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TITLE

EPIDEMIOLOGY OF SCHISTOSOMIASIS MANSONI IN THE STATE OF BAHIA FROM 2019 TO 2023

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ABSTRACT

Objectives: To map the distribution of schistosomiasis mansoni (SM) in the municipalities of Bahia from 2019 to 2023, identifying clusters of municipalities with the highest incidence.

Methods: QGIS was used for thematic map creation, and Geoda for bivariate and univariate spatial analyses. Socioeconomic variables (HDI, Social Vulnerability Index, Gini Index) and housing variables (sewage network connection and piped water supply) were utilized. Excel® software was applied for data organization, tabulation, and graph generation. Information from SINAN notifications was used to detail the characteristics of the population affected by the disease, as well as to integrate IBGE territorial meshes.

Results: The Global and Local Moran Indexes were calculated to verify spatial autocorrelation between neighboring municipalities, with emphasis on local univariate and bivariate analyses of the incidence during the period. Clusters were observed in many microregions, particularly in municipalities adjacent to Aracatu, which had the highest incidence coefficient during the period (361.13 per 100,000 inhabitants) and the most significant incidence rate in 2023, reaching 1,729.33 per 100,000 inhabitants. A higher concentration of clusters and outliers was identified in the microregions of Brumado, Vitória da Conquista, and Porto Seguro. In the state capital, Salvador, a Low-Low cluster was found in the univariate incidence analysis, specifically in municipalities of the Juazeiro, Bom Jesus da Lapa, and Boquira microregions.

Conclusions: Critical vulnerability areas for schistosomiasis were identified in the municipalities of the Brumado and Porto Seguro microregions, where the most affected municipalities, Aracatu and Jucuruçu, are located. Furthermore, the importance of geoprocessing tools in guiding public health measures to border municipalities was reinforced.

Study advancements and/or applications
This study advances epidemiological knowledge on the incidence of schistosomiasis, given that the Schistosomiasis Control Program (PCE) focuses only on highly endemic municipalities in the state. This study helps clarify and reformulate public health policies for SM in a broader scope across the presented municipalities. For example, Jucuruçu had a 100% positivity rate in the last two years studied, except for 2021 when the PCE was not conducted.

KEYWORDS

Bahia; Moran's I; Schistosomiasis; Epidemiology; Schistosomiasis Control Program (PCE)

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