

using the CLC Genomics Workbench V6.0.1. Genomes were mapped against the annotated *M. Tuberculosis* H37Rv (Sanger Institute) as the reference genome and Quality-based Variant Detection analysis was performed to determine any differences in the resistance associated genes (mutated) compared to the reference genome (wild-type). Analysis was performed on genes associated with rifampicin, isoniazid, fluoroquinolones and pyrazinimide. High probability mutations were identified using the TBDREAM database.

Results: Samples sequenced had an average depth of more than 40x coverage with Q-scores greater 30 and achieving more than 99.9% coverage of the genes of interest. Correlation between the phenotypic and the genotypic method was excellent.

Conclusion: The use of WGS for the detection of drug resistance is fairly rapid and accurate with comprehensive information for several genetic targets at once. This may become a resourceful tool to determine ideal therapy of patients infected with *M. tuberculosis*.

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Characteristics and treatment outcomes of MDR tuberculosis in Taiwan



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Background: In Taiwan, the MDR-TB among new TB cases was 1%, and 6% in retreated TB cases. Facing the challenge of MDR-TB, a designated government-organized and hospital-initiated with an enhanced direct observed treatment program was implemented in May 2007 to provide patient-centered care and better management for MDR-TB cases. In this study, we investigated characteristics of MDR-TB cases notified in 2007-2009 in northern Taiwan and identified possible risk factors associated with treatment outcomes.

Methods & Materials: In 2007-2009, 151 MDR-TB cases were confirmed. Demographic, clinical characteristics of patients and bacteriological and genetic data of *Mycobacterium tuberculosis* strains were analyzed. The treatment outcome at 30 months was evaluated. Comparisons were performed using Mantel-Haenszel chi-squared method or Fisher's exact. Statistical significance was defined as a p value < 0.05.

Results: Of the 151 MDR-TB cases, 106 (70.2%) were males and 45 (29.8%) females with a mean age of 52.0 and 45.4 years old, respectively. Of the 151 MDR-TB cases, 54.3% were new cases and 23.2% cases were either pre-XDR or XDR cases. Among 39.7% of cases with comorbidity, 25.8% had diabetes mellitus. Furthermore, 49.5% of patients were infected with Beijing genotype strains and 23.8% were resulted from recent transmission. Outcome was determined for 126 (83.4%) cases enrolled in a government-organized and hospital-initiated MDR-TB treatment consortium. Excluding two cases transferred out, 85.5% had favorable outcome and 18 had unfavorable outcomes including 16 death and 2 failure cases with severe complications due to anti-TB medication. We found that age group elder than 65 years old (p < 0.01), BMI < 18.5 (p = 0.01), *M.*

tuberculosis strains resistant to streptomycin (p = 0.02) were factors for unfavorable treatment outcome.

Conclusion: High proportion of new MDR-TB cases suggesting the need for stringent control measures including early diagnosis, and strengthened contact tracing strategies. Nevertheless, a designated patient-center management program adopting individualized regimens has resulted in good favorable outcome in northern Taiwan.

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HIV and HBV infection in Cameroonian university context: Case of the University of Dschang



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Background: In sub-Saharan Africa HIV infection remains largely epidemic, whereas HBV infection is highly endemic (> 8%). In Cameroon, HIV and HBV prevalence is 4.3% and ≥ 10% respectively. Teenagers and young adults, including university students, are the population groups mostly affected. Epidemiological data on HIV and HBV infection among university students could be helpful to implement specific prevention strategies.

Methods & Materials: A descriptive study was performed in May 2013 among 624 students from the University of Dschang, Cameroon. Participants were screened for HIV and HBV infection and a standard questionnaire was administered.

Results: The average age of participants was 23.3 years (σ = 3.2) with a female predominance (58.7%). The observed prevalence of HIV and HBV infection was 1.1% (7/624) and 2.8% (5/176) respectively. 83.2% of participants were sexually active. Concerning sexual risky behaviours, participants reported having multipartners (10.9%), using condom regularly (36.4%) or occasionally (58.5%). 100% and 62.8% reported to be aware on HIV or HBV infection respectively. In addition, 64.4% and 5.5% of the participants were aware of their HIV or HBV status respectively. The excessive cost of HBsAg has been identified as the major barrier to testing (87.6%).

Conclusion: Among college Cameroonian students the prevalence of HIV and HBV infection seems to be relatively low if compared to general population. Anyhow, having multiple sexual partner together with the non systematic use of condom during sexual intercourse represent risky behaviours among students. Awareness campaigns and screening facilitation on HBV infection among students need to be strengthened.

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