

PS-72125-12 Undiagnosed infectious tuberculosis in Harare, Zimbabwe: HIV, past TB treatment and other risk factors

E L Corbett,^{1,2} T Bandason,² Y B Cheung,¹ B Makamure,² E Dauya,² R Matambo,² S S Munyati,^{2,3} G J Churchyard,^{1,4} A E Butterworth,^{1,2} S Mungofa,⁵ R J Hayes,¹ P R Mason.²
¹Infectious and Tropical Diseases, London School of Hygiene, London, UK; ²Biomedical Research and Training Institute, Harare, ³National Institute of Health Research, Harare, Zimbabwe; ⁴Aurum Institute, Johannesburg, South Africa; ⁵Harare City Health, Harare, Zimbabwe. Fax: (+263) 4735033. e-mail: elc1@ecoweb.co.zw

Background: Community-based surveys for undiagnosed TB provide a rigorous assessment of TB control that can be combined with incident data to estimate case-detection rates. Before the start of an intensified case-finding intervention, we carried out an HIV and TB prevalence survey in the high density residential suburbs of Harare.

Methods: All consenting adults in selected households (random 12% sample of 41 263 enumerated) answered a questionnaire, provided 'spot-morning' sputum for TB culture, and blood for HIV. TB suspects (>1 TB symptom, and/or screening culture positive) had screening smears read and were followed up to confirm or exclude TB.

Results: 10 079 (81%) participants provided sputum and 9076 (73%) provided blood. HIV prevalence was 21%. 40 participants were smear-positive and 66 culture-positive (prevalence: smear-positive 0.40%; culture-positive 0.66%). HIV was a significant risk factor for prevalent smear- and culture-positivity (unadjusted population attributable fractions [PAF] 35% and 42%, respectively), with male sex, middle age, being a recent (last 2 years) TB contact, and crowding also significant, whereas drinking and smoking were not. Past TB treatment was a significant risk factor for culture-positivity in HIV-negative (PAF 14%) but not HIV-positive (PAF 0.5%) participants ($P = 0.006$ for effect modification). Comparison with case-notification rates of HIV-positive and HIV-negative TB from the same suburbs implies delayed diagnosis, with duration of smear-positivity for HIV-negative patients double that of HIV-positive TB.

Conclusions: There is a substantial burden of undiagnosed infectious TB in urban Harare disproportionately affecting men, HIV-infected individuals, and households that are crowded or have recently been affected by TB. The main problem appears to be low case-detection rates, with suboptimal past TB treatment adding to the burden only in HIV-negative participants.