

Risk factors and treatment outcomes of drug-resistant Tuberculosis in migrants

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Abstract

Background: In high-income, low-incidence countries, tuberculosis (TB) predominantly affects migrant populations. While drug-resistant tuberculosis (DR-TB) constitutes a minority of cases, it is associated with prolonged treatment, worse treatment outcomes (TO) and higher catastrophic costs.

Aim: Analyze risk factors for DR-TB and TO among migrants with microbiologically confirmed active TB.

Methods: Retrospective, monocentric, no profit study, from 2000 to 2025 in a TB reference center in Milan, Italy.

Results: 3202 patients were included in our study. Female sex (OR 1.47; 95% CI 1.05–2.05), HIV-TB coinfection (OR 2.01; 95% CI 1.07–3.76), and European origin were identified as risk factors for multidrug-resistant (MDR) TB. Between 2000–2012 and 2013–2024, a decrease in isoniazid monoresistance (OR 0.71; 95% CI 0.57–0.88) and an increase in preXDR and XDR TB cases (OR 5.45; 95% CI 2.22–13.38) were observed. TO were negatively influenced by MDR, preXDR, and XDR strains, and socioeconomic status, with successful TO in 78.52% of lower-status cases compared to 87.66% and 89.12% in intermediate and higher categories, respectively ($p < 0.001$). Patients diagnosed during active screening had worse TO (84.55% vs. 89.26%; $p < 0.05$) due to transfer out to other location/countries. Duration of stay in Italy at diagnosis and initial hospitalization were not statistically correlated with TO.

Conclusion: Female sex, TB-HIV coinfection and European origin were associated with higher risk of DR-TB in our cohort. TO were influenced only by class of resistance and socio-economic status. Providing shelter and economic stability for migrants results as important as timely diagnosis and treatment of resistance patterns in terms of TO.

Footnotes

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