

Letter to the Editor

Understanding the surge in Crimean-Congo hemorrhagic fever incidence in Iraq: A call for action

Dear Editor

Crimean-Congo Hemorrhagic Fever (CCHF) is a severe tick-borne illness caused by the CCHF virus (CCHFV) which can have a mortality rate of up to 40 % [1]. The disease primarily spreads to humans through tick bites or contact with infected animal blood and it is endemic in various African, Asian, and European regions [1]. Recent epidemiological data have shown a concerning rise in the incidence of CCHF in Iraq [2–4], underscoring the imperative for bolstered surveillance mechanisms and proactive preventive interventions.

Iraq has a documented history of CCHF, with its initial emergence dating back to 1979 [2]. Subsequent epidemiological data reveals sporadic cases over the years, notably 6 cases recorded between 1989 and 2009, followed by an escalation to 11 cases in 2010 [2]. However, there has been a pronounced acceleration in both the geographic spread and numerical prevalence of CCHF cases in recent years. In 2021, Iraq recorded 33 laboratory-confirmed cases [2], a figure that ballooned to 291 cases by June 2022 [3]. However, the total number of confirmed cases surged to 380 by the end of 2022. According to the World Health Organization (WHO), as of October 29th, 2023, Iraq reported a staggering 567 lab-confirmed cases (Fig. 1).

Understanding the underlying reasons behind the sudden rise in the incidence of CCHF is paramount in order to provide an effective incidence of CCHF disease and adequate control measures. Perhaps proliferation and spreading of the ticks, the disease vector, in the country could have played an essential role in the increasing incidence of the disease. Recorded data of the past two years have shown a notable

increase in CCHF cases from mid-spring onwards, particularly after April (Fig. 1) [3,4]. This temporal pattern suggests a potential correlation with hot climatic conditions, which are known to influence tick populations and their activity, consequently facilitating the spread of the disease in the region. Additionally, increasing the herbaceous wetlands, which provide a highly suitable environment for tick growth [5], could provide ideal conditions for tick proliferation, which has likely caused the notable rise in CCHF cases in 2021 and the subsequent years. Thi-Qar and Basra, where the largest southern wetland (Al-Hammar Marsh) is situated [5], account for the most recorded CCHF cases in the last two years. Moreover, the lack of pest control measures, particularly during the COVID-19 pandemic [3], could also facilitate the spread of the disease. The diversion of resources and focus towards COVID-19 pandemic response efforts may have led to lapses in routine vector control activities, thereby creating favourable conditions for tick proliferation and subsequent disease transmission. Other factors such as transboundary movement of animals through trading and importation from neighboring countries, along with healthcare infrastructure deficiencies, may also contribute to increased CCHF incidence rates. Other factors such as transboundary movement of animals, through trading and importation from neighboring countries, and deficiencies within the healthcare infrastructure may also contribute to the increase in CCHF incidence rates.

In summary, CCHF data of Iraq suggest that urgent action is imperative from governmental and scientific bodies to address the escalating threat posed by CCHF in Iraq. This can be achieved through enhanced surveillance systems and vector control to track the spread of CCHF cases and reduce the tick population. Furthermore, public awareness campaigns tailored to high-risk populations are necessary to educate individuals about the risks of CCHF transmission and preventative methods.

CRediT authorship contribution statement

Dana Khdr Sabir: Conceptualization, Writing – original draft, Writing – review & editing. **Paywast Jamal Jalal:** Resources, Writing – review & editing. **Fro Rzgar Khdir:** Writing – original draft.

Declaration of generative AI and AI-assisted technologies in the writing process

During the preparation of this work the authors used ChatGPT in order to improve language and readability. After using this tool, the authors reviewed and edited the content as needed and takes full responsibility for the content of the publication.

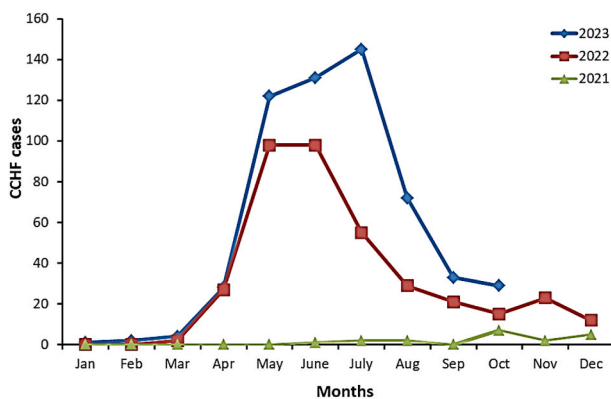


Fig. 1. Monthly recorded Crimean-Congo Hemorrhagic Fever (CCHF) cases in Iraq by the World Health Organization (WHO) from 2021 to October 2023.

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Declaration of competing interest

We declare that we have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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