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Title: Is multidrug-resistant TB more common in children? An analysis of surveillance data

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Body: Tuberculosis (TB) caused by strains resistant to isoniazid and rifampicin (multidrug-resistant TB; MDR-TB) can affect persons of any age. Little is known about the global epidemiology of childhood MDR-TB. We analysed representative drug-resistance surveillance data reported by countries to the World Health Organization to test the association between MDR-TB and age-group (<15 years vs 15+), using odds ratios derived by logistic regression with random effects to account for within-country dependencies. Of 74 countries with data from surveys or continuous surveillance systems with a high coverage of testing, 29 reported at least one paediatric MDR-TB case. Disaggregated data by age and drug-susceptibility testing for 292,587 TB cases notified in 2000-2009 were used. ORs for MDR-TB in children varied widely between countries from 0.20(95%CI0.06-0.63) to 3.44(1.13-10.50). In India, Lithuania, and Rep. of Moldova, MDR-TB was negatively associated with age<15y while, in Namibia, South Africa, and United Kingdom, it was positively associated with age<15y. In all other countries, the association was not statistically significant. Despite the limited availability of data and the possible bias from selective diagnostic testing, results indicate that MDR-TB in children is no less frequent than in adults in many settings. Of particular concern is the link between children and MDR-TB in southern African countries with high HIV prevalence.