

Epidemiological survey of intestinal helminthiasis in riverside communities of the lower São Francisco River

Santos AJ^{1, 2}; Silva ES²; Santos BP²; Silva RRN²; Oliveira DS²; Wanderley GMR²; Fárias KF²; Lira Neto AB²; Silva FSM³; Jucá MJ⁴; Silva JRS⁵; Cavalcanti EAH⁶

¹ Post-Graduation Programme in Parasitic Biology, Federal University of Sergipe, São Cristóvão, SE, Brazil

² Testing Unit, Federal University of Alagoas, Campus Arapiraca, AL, Brazil

³ Medical and Nursing Science Center, Federal University of Alagoas, Campus Arapiraca, AL, Brazil

⁴ Teacher at the Faculty of Medicine, Federal University of Alagoas, AL, Brazil

⁵ Department of Statistics and Actuarial Science, Federal University of Sergipe, São Cristóvão, SE, Brazil

⁶ Coordinator of the Testing Unit and Teacher at the Federal University of Alagoas, Campus Arapiraca, AL, Brazil

Parasitic infections, such as schistosomiasis mansoni (SM) and geo-helminthiasis, commonly affect vulnerable populations that sometimes face difficulties in accessing health services due to socio-demographic factors, besides being exposed to risk factors, among which we highlight poor basic sanitation and unhealthy hygienic habits. This study aimed to conduct an epidemiological survey of MS and geohelminthiasis in riverside communities along the lower São Francisco River (SFR) in Alagoas. The data was obtained during the V São Francisco Scientific Expedition in November/2022, in the municipalities of Traipu, São Brás and Igreja Nova, Alagoas. To collect the sociodemographic data, visits were made to Basic Health Units where a structured questionnaire was applied. The biological samples (feces) were processed by the Kato-Katz method. For the descriptive analysis, we used the absolute (n) and relative (percentage) frequency count of the variables. For the inferential test, the Fisher's exact test was used, adopting a significance level of 5% ($p < 0.05$). Prevalence ratios (PR) with 95% confidence interval were also calculated. Statistical analyses were done in R 4.2.2 software. This research was approved by the research ethics committee of the Federal University of Alagoas (Opinion No. 5.818.119) respecting the ethical precepts of the national health council. A total of 62 samples were analyzed, with a prevalence rate for intestinal parasites of 8.06% (5). Most of the participants were Igreja Nova residents (62.9%), female (74.19%), adults (59.68%), living in rural areas (80.65%), and not used to bathing in the river (62.90%). The predominant etiologic agent was *Ancylostoma duodenale*, occurring in 36.4% (4) of the samples in Traipu, followed by Igreja Nova with 2.6% (1). It is important to emphasize that most of the cases 25% (3) occurred in the urban area. Regarding the prevalence ratio of helminthiasis, it is observed that in Traipu it was 14.18 times (p -value 0.0072) higher than in Igreja Nova, as well as, the prevalence in individuals who lived in urban areas was 6.25 times (p -value 0.0456) higher when compared to residents of rural areas. In São Brás no positive cases for helminthiasis were found. We reiterate that among the three municipalities studied, only Igreja Nova is endemic for schistosomiasis, and therefore, receives coverage from the program to control the disease, which also includes the diagnosis of geo-helminths. Given the results obtained, we emphasize that the highest prevalence of intestinal parasites occurred in the municipality of Traipu, which may possibly be associated with the deficiency of sanitary infrastructure, hygiene habits conducive to infection, and environmental conditions. Therefore, indicating the need for the implementation of control measures such as better sanitation infrastructure, health education, and helminthiasis screening.

Key words: Riverine population; Helminths; São Francisco River; Parasitic infections.