

Urbanization of cases of Visceral Leishmaniasis in the city of Petrolina-PE: A space-time analysis

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Visceral leishmaniasis (VL) is a zoonosis of chronic evolution caused by *Leishmania infantum*. It is transmitted by sandflies, and dogs are the main reservoirs. Over the years, the distribution of the disease has intensified in urban areas, mainly in northeast of Brazil. This study evaluated the temporal and spatial trends of VL in the period 2012-2022, through a descriptive, quantitative, and retrospective study using secondary data provided by the Municipal Health Department of Petrolina, according to the place of residence, zone, year of notification, type of entry, and final classification. Between 2012-2022, 114 cases of VL were reported, with an average of 11.4 cases/year. In the urban area (UA) more than half of the cases (59.5%; 66/111) were registered. Male gender (66.6%; 44/66); children aged 0-10 (40.9%; 27/66); and brown patients (66.6%; 44/66) were the most affected. In 2014, there was the highest number of cases (21.2%; 14/66), with the São Gonçalo neighborhood, presenting the highest concentration of cases (10.6%; 7/66). In the rural area (RA), there were 42.1% (48/114) of the cases, 56.3% of which were male (27/48). Children aged 0-10 years (62.5%; 30/48); brown patients (79.2%; 38/48) were the most affected. The years 2012 and 2018 registered the highest number of cases, both with seven cases, and Izacolândia was the district with the highest number of cases in the ten years (16.7%; 8/48). The temporal distribution of cases fluctuated slightly. In space, the cases were concentrated in the UA, mainly, between the years 2014 to 2017 (54.5%-77.8%). In RA, the highest prevalence of cases occurred in 2013 (66.7%) and 2018 (63.8%). The years 2019 to 2022 had the lowest case records in both zones. The municipality of Petrolina is classified as a high VL transmission. Over the years, it has shown considerable population growth associated with the geographic expansion of urban limits. However, the expansion of the offer of basic sanitation services did not follow the population growth. The geographic distribution of VL in Petrolina over the last ten years demonstrates that the disease has been establishing itself in the urban area. VL still remains a neglected disease and a serious public health problem that affects brown people, males and, mainly, children in both the UA and RA. This study suggests the intrinsic role of urbanization as an important element to understand the spatial-temporal dynamics of VL, with a view to valuing human health, animal health, public health and one health.

Keywords: *Leishmania*, zoonosis, epidemiology, Northeast, Brazil