

## **Epidemiological characteristics and predictors of occurrence of *Schistosoma mansoni* infection in a low endemic area in Northeast of Brazil**

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Brazil is responsible for 96% of cases of schistosomiasis in Latin America, occurring in populations with low socioeconomic status, mainly in northeast of the country. We have determined the epidemiological characteristics and predictors of occurrence of *S. mansoni* infection in Bananeiras community located in Capistrano city, Ceará, Brazil. Sanitary, environmental, socio-economic and behavioral data were gathered by a questionnaire and it was conducted a parasitological/antigen survey to assess the schistosomiasis infection status by Kato-Katz (KK) and POC-CCA methods. The association between the independent variables and the outcome (*S. mansoni* infection) were analyzed by calculating the Prevalence Ratio (PR). Overall, 258 (90.5%) individuals adhered to the study. Among them 54.3% (n=140) were women and the median age was 30 years (age range 2-87 years). In general, a total of 33 individuals were positive by either egg- and/or CCA-positivity. There was no association between infection and sex (19 females vs. 14 males; p=0.683). Highest prevalence was found in older age group (20-39 years). There was no piped water supply, with artesian wells being the main source of community water (73.2%), but 11% of the individuals had the river as their only source of water. The locality was not served by sewage network. Only 30.3% of the individuals had a septic tank, while the others reported that the waste was dumped directly into the river (39.0%) or thrown into the open (29.9%). There was also no municipal refuse collection service and the main destinations were incineration (55.5%) or open air (39.0%). Most were illiterate or had the incomplete primary school (66.3%). As for the occupation, the most cited were a farmer (37.2%) or unemployed (24.4%). About one-third (29.1%) of families had monthly incomes below the minimum wage and the majority of the population (73.6%) received some kind of government assistance: Bolsa Família (55.7%), Garantia-Safra (16.2%) or both (27.6%). Most of the houses were their own (88.4%), from masonry (94.6%), had 3 or 4 inhabitants (46.9%), 5 (27.5%) or 6 (28.3%) rooms and only one bathroom (86.0%); most of them were internal bathrooms (72.5%), but a little more than half of these bathrooms without water (51.9%). Almost all of them (91.1%) reported contact with natural waters, mainly for crossings (86.4%), recreational purposes (48.4%) and household activities - washing clothes and dishes (36.4%). We found an association between infection and: age group of 20 to 40 years (PR=2.06), being illiterate (PR=2.13), domicile with 7 inhabitants or more (PR=2.4), domicile with up to 3 rooms (PR=3.66) and had a bathroom outside the house (PR=2.63). The data suggest that these conditions were risk factors for the infection in this community. However, being 40 years old or older (PR=0.35) and

domicile with up to 6 inhabitants (PR=0.42) seem protection factors. Thus, it is of great relevance the identification of the factors associated with the infection to direct more effective actions in the control of the disease.