SORT IT
Improving health systems through research

Summary brief

High success with shorter treatment for multidrug-resistant tuberculosis patients in Nepal

[1]Reference: Koirala S, Shah N P, Pyakurel P, Khanal M, Rajbhandari S, Pun T, Shrestha B, Maharjan B, Karki S, Koirala S, Tamang K, Roggi A, Kumar A, Ortuño-Gutiérrez N. High success and low recurrence with shorter treatment regimen for multidrug-resistant tuberculosis in Nepal. Public Health Action, 2021 (In Press)

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Key Messages

- Patients with multidrug-resistant tuberculosis (MDR-TB) in Nepal treated with a shorter treatment regimen (STR) of 9-11 months have a higher treatment success (~80%) compared to a long regimen of 18-24 months (~70%).
- Despite excellent treatment results, only about one half of MDR-TB patients benefited from STR.
    - Some patients (38%) had additional resistance to fluoroquinolones and second-line injectables, making them ineligible to receive STR. Such patients will need shorter treatment regimens involving newer drugs, such as bedaquiline and delamanid.
    - Some patients (14%) did not have access to STR during the initial phase of scale-up.
- Among patients treated with STR, 15% had serious adverse events such as jaundice, liver damage, hearing problem, but were managed well.

What is the problem and why is it important?

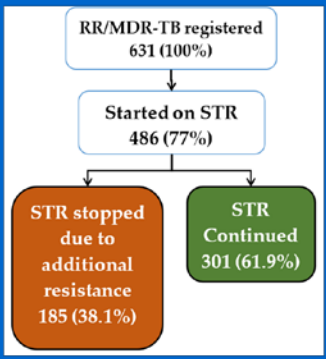
- The treatment of MDR-TB is often long (18-24 months) and costly, and the drugs have several side effects.
- STR was initiated in Nepal in 2018 to shorten the duration of treatment (9-11 months) among eligible MDR-TB patients to increase the chances of cure, stop the transmission of MDR-TB in the community and save costs.
- The study aimed to evaluate the uptake, safety and effectiveness of STR under programmatic conditions in Nepal.

How did we measure it?

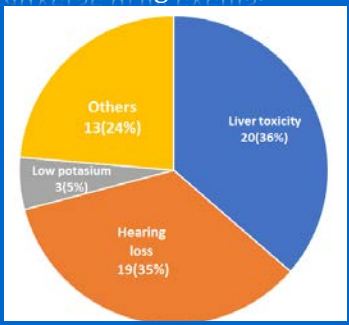
- We conducted a cohort study of MDR-TB patients enrolled in 2018-19 and received STR in nine MDR-TB treatment centres which

A cohort study was done over two years (2018-2019) on Shorter Treatment Regimen for MDR-TB in Nepal which showed promising results.

Nearly 38% of the patients had resistance to second line drugs (second line injectables and fluoroquinolones) which is quite alarming and there needs more work to be done on combatting antimicrobial resistance.



The shorter treatment regimen works, however, improvement is needed in the management of severe adverse drug events.



register around 80% of MDR-TB patients in the country, under the supervision of the National Tuberculosis Programme.

- Data were extracted from patient records, double-entered and validated using EpiData software.
- Associations of demographic, clinical factors with treatment outcomes and severe adverse events (SAEs) were analysed using EpiData and Stata software.
- There is a data quality assurance system that verifies data entered from programmatic tools of the national health information system through frequent field supervisions.

What did we find?

- Of 631 patients, only 48% received STR, because the rest either had additional resistance to core drugs (fluoroquinolones and second-line injectables), making them ineligible (38%), or did not have access to STR during the initial phase of scale-up.
- Of those who continued on STR, ~80% were successfully treated.
- HIV co-infected persons and people older than 55 years had twice the risk of unfavourable outcomes.
- About 15% reported serious adverse events, including liver damage and deafness. Most of these were managed well.
- There were challenges in post-treatment follow-up and only half of all patients were followed-up at 12 months after treatment. Among those who were followed-up post-treatment, the risk of TB recurrence was low (0.5% at 6 months and 2.4% at 12 months).
- Overall, the patient records were maintained well, but some data were missing (such as height, adverse events).

Implications

- STR is one of the important regimens to treat MDR-TB in Nepal.
- Patients with additional resistance needed a longer regimen (18 months) to cure. The National Tuberculosis Programme (NTP) and partners need to implement a shorter regimen using newer drugs to treat such patients.
- Focal points of DR-TB centres need to improve systems for monitoring of adverse events during supervisory visits and data validation.
- Post-treatment follow-up surveillance needs to be strengthened for early detection of recurrence by the DR-TB centres under the supervision of the National Tuberculosis Programme.
- Clinicians should systematically record clinical data such as weight and height, to calculate BMI for clinical follow-up. Also, the NTP needs to ensure availability of stadiometers at DR-TB centres for measuring height.