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Prevalence and Genetic Determinant of Drug Resistant Tuberculosis among Patients Completing Intensive Phase of Treatment in a Tertiary Referral Center in Nigeria

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Abstract : Background: Drug resistance tuberculosis (DR-TB) continues to be a challenge in developing countries with poor resources. Routine screening for primary DR-TB before commencing treatment is not done in public hospitals in Nigeria, even with the large body of evidence that shows a high prevalence of primary DR-TB. Data on drug resistance and its genetic determinant among follow up TB patients is lacking in Nigeria. Hence the aim of this study was to determine the prevalence and genetic determinant of drug resistance among follow up TB patients in a tertiary hospital in Nigeria. Methods: This was a cross-sectional laboratory-based study conducted on 384 sputum samples collected from consented follow-up tuberculosis patients. Standard microbiology methods (Zeil-Nielsen staining and microscopy) and PCR (Line Probe Assay)] were used to analyze the samples collected. Person's Chi-square was used to analyze the data generated. Results: Out of three hundred and eighty-four (384) sputum samples analyzed for mycobacterium tuberculosis (MTB) and DR-TB twenty-five 25 (6.5%) were found to be AFB positive. These samples were subjected to PCR (Line Probe Assay) out of which 18(72%) tested positive for DR-TB. Mutations conferring resistance to rifampicin (rpo B) and isoniazid (katG, and or inhA) were detected in 12/18(66.7%) and 6/18(33.3%), respectively. Transmission dynamic of DR-TB was not significantly ($p>0.05$) dependent on demographic characteristics. Conclusion: There is a need to strengthened the laboratory capacity for diagnosis of TB and drug resistance testing and make these services available, affordable, and accessible to the patients who need them.

Keywords : drug resistance tuberculosis, genetic determinant, intensive phase, Nigeria
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