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TITLE

EXPLORATORY ANALYSIS OF AN URBAN TRANSMISSION AREA FOR SCHISTOSOMIASIS IN THE METROPOLITAN REGION OF RECIFE, PERNAMBUCO

AUTHORS

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ABSTRACT

Introduction: Schistosomiasis mansoni is a water-borne infectious parasitic disease that persists due to the poor socio-sanitary conditions of the current population. In Brazil, the state of Pernambuco has a high number of cases, chronicity and ranks first in the number of deaths related to the disease. Schistosomiasis, once seen as a rural problem, is now a concern in cities, where the lack of urban planning exacerbates the situation. Therefore, the central aim of this study was to analyze the occurrence of urban transmission through epidemiological description in a city in the Metropolitan Region of Recife. Methodology: The representative study area consisted of the locality of Barra de Jangada, Jaboatão dos Guararapes, Pernambuco, in which the urban conglomerates of Catamarã and Novo Horizonte were geographically demarcated for the coproscopic census survey. The survey involved filling out epidemiological bulletins to collect data from participants and all residents of the areas analyzed were invited to participate by providing a stool sample that was analyzed using two slides of the Kato-Katz technique. The information collected was registered using Excel spreadsheets (2016) and statistical analysis was carried out using Prisma 8.0.2 software. The project was approved by the Human Research Ethics Committee under protocol numbers 5.905.584 and 5.652.210. Results: 1,159 people were registered, 47.8% of whom were male and 52.1% female, with an average age of 33 years (0-92). A total of 478 were obtained from the Catamarã area and 262 from Novo Horizonte, totaling 740 samples, where the sex varied between 47.6% male and 52.4% female with an average age of 36.7 years (6-80 years). Of these, 100 individuals were identified as positive for *Schistosoma mansoni*, with four individuals co-infected with *Ascaris lumbricoides* and one individual with *Trichuris trichiura* and *Ancylostomide*. Among the individuals positive for *S. mansoni*, 61% were male ($p < 0.0038$), the average age was 37 years (6-80), and the average parasite load was 210 eggs per gram of feces (EPG) (12-3, 168 EPG), however, 64% of the positives had a low parasite load (1-99 EPG) ($p < 0.001$). The highest number of positives occurred in the 30-39 age group (19%) and the lowest in the 0-9 age group (6%). There was no statistically significant difference between parasite load classification and mean age or age groups and parasite loads ($p > 0.05$). Among those who tested negative for *S. mansoni*, three were infected with *A. lumbricoides*, three with *T. trichiura* and one with *Ancylostomide*. Conclusion: Areas of urban transmission with moderate endemicity were identified in a municipality previously classified as having low endemicity, where cases may be underreported due to the low sensitivity of the KK and the low number of tests carried out routinely in the municipality. Male individuals were more likely to be positive for *S. mansoni*.

KEYWORDS

Schistosomiasis mansoni; Epidemiological Survey; Urban Transmission; Parasite Load; Endemicity

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