Tuberculosis in prisoners and their contacts in Chile: estimating incidence and latent infection.

Abstract

SETTING:
Contact investigation of tuberculosis (TB) patients in Chilean prisons.

OBJECTIVE:
1) To estimate TB incidence and the prevalence of latent tuberculous infection (LTBI) among prisoners and their contacts; and 2) to determine factors associated with disease transmission.

DESIGN:
Cross-sectional study conducted in 46 prisons (51% of the total prison population) to assess the prevalence of and risk factors for LTBI among contacts of prisoners newly diagnosed with pulmonary TB. We used in vitro interferon-gamma release assays to establish LTBI and a questionnaire to address risk factors.

RESULTS:
During the 1-year follow-up, we studied 418 contacts of 33 active TB cases. We found high TB incidence (123.9 per 100,000 prisoners) and high LTBI prevalence (29.4%) among contacts. LTBI rates are significantly higher in prison inmates than in non-prisoners (33.2% vs. 15.6%). Male sex, illicit drugs, malnutrition, corticosteroid use, low educational level and sharing a cell with a case increase the risk of LTBI. Multivariate analyses showed that corticosteroid use, duration of incarceration and overcrowding are the most relevant determinants for LTBI among all contacts.

CONCLUSIONS:
Our results confirm that incarceration increases the risk of tuberculous infection and TB disease, and that it was associated not only with origin from vulnerable groups, but also with the prison environment. Reinforcing TB control is essential to prevent TB transmission in prisons.