

Animal Reservoirs for *Leptospira* spp. in South-East Asia: A Meta-Analysis

ABSTRACT

Background and Aim: Leptospirosis is a zoonotic disease responsible for high morbidity worldwide. This review is intended to identify other possible animal reservoirs of *Leptospira* spp. within human surroundings, which may improve the prevention and control of the disease. Methods: A systematic search was performed for the relevant titles, abstracts and keywords in PubMed, Scopus and Google Scholar in March 2018 based on the PICO strategy; which returned 1226 studies. Screening of abstracts had shortlisted 71 studies and data extraction was conducted for 15 studies which had been accepted after review of the full text. Only studies done in South-East Asia were considered. Meta-analysis of the accepted studies was done to compute the composite prevalence of each animal group using random effects model. Results: The articles were analysed from the viewpoint of the study settings and the prevalence of *Leptospira* spp. in types of animal with the animals being grouped into five major groups, based on taxonomy and likelihood of human contact. It was found that all animal groups have statistically significant value of pooled prevalence, with a range between 8.17% (95% CI: 4.80% - 12.39%) for sheep and goats, to as high as 27.28% (95% CI: 1.24% - 69.69%) for carnivores. The prevalence for other animal groups are 17.95% (95% CI: 7.77% - 31.18%) for rodents, 19.24% (95% CI: 10.65% - 29.65%) for pigs, and 24.90% (95% CI: 15.45% - 35.71%) for ruminants. Conclusion: Meta-analysis showed that other groups of animals, particularly carnivores, pigs, and large ruminants are just as culpable as rodents in being the reservoir for *Leptospira* spp. These other groups of animals may also play a vital role in the transmission and overall dynamics of human leptospirosis.