Seroepidemiological study of *Trypanosoma cruzi* infection in Caraíbas, an endemic city for Chagas disease in Bahia

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Chagas disease (CD) affects 4.6 million people in Brazil. In the state of Bahia, an estimated 938,400 people are infected. However, different epidemiological scenarios result in a heterogeneous distribution of cases throughout the state. Seroepidemiological studies are necessary to understand where cases are concentrated in order to improve epidemiological surveillance measures. Therefore, the aim of the present study was to determine the presence of anti-*T. cruzi* antibodies in individuals living in Caraíbas, a CD endemic city in the southwestern part of the state of Bahia. A total of 572 individuals from the urban (Caraíbas) and three rural areas (Vila Mariana, Jiboia, and Tábua dos Alves) were included in the study. These rural areas were selected considering the elevated numbers of adobe houses with fissures where triatomines can hide, and the presence of domestic animals such as dogs, chickens, and pigs in the peridomestic area. In addition, people with heart and digestive disorders (intestinal obstruction) and a family history of CD often live in rural and urban areas. Of the 572 people enrolled, 223 agreed to participate in the study, in Caraíbas (n = 85), Vila Mariana (n = 54), Jiboia (n = 50), and Tábua dos Alves (n = 34) regions. Blood was drawn and serum isolated for serological diagnosis, which was performed at LACEN-BA. The highest prevalence was found in Vila Mariana (7.4%; 4/54), followed by Caraíbas (4.7%: 4/85) and Jiboia (4%; 2/50). No cases were found in Tábua dos Alves. Overall, 10 (4.5%) samples were positive for anti-*T. cruzi* antibodies. The mean age of the cases was 54.4 years [interquartile range (IQR): 52.8-60.3 years] and the female-to-male ratio was 1.5/1. One of the cases reported a history of CD in the family (a brother), while seven cases were diagnosed with heart disease and two with digestive disorders. Although CD is endemic in the Caraíbas, the prevalence of the disease is within the expected range, according to national estimates. However, only a small portion of the population participated in the study, therefore, further screening should be considered in other areas of the community.

Keywords: Chagas disease; Screening; Serology test; Epidemiological data; Prevalence.

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