

Leptospirosis Acquired by Travel-Related Recreational Freshwater Exposure: A Systematic Review

Gregory D. Hawley^{1,2,3}, Jahmar Hewitt^{1,4}, Michael Klowak^{1,2}, Andrea K. Boggild^{1,2,3,5}

¹ Tropical Disease Unit, Toronto General Hospital, UHN, Toronto, Canada, ² Institute of Medical Science, University of Toronto, Toronto, Canada, ³ Temerty Faculty of Medicine, University of Toronto, Toronto, Canada, ⁴ Department of Physiology, University of Toronto, Toronto, Canada, ⁵ Department of Medicine, University of Toronto, Toronto, Canada

Background: Leptospirosis is a re-emerging zoonosis with potential for significant morbidity and mortality. Despite increased recognition of transmission during activities such as rafting and kayaking, a systemic review of the global burden of leptospirosis transmitted by recreational freshwater exposure during travel has not been conducted. **Materials and Methods:** A systematic review was performed in accordance with PRISMA guidelines to identify and appraise studies describing leptospirosis acquired through travel-related recreational freshwater exposure. Comprehensive database searches were performed in PubMed, MEDLINE, Embase, LILACS, and Scopus with additional grey literature sourced via targeted searches in Google and hand search of references from the WHO guidelines on leptospirosis. Eligible studies included those involving humans with leptospirosis, travel history, and recreational freshwater exposure. Studies with local acquisition or other exposures (e.g., occupational) were excluded. **Results:** 1,535 records were identified after deduplication. After screening 804 titles and abstracts, 325 full texts were assessed for eligibility. 111 studies met inclusion criteria. Exclusions were due to non-recreational exposure (n = 24), lack of primary data (n = 63), insufficient reporting of primary data (n = 59), local transmission or studies of non-human subjects (n = 43), wrong study design (n = 7), or unavailable full texts (n=18). Data extraction and analysis is ongoing. **Conclusion:** This is the first systematic review to comprehensively examine leptospirosis acquired by recreational freshwater exposure during travel. This review aims to improve clinical recognition in febrile travellers with recreational freshwater exposure, enhance pre-travel counseling and prophylaxis, and inform public health prevention strategies.