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TITLE

SCHISTOSOMIASIS AS AN URBAN DISEASE: SUMMARY OF 7 YEARS OF STUDIES IN THE CITY OF SALVADOR, THE FIRST CAPITAL OF BRAZIL

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ABSTRACT

Background: After 114 years of Pirajá da Silva's work, there is still evidence of transmission of *Schistosoma mansoni* (SM) in Salvador. This study aims to identify areas of focal transmission for schistosomiasis in the metropolis. METHODS: Between 2017 and 2024, we investigated five new communities in Salvador, selected from malacological surveillance data from the Zoonoses Control Center (CCZ), other health data and pilot surveys: DC, SA, PI, LP and BF. A sixth community, SB, was revisited a decade after the last survey. Residents aged 2 years and over were invited to participate in an epidemiological and parasitological survey, providing up to three stool samples on different days for the Kato-Katz (KK) test. Those positive for SM or other helminths were treated and underwent a test of cure with KK after 30 days, with retreatment when necessary. The SA and PI areas, with the highest prevalence, were followed longitudinally for two more periods with recurrent case treatments, comparing the results with those of SB. RESULTS: 5,813 residents participated in the initial studies in the five communities. The majority were female (58.2%), with a mean age of 33.2 ± 20.1 years. The majority were born in Salvador (71.2%), but many had a history of living in other municipalities (20.0%) and traveling in the last year (30.1%). The vast majority reported having running water (96.3%) and a toilet (99.0%) connected to the collection network (96.0%). The global prevalence of schistosomiasis was 4.0% (95%CI 3.5 %-4.5%) with low parasite load (<100 opg). In all areas, the prevalence of MS was associated with males, ages between 13 and 49 years, and living close to bodies of water (<100 m). Recurrent treatment reduced the prevalence of MS by an average of 70% in SA (1.7%) and PI (1.9%). Practically all prevalent cases during follow-up were incidents, except for the "new" cases that did not undergo regular examinations and, therefore, could not be treated recurrently. Despite the time without follow-up, SB showed a prevalence of 4.1%, equivalent to the initial average of other areas. The prevalence and parasite load demonstrate that there is local transmission of the schistosomiasis in the city of Salvador. Extrapolating to the entire population of the city, we estimate that more than 60,000 individuals may be infected. The Recurrent treatment of positive cases was able to reduce the burden of the disease.

KEYWORDS

Schistosomiasis; Urbanization; Focal Transmission; Metropolis

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