

Drug Resistance Patterns of Mycobacterium Tuberculosis Complex and Associated Factors among Retreatment Cases at Jimma University Specialized Hospital, South West Ethiopia

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Abstract

Background: The global burden of tuberculosis (TB) has been accompanied with the emergence of multidrug-resistant tuberculosis (MDR-TB). The rate of MDR-TB is five times higher among previously treated tuberculosis cases than new cases.

Objective: The objective of this study was to determine drug resistance patterns of Mycobacterium tuberculosis complex (MTBC) isolates and associated factors among retreatment cases.

Methods: A facility-based cross-sectional study was conducted from March 2012 to April 2013. A total of 79 sputum smear positive retreatment cases were enrolled in the study. Socio-demographic characteristics and clinical data of patients were collected using questionnaires. Sputum specimens were collected, cultured and drug susceptibility testing (DST) was done for four first line drugs of streptomycin, isoniazid, rifampicin and ethambutol system using indirect proportion method. Statistical analysis of the data (Chi-square and logistic regression) was done using SPSS V-20.

Results: DST was conducted for 70 MTBC isolates. Any drug resistance was detected in 58.6% of isolates. The overall prevalence of MDR-TB was 31.4%. Place of residence ($p=0.032$, 95% CI =1.11, 10.60), duration of illness ($p=0.035$, 95% CI= 1.10, 10.62) and multiple treatment ($p=0.048$, 95% CI=1.01, 8.86) were associated with any drug resistance. The history of treatment failures ($p=0.028$, 95% CI: =1.14, 10.28) was found to be predictor for MDR-TB.

Conclusion: The prevalence of MDR-TB was higher than the world health organization estimation for Ethiopia. The rate of MDR-TB was higher in patients with the history treatment failures. Hence, patients with the history of treatment failures should timely be identified and referred for culture and drug susceptibility testing.

Key words: *Tuberculosis, MDR-TB, Drug resistance, drug susceptibility*