

## **Major epidemiological factors associated with leptospirosis in Malaysia**

### **ABSTRACT**

**Introduction:** Leptospirosis is a zoonotic disease caused by a diverse pathogenic leptospira species and serovars. The disease is transmitted directly following contact with infected urine and other body fluids or indirectly after contact with water or soil contaminated with infected urine. **Objectives:** While a wide range of domestic and wild animals are known to be reservoirs of the disease, occupation, international travel and recreation are beginning to assume a center stage in the transmission of the disease. The objective of this study is to review available literatures to determine the extent to which these aforementioned risk factors aid the transmission, increase incidence and outbreak of leptospirosis in Malaysia. **Study design:** The review was conducted based on prevalence, incidence, and outbreak cases of leptospirosis among human and susceptible animals predisposed to several of the risk factors identified in Malaysia. **Methods:** Literature searches and reviews were conducted based on articles published in citation index journals, Malaysian ministry of health reports, periodicals as well as reliable newspapers articles and online media platforms. In each case, the newspapers and online media reports were supported by press briefings by officials of the ministry of health and other agencies responsible. **Results:** The disease is endemic in Malaysia, and this was attributed to the large number of reservoir animals, suitable humid and moist environment for proliferation as well as abundant forest resources. Over 30 different serovars have been detected in Malaysia in different domestic and wild animal species. This, in addition to the frequency of flooding which has increased in recent years, and has helped increase the risk of human exposure. Occupation, recreation, flooding and rodent population were all identified as an important source and cause of the disease within the study population. **Conclusion:** There is an urgent need for the government and other stakeholders to intensify efforts to control the spread of the disease, especially as it greatly affect human health and the tourism industry which is an important component of the Malaysian economy. The risk of infection can be minimized by creating awareness on the source and mode of transmission of the disease, including the use of protective clothing and avoiding swimming in contaminated waters. Moreover, improved diagnostics can also help reduce the suffering and mortalities that follow infection after exposure to infection source.

**Keyword:** Risk factors; Recreational exposure; Leptospirosis in Malaysia; Occupational disease; Reservoir and carrier hosts; Human leptospirosis