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**TITLE**

**THE DYNAMICS OF SCHISTOSOMIASIS MANSONI IN A RURAL COMMUNITY IN MINAS GERAIS, BRAZIL**

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**ABSTRACT**

In Brazil, Minas Gerais is an endemic state for schistosomiasis mansoni. The municipality of Januária, northern Minas Gerais, contains several rural communities with precarious socio-economic and environmental conditions that favor parasite transmission. This study aimed to conduct an epidemiological survey of schistosomiasis mansoni in Pindaibal, municipality of Januária. For the parasitological diagnosis, fecal samples were collected from individuals aged between 6 and 70, and processed using the Kato-Katz (KK) method (6 slides per person). A structured questionnaire evaluated the population's socioeconomic and health information. The risk of *S. mansoni* infection associated with the variables was measured by the Odds Ratio (OR). The malacological survey was developed in April/2024. In the laboratory, the snails were placed individually on plates containing dechlorinated water and observed under a stereomicroscope following 2 hours of artificial photostimulation to evaluate the release of larval forms. Both residences and water collections were georeferenced using a portable GPS (GARMIN 64s) for the spatial analysis, the Kernel Density Estimator (KDE) was used based on the number of positive cases in each residence and using a radius of 300 meters. 209 individuals were included in the study, with an overall positivity rate for schistosomiasis of 18.66% (39/209). 53.84% (21/39) of the egg-positive individuals were male, and 35.89% (14/39) aged between 11 and 20 years. Based on the KK egg counts, the parasite load found in 87.2% (34/39) of the individuals was considered low; 7.7% (3/39) had a moderate, and 5.1% (2/39) of the individuals harbored a heavy parasite load, according to the WHO (World Health Organization) classification. Concerning water supply, 93.3% (56/60) of the houses had a water tank and 66.7% (40/60) used the stream as their water source. The soil and brook near the housings are the only destinations for sewage when there is no bathroom. The KDE results highlighted a hotspot in Pindaibal II, with an average of 6.53 positive cases. A total of 58 mollusks were collected in 7 locations, among which 3 specimens were: *Biomphalaria* sp. (32,8%; n=19); *Stenophysa marmorata* (58,6%; n=34); *Pomacea* sp. (8,6%; n=5). There was no release of cercariae for *S. mansoni* from intermediate hosts. In the same places where the snails were collected, water samples were taken for analysis of the water resource, using the Colilert method. The samples indicated the presence of total coliforms in all locations. The results of this study confirmed the epidemiological profile of the disease observed in many other regions and communities in Brazil, with mostly low prevalences and low, individual parasite loads. Therefore, Pindaibal has a significant prevalence rate for schistosomiasis mansoni, and integrated actions are needed to combat and prevent transmission, such as health education and sanitation in risk areas.

**KEYWORDS**

Schistosoma mansoni, Diagnosis; Risk Factors; Rural Community; Water Supply

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