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TITLE

ASSESSMENT OF THE ANTHROPOMETRIC STATUS OF ADULTS LIVING IN A SCHISTOSOMIASIS-ENDEMIC RURAL AREA PRE- AND POST-TREATMENT

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ABSTRACT

Introduction: The nutritional profile of individuals living in rural areas, many endemic to helminthiases such as schistosomiasis, reflects the nutritional changes observed in the general population. Characteristics of underweight and thinness, once prevalent, have been replaced by an increasing prevalence of overweight and obesity, which currently represent public health concerns. Obesity, in addition to being a risk factor for non-communicable chronic diseases, may worsen the health status of vulnerable populations, such as those infected by Schistosoma mansoni. Thus, this study aimed to assess the anthropometric status of adults living in a rural area endemic for schistosomiasis before and after treatment with praziquantel. Methodology: In Conde, Bahia, Brazil, 189 adult participants were evaluated due to previous records of high parasitic infection rates in 2018. This study involved assessments before (D0) and six months after treatment with Praziquantel, with stool sample collection for Kato-Katz examination. The study included an evaluation of body mass index (BMI) for nutritional status, waist circumference (WC) for cardiovascular risk, and body fat percentage (BF%) and fat-free mass percentage (FFM%) for body composition, using Bioelectrical Impedance Analysis with a tetrapolar Sanny® device. Results: Most participants were female (58.3%) with a median age of 36 (IQR 24-51). Regarding nutritional status, 57.4% were overweight, 83.1% had a high body fat percentage (%BF), and only 1.9% exhibited low fat-free mass (FFM%). Additionally, 58.3% were at cardiovascular risk, and 54.0% were infected with S. mansoni. Regardless of infection status, participants were evaluated at baseline (D0) and six months after treatment (D180). There was a significant increase in BMI ($p=0.036$) and waist circumference (WC) ($p=0.033$). Conversely, %BF appeared to decrease ($p<0.0001$), with no relevant changes in FFM% ($p=0.133$). No statistically significant differences were found between infected and non-infected individuals, except for FFM%, which was higher in the infected group (67.6 IQR 61.3-79.3 vs. 72.5 IQR 66.6-79.7; $p=0.044$). Conclusion: Treatment appears to have influenced body composition, leading to an increase in BMI and WC, along with a possible redistribution of fat, without a substantial impact on lean mass. These findings emphasize the importance of nutritional interventions to enhance the health of this population, as well as the need for studies on the role of S. mansoni infection in the immune system changes associated with low-grade chronic inflammation related to obesity.

KEYWORDS

Schistosomiasis; S. mansoni; Nutritional Status; Body Composition

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