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Changes in treatment for multidrug-resistant tuberculosis according to national income

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Introduction of group A drugs is probably responsible for improved outcomes, even in resource-poor countries. However, a gap in treatment outcomes, which could not be fully explained by group A drugs, persists between high- and upper-middle-income countries <https://bit.ly/2XJpO8U>

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ABSTRACT The aim of this study was to analyse temporal changes in treatments for and outcomes of multidrug-resistant (MDR)/rifampin-resistant (RR)-tuberculosis (TB) in the context of national economic status.

We analysed data collected by the Collaborative Group for the Meta-Analysis of Individual Patient Data in MDR-TB Treatment on MDR/RR-TB patients from 37 countries. The data were stratified by three national income levels (low-/lower-middle, upper-middle and high) and grouped by time of treatment initiation (2001–2003, 2004–2006, 2007–2009, 2010–2012 and 2013–2015). Temporal trends over the study period were analysed. The probability of treatment success in different income groups over time was calculated using generalised linear mixed models with random effects.

In total, 9036 patients were included in the analysis. Over the study period, use of group A drugs (levofloxacin/moxifloxacin, bedaquiline and linezolid) recommended by the World Health Organization increased and treatment outcomes improved in all income groups. Between 2001–2003 and 2013–2015, treatment success rates increased from 60% to 78% in low-/lower-middle-income countries, from 40% to 67% in upper-middle-income countries, and from 73% to 81% in high-income countries. In earlier years, the probability of treatment success in upper-middle-income countries was lower than that in low-/lower-middle-income countries, but no difference was observed after 2010. However, high-income countries had persistently higher probability of treatment success compared to upper-middle income countries.

Improved treatment outcomes and greater uptake of group A drugs were observed over time for patients with MDR/RR-TB at all income levels. However, treatment outcomes are still unsatisfactory, especially in upper-middle-income countries.