
Comments on the article:

Gorla DE, Xiao-Nong Z, Diotaiuti L, Khoa PT, Waleckx E, Souza RCM, et al. Different profiles and epidemiological scenarios: past, present and future. Mem Inst Oswaldo Cruz. 2022; 117: e200409.

Challenges for fighting Chagas disease in the 21st century

In 1908, the Brazilian hygienist and bacteriologist Carlos Chagas found a new protozoan species in the hindgut of triatomines — large blood-sucking insects — he had collected during an anti-malaria campaign in Minas Gerais state. He named the new species *Trypanosoma cruzi*. Shortly after, Chagas examined a sick child and found the same parasites in their blood. The new disease he had discovered and described would later be called Chagas disease (CD), in his homage.^(1,2) Today, the epidemiological profile of CD varies greatly across the world, depending on the different transmission routes and the presence of native and non-native triatomines. Gorla et al.⁽³⁾ present a comprehensive review of this diversity and complexity of scenarios, discussing the main challenges in controlling the disease.

In the last twenty years, CD cases due to oral transmission of *T. cruzi* became an important public health challenge. This transmission route occurs through the ingestion of food or beverages contaminated with the etiological agent coming from infected triatomines or their faeces, as well as from contaminated undercooked meat or the urine of infected marsupials.⁽⁴⁾ In Brazil, oral transmission is well established in the Amazon region, with reports of some acute outbreaks in other regions of the country as well.^(4,5)


With globalisation, human movement between countries largely increased, and so did immigration. Climate change associated with other environmental changes can impact the distribution of the disease throughout the globe, as a result of altering the ecology of pathogens, vectors, hosts, and reservoirs.⁽⁶⁾ Recently, many countries with no history of CD experienced an increase in the number of cases, or are at risk of becoming endemic due to the presence of triatomines. However, even in countries without triatomines, there is the risk of congenital transmission and transmission through blood transfusion and transplants of organ and tissues.

One of the main challenges in controlling CD discussed by Gorla et al.⁽³⁾ is the lack of an information system at the global scale that could be used by international health agencies, non-governmental organisations (NGOs), donors and stakeholders. Being a neglected tropical disease, CD is very often ignored by national information systems and, when that is not the case, the data are usually incomplete. In Brazil, reporting of chronic cases of CD only became mandatory in 2020.⁽⁷⁾ Before that, only acute cases of the disease were reported in the Notifiable Diseases Information System (Sistema de Informação de Agravos de Notificação - SINAN). Knowing the prevalence of people living with chronic CD is essential because of the risks of congenital transmission and of transmission through blood transfusion and organ and tissue transplantation. Also, to estimate the burden and costs to the public health system due to the medical care needed for chronic diseases in the case of heart, digestive tract and general disorders.

Having complete information on the epidemiological situation of CD is important not only for the endemic countries but also for the ones that are at risk of introduction of the disease. The data are essential to understand the epidemiological scenarios of CD, and to enable countries to prepare for fighting it. Ultimately, an information system at global scale is of paramount importance. In an attempt to integrate the data from official sources and from other actors and sources, and to build a more complete and comprehensive epidemiological picture of one of the neglected tropical diseases, the World Health Organization (WHO) is working on the WHO Information System to Control and Eliminate Neglected Tropical Diseases (WISCENTD).⁽⁸⁾ However, it is unclear when this system will be ready to be launched. Until then, to fight CD under a very challenging epidemiological scenario, with intense globalisation and human movements between countries, in addition to the environmental changes promoted by climate change, it is essential that official agencies of the countries where cases are detected make the epidemiological data available openly and in an unlimited way.

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