

Time to Second Line Treatment Initiation Among Drug-Resistant Tuberculosis Patients in Nepal

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Abstract : Background: Drug-resistant (DR) tuberculosis (TB) continues to be a threat in Nepal, with an estimated 2800 new cases every year. The treatment of DR-TB with second line TB drugs is complex and takes longer time with comparatively lower treatment success rate than drug-susceptible TB. Delay in treatment initiation for DR-TB patients might further result in unfavorable treatment outcomes and increased transmission. This study thus aims to determine median time taken to initiate second-line treatment among Rifampicin Resistant (RR) diagnosed TB patients and to assess the proportion of treatment delays among various type of DR-TB cases. Method: A retrospective cohort study was done using national routine electronic data (DRTB and TB Laboratory Patient Tracking System-DHIS2) on drug resistant tuberculosis patients between January 2020 and December 2022. The time taken for treatment initiation was computed as- days from first diagnosis as RR TB through Xpert MTB/Rif test to enrollment on second-line treatment. The treatment delay (>7 days after diagnosis) was calculated. Results: Among total RR TB cases (N=954) diagnosed via Xpert nationwide, 61.4% were enrolled under shorter-treatment regimen (STR), 33.0% under longer treatment regimen (LTR), 5.1% for Pre-extensively drug resistant TB (Pre-XDR) and 0.4% for Extensively drug resistant TB (XDR) treatment. Among these cases, it was found that the median time from diagnosis to treatment initiation was 6 days (IQR:2-15.8). The median time was 5 days (IQR:2.0-13.3) among STR, 6 days (IQR:3.0-15.0) among LTR, 30 days (IQR:5.5-66.8) among Pre-XDR and 4 days (IQR:2.5-9.0) among XDR TB cases. The overall treatment delay (>7 days after diagnosis) was observed in 42.4% of the patients, among which, cases enrolled under Pre-XDR contributed substantially to treatment delay (72.0%), followed by LTR (43.6%), STR (39.1%) and XDR (33.3%). Conclusion: Timely diagnosis and prompt treatment initiation remain fundamental focus of the National TB program. The findings of the study, however suggest gaps in timeliness of treatment initiation for the drug-resistant TB patients, which could bring adverse treatment outcomes. Moreover, there is an alarming delay in second line treatment initiation for the Pre-XDR TB patients. Therefore, this study generates evidence to identify existing gaps in treatment initiation and highlights need for formulating specific policies and intervention in creating effective linkage between the RR TB diagnosis and enrollment on second line TB treatment with intensified efforts from health providers for follow-ups and expansion of more decentralized, adequate, and accessible diagnostic and treatment services for DR-TB, especially Pre-XDR TB cases, due to the observed long treatment delays.

Keywords : drug-resistant, tuberculosis, treatment initiation, Nepal, treatment delay

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