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Factors associated with prevalent TB at screening prior to isoniazid preventive therapy

Setting

The Thibela TB study is a cluster randomised trial of community-wide isoniazid preventive therapy (IPT) in 3 gold mining companies in South Africa where TB control programmes include radiological screening at least annually.

Objectives

To estimate the prevalence of and factors for undiagnosed TB at the screen prior to initiation of IPT.

Methods

We included participants who completed the TB screening process between Jul06-Oct07, excluding those currently on TB treatment. TB screening was based on symptoms (cough > 2 weeks, night sweats, weight loss) and digital chest x-ray. TB suspects (defined as symptom(s) and/or chest x-ray compatible with active TB) provided a sputum for microscopy and culture using MGIT. Undiagnosed TB at screen was defined as a positive culture for Mtb. Logistic regression was used to identify factors associated with outcome. HIV status was not available.

Results

13482 participants satisfied inclusion criteria; median age 39 yrs, 97% male, 11% had a history of TB, 0.9% previously taken IPT and 2.3% currently taking ART. A total of 1427 participants (10.7%) were classified as TB suspects. Overall 2.1% (278/13482) were culture +ve; 1.2% (156/13482; 95%CI 1.0-1.4%) had undiagnosed TB. On a univariable analysis increasing age, yrs in workforce, residing in hostel/informal settlement, previous TB and ART use were associated with an increased risk of undiagnosed TB. Previous IPT was not associated with undiagnosed TB. A multivariable analysis showed age, previous TB (OR 1.7, 95%CI 1.1-2.5) and residing in hostel/informal settlement (OR 1.5 [1.0-2.2] and OR 1.7 [0.9-3.5], respectively) were independently associated with undiagnosed TB.

Conclusion

Undiagnosed TB was relatively common despite active screening, arguing for intensification of this programme. Prevalence was higher amongst participants from hostel/informal settlement suggesting that crowded living conditions may contribute to prevalent TB.