

**High incidence of asymptomatic leptospirosis among urban sanitation workers from Kota Kinabalu, Sabah, Malaysian Borneo**

**ABSTRACT**

Leptospirosis is a public health challenge in Sabah State of Malaysian Borneo. Rapid urbanization, rural-to-urban migration, and undocumented immigration in Sabah have increased the pressure on the urban garbage disposal system. Rodents and other small animals thrive under these conditions. We hypothesized that urban sanitation workers would be at risk of developing leptospirosis. In total, 303 urban sanitation workers with a mean age of 42.6 years were enrolled in this study. The serum samples collected from these workers were subjected to the microscopic agglutination test (MAT), PCR and nucleotide sequencing of the amplicons to confirm the presence of *Leptospira*. The phylogenetic analysis using the neighbor joining method was performed to assess whether they were pathogenic. In this study 43.8% (133/303) of the samples were MAT-seropositive and among them, 29 (21.8%) were positive by PCR. Nucleotide sequencing of the amplicons confirmed the presence of *Leptospira*. Phylogenetic analysis showed that our strains belonged to the pathogenic group of *Leptospira*. A high proportion of urban sanitation workers were seropositive for leptospirosis, and a considerable number were PCR positive for *Leptospira*, thereby indicating asymptomatic infections. Further research is needed to confirm whether this is a transient phenomenon or antibiotic therapy is required