The role of human behavior in Plasmodium knowlesi Malaria infection: a systematic review

ABSTRACT

Objectives: Plasmodium knowlesi is a non-human parasite that causes zoonotic disease in humans. This systematic review aims to highlight and summarize studies describing human behaviors and activities that expose humans to mosquito bites. Design: English entries in PubMed, Web of Science, and Science Direct from 2010 to 2020 were systematically perused, and the results were synthesized. Methodological quality was assessed using the Joanna Briggs Institute quality appraisal checklists. Setting: Studies that described malaria preventive measures were included. Laboratory, in vivo, in vitro, and animal studies were excluded. Primary and secondary outcome measures: The main outcome of the review was findings from studies describing the behavior that exposed a person or a group to P. knowlesi infection. Results: Twelve eligible studies were of good or medium quality. Attitude, disease misconceptions, perceived threat of disease, lack of motivation, and supernatural or traditional beliefs causing individuals to seek treatment from traditional healers influenced the exposure of individuals or communities to P. knowlesi malaria. Other factors were forestry activities (2.48, 1.45–4.23,95% CI, p = 0.0010) and sleeping outdoors (3.611, 1.48–8.85, 95% CI, p = 0.0049). Conclusions: Future studies must consider the importance of human behavior and community perspective on the infection to provide novel information to improve the current zoonotic malaria programs. Policymakers should concentrate on understanding human behavior and activities that expose individuals or communities to mosquito bites, in order to better design socially feasible interventions.