A review of factors influencing over- dispersion of ectoparasites on non- human host species: A lesson for COVID- 19 infections

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Abstract

Information regarding factors related to over dispersion of COVID- 19 among humans may be scanty or unknown. However, several studies have documented over dispersion of ectoparasites in non- human host species. This review therefore focuses on analysing factors influencing over-dispersion of ectoparasites on non- human host species with an aim of understanding the spread of COVID- 19 infections among humans. Data was extracted from various data bases on the world- wide web, books and reports. Only articles that covered any combination of over-dispersion with ectoparasites, humans, non- human hosts and COVID- 19 were analysed. Data was synthesized based on the variables of interest. The findings indicate that host diet, age, sex, behaviour, immunity, and physiological status may be responsible for over- dispersion of ectoparasitic species in many host populations. The study further revealed that season and geographical location may also influence the occurrence of ectoparasitic species on different hosts. Understanding how over dispersion works is key to preventing, managing and controlling parasitic and infectious diseases in both human (such as COVID- 19) and non- human host species.

Key words: COVID- 19, ectoparasites, humans, non- human hosts, over- dispersion.