Title: Creation and implementation of an epidemiological database on intestinal parasites of patients of the Clinical Parasitology Laboratory

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Abstract: Parasitic diseases represent an important public health problem, especially in developing countries. In Brazil, intestinal parasites reach mainly low-income populations that generally do not have good sanitation conditions. In the health care area, epidemiological indicators have been used as tools for monitoring the living conditions of certain populations. Studies on the prevalence of intestinal parasites in the country with municipal or state databases are scarce. This study aimed to structure an epidemiological database on intestinal parasites of patients from the Laboratory of Clinical Parasitology, which belongs to the Laboratory of Teaching and Research in Clinical Analysis – State University of Maringá, in the municipality of Maringá and region. The development of the study consisted of the implementation of a computerized database and also of the prevalence study of intestinal parasites in this community. The data contained into the internal quality control books of the laboratory were stored in a database by typing in EpiData® software version 3.1 and later analyzed in Stata® software version 9.0. A total of 4,333 patient sample records were analyzed from January 2005 to December 2014, containing positive samples for protozoan cysts, helminth eggs and larvae. The overall prevalence of intestinal parasites was 11.8%. Associations were found between the positivity of parasites and the male gender odds ratio (OR) 1.54, 95% confidence interval (CI 1.39-1.71), 6 to 18 years old (OR 2.11, 95% CI 1.77-2.51) and ≥60 years old (OR 1.5, 95% CI 1.25-1.80). The associations between species of intestinal parasites and gender were positive ($p < 0.05$) for 7 parasites in the male gender, the highest odds ratio being related to the association with *Hymenolepis nana* (OR 3.31, 95% CI 1.08-10.17). Positive associations were found among 6 parasites and patients aged ≤18 years old, with *Ascaris lumbricoides* showing the highest odds ratio (OR 40.87, 95% CI 4.90-340.50), and between *Strongyloides stercoralis* and the age bracket of >18 years old (OR 0.5, 95% CI 0.25-0.98). The results allowed for greater access and efficiency of the database to the laboratory for epidemiological analysis, as well as providing more clarity of the reality of Maringá and region regarding intestinal parasites.

Keywords:

Database Management Systems; Epidemiology; Helminthiasis; Intestinal Diseases, Parasitic; Prevalence; Protozoan Infections; Risk Factors