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ABSTRACT BOOK

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PS-94137-07 A study of the potential for increased diagnostic test sensitivity to accelerate TB diagnosis

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Background: Globally the majority of TB is diagnosed by sputum microscopy but this has low sensitivity, so some patients diagnosis is delayed by initially false-negative tests. We studied the associated diagnostic delay to estimate the potential value of more sensitive diagnostic tests for accelerating diagnosis.

Methods: Symptom duration prior to diagnosis and the number of submitted sputum samples was assessed by interview for 819 consecutive patients who were commencing treatment for TB in Peruvian shantytowns.

Results: The health-seeking delay from symptom onset to seeking medical-care was an average of 4.4 times greater than the testing-delay between seeking medical-care and tuberculosis diagnosis. The initial 3 samples were sufficient for sputum microscopy to diagnose 86% (703) of patients and their median symptom duration prior to diagnosis was 30 days. To diagnose the remaining 14% (116) of patients, 4 or more sputum microscopy tests were necessary and the symptom duration before diagnosis was significantly greater in this group (median 60 days, $P = 0.0001$). Patients diagnosed from their initial 3 samples also had significantly prolonged cough duration compared with those whose diagnosis required more than 3 sputa ($P = 0.0001$).

Conclusion: Interventions to encourage earlier health-seeking behaviour have greater potential to accelerate tuberculosis diagnosis than increasing the sensitivity of diagnostic tests. Despite this, 1 in 7 patients had multiple false-negative sputum microscopy tests and this was associated with delayed diagnosis and significantly prolonged cough duration that may cause TB transmission. Improving the sensitivity of sputum microscopy may identify more cases and reduce diagnostic delay, but should be combined with interventions to encourage health-seeking behaviour.

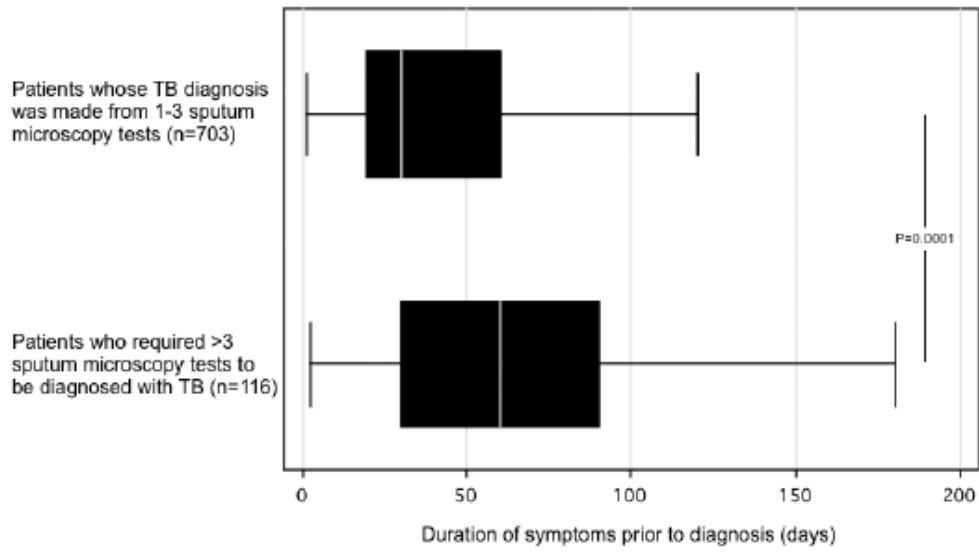


Figure The association between diagnostic delay and the number of sputum microscopy tests required to diagnose TB.