any severity or duration.
- Participants with symptoms were asked to provide sputum samples as part of the studies; all follow-up, was conducted by regular clinic staff after study interaction concluded.
- For SLATE II (only), sputum samples were also collected from asymptomatic patients in the intervention arm.
- Outcomes reported are prevalence of TB symptoms, diagnosis, and treatment in HIV+ adults not on ART and performance of the WHO 4-symptom TB screen.
- As outcomes were similar for both countries and trials we combined them.

RESULTS (Figure 1)

- Prevalence of 1-2 and 3-4 symptoms was 26% and 14%, respectively (Fig 1).
- 66% of patients with 1-2 symptoms and 78% with 3-4% were tested for TB
- Among **those 1-2 symptoms and 3-4 symptoms, 2% (overall 1%) and 27% (overall 2%), tested TB-positive.**
- Among **those with no symptoms, <1% of those tested (<0.02% overall)** were found to have TB disease.

TB symptoms were an effective way to identify patients with TB for purposes of same-day ART initiation. Most patients with 1-2 symptoms of TB did not have TB disease. The requirement for a TB test prior to ART initiation due to "any symptom" of TB should be reconsidered.

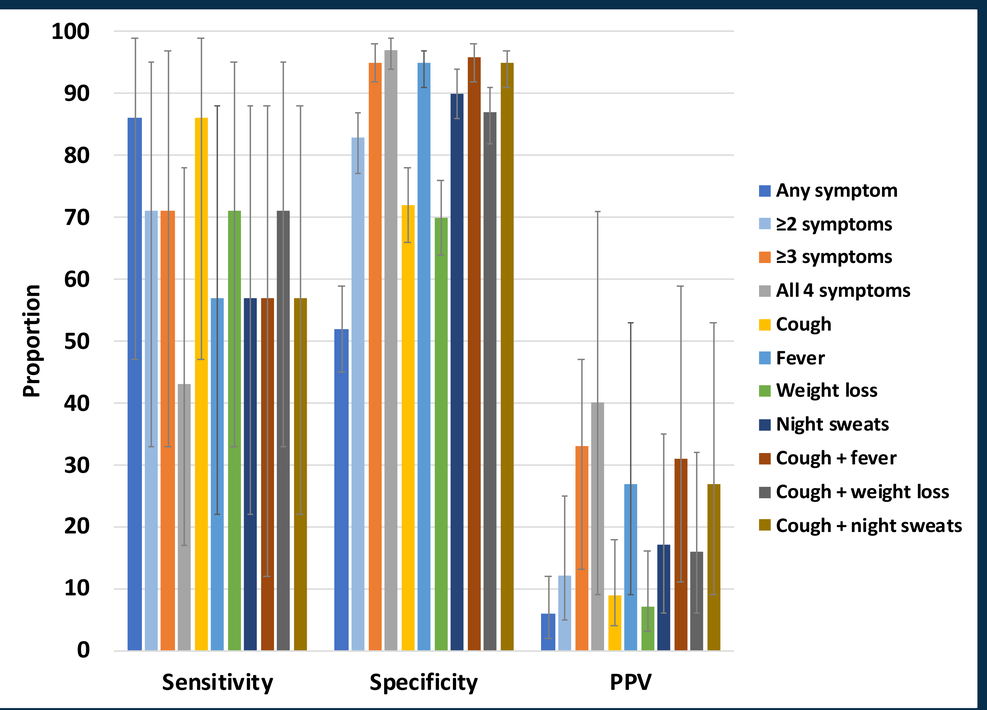
Figure 1. TB symptom prevalence and diagnosis in the SLATE I and II populations



RESULTS (Figure 2)

- For SLATE II, we compared self-reported symptoms of TB to Xpert® MTB/RIF test results (Figure 2).
- Requiring 3 or 4 symptoms maximized the positive predictive value of the current 4-symptom screening tool.
- Cough alone was equally sensitive as any other symptom or combination of symptoms in predicting TB but reduced specificity.
- Multiple symptoms increased specificity but reduced sensitivity.

Figure 2. Sensitivity, specificity and positive predictive value for standard four-symptom screen



CONCLUSIONS AND LIMITATIONS

- A third of patients with TB symptoms had no test results, due either to patient inability or refusal to produce a sputum sample, clinician failure or inability to complete the test, or incomplete entry of data into routine records. Prevalence of TB in Figure 1 above may thus under-report true TB rates.
- While the study sites were all typical primary healthcare clinics in Gauteng Province, South Africa and typical hospital-based HIV clinics in western Kenya, they were geographically clustered in each country, making generalizability uncertain.
- Most patients with 1-2 symptoms of TB did not have TB disease; delaying ART initiation for these patients so that a TB test can be performed may not be necessary.

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