

Socioeconomic support to improve initiation of tuberculosis preventive therapy and increase tuberculosis treatment success in Peru: a household-randomised, controlled evaluation

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Abstract

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Background For the first time in the modern era of tuberculosis control, the WHO's End TB strategy specifically integrates socioeconomic support for people affected by tuberculosis with existing biomedical interventions. However, there is little evidence of the impact of this approach on tuberculosis outcomes. We designed and implemented one of the world's first tuberculosis-specific socioeconomic support interventions, assessed its impact on tuberculosis prevention measures and treatment success, and refined the support for use in the Community Randomized Evaluation of a Socioeconomic Intervention to Prevent Tuberculosis (CRESIPT) project.

Methods This unmasked household-randomised controlled study was done in 32 peri-urban shanty towns in Callao, Peru. Households with patients treated for tuberculosis by Peru's Tuberculosis Program were randomly assigned (1:1, computer-assisted randomisation) to receive the Peruvian Tuberculosis Program standard of care (control group) or to additionally receive socioeconomic support (intervention group). Socioeconomic support consisted of conditional cash transfers (\leq US\$230) and social support (household visits and community meetings). Primary outcome was initiation of tuberculosis preventive therapy in contacts younger than 20 years available for follow-up assessment. 400 contacts were needed for 80% power at the 95% (two-sided) confidence level to detect a 50% increase in the primary outcome. Secondary outcome was treatment success in patients with tuberculosis by intention to treat. Ethics approval was given by the ethics committees of DIRESA Callao (Regional Ministry of Health) and Asociación Benéfica PRISMA, Lima, Peru, and Imperial College London, UK. All participants gave written informed consent. This study has been registered with the ISCTRN registry, number pending.

Findings From Feb 10 to Aug 14, 2014, 282 patients (410 eligible contacts) were recruited. 135 patients were randomised to the intervention group (206 eligible contacts) and 147 to the control group (204 eligible contacts). Follow-up continued to June 30, 2015. Compared with controls, intervention contacts were more likely to start preventive therapy (91/206 [44%] vs 53/204 [26%], adjusted odds ratio 2.2 [95% CI 1.1–4.2]; $p=0.02$); and intervention patients were more likely to have treatment success (87 [64%] vs 78 [53%], 1.8 [1.1–2.9]; $p=0.02$).

Interpretation Tuberculosis-specific socioeconomic support improved initiation of tuberculosis preventive therapy and treatment success. The CRESIPT study will now evaluate the impact of this socioeconomic support on tuberculosis control.

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Contributors

CAE, TW, MAT, RM, DH, JLL, and DB conceived and designed the study. CAE, TW, DH, JLL, MAT, and RM performed the intervention. CAE, TW, MAT, and RM enrolled participants. TW, SD, MS, JLL, DB, CAE, and MAT analysed the data. CAE, RM, and ER contributed reagents, materials, and analysis tools. TW, CAE, MAT, MS, SD, and DB drafted the abstract. TW, CAE, DH, RHG, JL, MAT, MS, SD, and DB contributed to the writing of the abstract. All authors read and met the ICMJE criteria for authorship and agree with the results and conclusions.

Declaration of interests

We declare no competing interests.