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First insights into the genetic characteristics and drug resistance of *Mycobacterium tuberculosis* population collected during the first national tuberculosis prevalence survey of Lao PDR (2010–2011)

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In Lao PDR, little is known about the genetic characteristics and Drug Resistance (DR) of the *Mycobacterium tuberculosis (M. tb)*. It is aimed to study the genetic characteristics and DR of *M. tb* collected during the first National TB Prevalence Survey (2010–2011) in order to better understand the TB epidemiology in the country. Using MTBDR*plus* test for DR detection and spoligotyping and MIRU-VNTR for genotyping. Of 222 *M. tb* isolates, 11 were INH mono-resistant, two were MDR-TB. Of 206, the proportion of EAI family was 75.7%, Beijing 14.4% and T 5.5%. EAI isolates came from all provinces, Beijing isolates were found mainly in the northern provinces. A proportion of Beijing isolates was higher in people younger than 35 years compared to EAI, the percentage of DR was higher among Beijing (17.2%) than EAI (5.2%) isolates, the two MDR-TB isolates belonged to the Beijing family. The MIRU-VNTR and spoligotyping results revealed an estimated clustering rate of 11% and the occurrence of mini-outbreaks of DR-TB caused by Beijing genotypes. The EAI family (the ancient and endemic in Asia) is predominant in Lao PDR whereas the prevalence of Beijing, the most harmful *M. tb* family, is low, differently from neighboring countries. However, its involvement in recent transmission, its association with DR and its presence in young patients suggest that the Beijing family could change TB epidemiology in the country. Therefore, efficient TB control and surveillance systems must be maintained and reinforced to prevent the emergence of highly transmissible and DR strains in Lao PDR.

Biography

Silaphet Somphavong is currently a PhD student of the École doctorale CBS2 (France). She has graduated from a medical school and continued her specialist on tropical diseases at the IFMT.

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