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Abstract

Brucellosis

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Abstract:

Background: Brucellosis is a worldwide bacterial zoonosis posing hazards to the public health results in significant morbidity and economic loss especially in rural areas that rely on livestock breeding and dairy products for their livelihood. This study is conducted to analyzes the temporal pattern and spatial clustering of brucellosis in Iraq from 2007-2018. The understanding of the annual variation and spatial clustering of the disease is lacking. The study aims to detect the potential changes in the spatial and temporal distribution of human brucellosis in Iraq and to identify any clustering and aggregation of cases from 2007-2018.

Methods: A descriptive retrospective survey using secondary data; from the database of Brucellosis cases in the Center for Diseases Control and Prevention CDC / Ministry of Health MOH. Excel software and The Quantum geographical information system (QGIS), version 2.18.20 (Steiniger and Hunter, 2013) were used for analyzing the data. Two spatial statistical methods, Moran's I, local Getis-Ord's Gi* and the local indicators of spatial association (LISA), were used.

Results: A total of 50621 cases of human brucellosis HB were reported during the 12-year study period. These results suggest that HB cases persisted annually in Iraq across the study period with no specific temporal clustering of cases, while spatial clustering was predominant in the Northern region of Iraq.

Conclusion: There were significant differences in the geographic distribution of brucellosis, the number of cases being highest in most of the cities in the North and North-east of the country. The highest numbers of cases were reported during summer and spring. It is important to take these patterns into account when allocating resources to combat this disease and determining public health priority and drawing up the prevention and control strategies.

Keywords: Brucellosis, Iraq, Domestic ruminants, QGIS, Clustering, Serology.