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Standardised shorter regimens *versus* individualised longer regimens for rifampin- or multidrug-resistant tuberculosis

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Standardised shorter regimens for RR/MDR-TB had substantially lower risk of loss to follow-up than individualised longer regimens, but also higher risk of failure or relapse if there was resistance to component drugs http://bit.ly/2RQgXzq

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ABSTRACT We sought to compare the effectiveness of two World Health Organization (WHO)-recommended regimens for the treatment of rifampin- or multidrug-resistant (RR/MDR) tuberculosis (TB): a standardised regimen of 9–12 months (the "shorter regimen") and individualised regimens of ⩾20 months ("longer regimens").

We collected individual patient data from observational studies identified through systematic reviews and a public call for data. We included patients meeting WHO eligibility criteria for the shorter regimen: not previously treated with second-line drugs, and with fluoroquinolone- and second-line injectable agent-susceptible RR/MDR-TB. We used propensity score matched, mixed effects meta-regression to calculate adjusted odds ratios and adjusted risk differences (aRDs) for failure or relapse, death within 12 months of treatment initiation and loss to follow-up.

We included 2625 out of 3378 (77.7%) individuals from nine studies of shorter regimens and 2717 out of 13 104 (20.7%) individuals from 53 studies of longer regimens. Treatment success was higher with the shorter regimen than with longer regimens (pooled proportions 80.0% *versus* 75.3%), due to less loss to follow-up with the former (aRD −0.15, 95% CI −0.17–−0.12). The risk difference for failure or relapse was slightly higher with the shorter regimen overall (aRD 0.02, 95% CI 0–0.05) and greater in magnitude with baseline resistance to pyrazinamide (aRD 0.12, 95% CI 0.07–0.16), prothionamide/ethionamide (aRD 0.07, 95% CI −0.01–0.16) or ethambutol (aRD 0.09, 95% CI 0.04–0.13).

In patients meeting WHO criteria for its use, the standardised shorter regimen was associated with substantially less loss to follow-up during treatment compared with individualised longer regimens and with more failure or relapse in the presence of resistance to component medications. Our findings support the need to improve access to reliable drug susceptibility testing.