

## Assessment of multidrug-resistant tuberculosis (MDR-TB) treatment outcomes in Sudan; findings and implications

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**Background:** Multidrug-resistant Tuberculosis (MDR-TB) has an appreciable socioeconomic impact and threatens global public health leading to initiatives across countries to address this. There is a need to assess treatment outcomes of MDR-TB and predictors of poor treatment outcomes in Sudan given current high prevalence of resistance.

**Methods:** Combined retrospective and prospective cohort study at Abu-Anga hospital (TB specialized hospital in Sudan). All patients with MDR-TB between 2013-2017 were targeted and all confirmed MDR-TB cases received an 18-month standardized regimen in two phases: 8-month intensive and 10-month continuation phase.

**Results:** 156 patients were recruited as having good records, 117 (75%) were male, and 152 (97.4%) had pulmonary TB (PTB). Patients were followed for a median of 18 months and a total of 2108 person-months. Overall success was 63.5% (cure or completed treatment) and the mortality rate was 14.1%. Rural residency ( $P < 0.05$ ) and relapsing on previous treatments ( $P < 0.05$ ) were determinants of time to poor MDR-TB treatment outcomes (died, treatment failure or defaulters).

**Conclusion:** The current situation of TB in general and MDR-TB, in particular, is a concern in Sudan. More attention needs to be given to special MDR-TB groups that are highly susceptible to poor outcomes, i.e. rural patients. It is highly recommended to the authorities to maintain total coverage of medicines for all MDR-TB patients for the entire period of treatment in Sudan, and instigate more treatment centers in rural areas together with programmes to enhance adherence to treatment including patient counselling. We will be following this up.