Prevalence of protozoa and helminths in schoolchildren in Itumbiara, Goiás, Brazil

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Abstract

The objective of this study is to evaluate the prevalence of protozoa and helminths in Itumbiara, Goiás, Brazil. The tests were conducted with school children from 6 to 12 years old, a municipal school located in suburb of Itumbiara. They evaluated 229 vials containing feces in the period from November 1998 to August 2002. The diagnostic methods used were: Faust, Hoffman and Baerman. Of the 229 samples examined, 58 were female (25.3%) and 171 male (74.7%). Of these samples, 117 (51.1%) were positive. Examinations revealed that 96.6% of the individuals presented protozoa and 3.4% helminths. Giardia lamblia was the most common parasite with 17.1%. Among the diners, Entamoeba coli was the most frequent with 58.1% and Endolimax nana with 21.4%.

Keywords: Biological Sciences, Parasitology, parasites, diners, intestinal diseases.

Intestinal parasites represent an important health problem in many areas of the globe [1], [4], [6] and [7], especially in developing countries, particularly in tropical regions [2]. In regions where income is poorly distributed, resulting in the existence of large population segments subjected to poor survival conditions, the presence of intestinal parasites can mean aggravating factor in the occurrence of malnutrition due to diarrhea or competition for food [5, 7].

Whenever the prevalence of soil-borne (geohemint) and water-borne (protozoan) parasitic infections is high, the living conditions of the affected population are characteristically poor. Therefore, the frequency of intestinal parasites in human populations is considered one of the indicators of the level of local development [2].

In Brazil, parasitological surveys and surveys are made from the analysis of the results of fecal examinations performed in clinical laboratories [3]. The objective of this study is to
evaluate the prevalence of protozoa and helminths in Itumbiara, Goiás Brazil.

The tests were conducted with school children from 6 to 12 years old, a municipal school located in suburb of Itumbiara, Goiás, Brazil.

A total of 229 faecal samples were examined from November 1998 to January 1999. The diagnostic methods used were: Faust, Hoffman and Baerman. Through preliminary meetings, the collaboration of the teaching and administrative staff of the six schools was obtained for the survey and subsequent treatment to be carried out. Through the teachers of the selected classes, appropriate containers were collected for the collection of feces to the duly identified students and, on a scheduled date, the samples were collected, immediately sent to the laboratory.

Of the 229 samples examined, 58 were female (25.3%) and 171 male (74.7%), of these samples, 117 (51.1%) were positive for at least one protozoan, commensal or helminth. Examinations revealed that 96.6% of the individuals had protozoa and 3.4% helminths (Ancylostomidae). A prevalence of 14.8% of parasitized individuals was found, among users of the health center of district in Campinas-SP [3]. According to this author, greater attention should be given to this morbidity, as his knowledge is fundamental in the development and planning of medical care.

*Giardia lamblia* was the most common parasite with 17.1% (Table 1). *Giardia lamblia* transmission in the Itumbiara region is probably related to the consumption of poorly washed fruits and vegetables or the irrigation of vegetables with contaminated water.

In Itumbiara, probably the protozooses are linked to the inadequate treatment of water, used for consumption by the population. Epidemics of water-borne diarrhea in the United States have been attributed to *Giardia* [1]. We found a frequency for *G. lamblia* of 14.5% in the greater São Paulo region [5], of 30.7% in Campinas-SP [3].

Among the diners, *Entamoeba coli* was the most frequent with 58.1% and *Endolimax nana* with 21.4%. The commensals (non-pathogenic) protozoans such as those cited above, [2] are not included in the determination of intestinal parasite morbidity in a given population, yet are indicative of present sanitation conditions.

From the helminths were obtained 1.7% of Ancylostomidae and 1.7% of *Enterobius vermicularis*. Helminths usually come from faecal contamination of soil and contaminated
food, poor environmental sanitation [3, 7].

The decrease in the number of cases over time may be reflecting better health care, the availability of effective drugs in therapy and some improvement in the distribution of sanitation services or the low sensitivity of methods for detecting

References
Table 1 - Protozoa and helminths collected in Itumbiara, GO, Brazil

<table>
<thead>
<tr>
<th>PARASITES/ DINERS</th>
<th>TOTAL</th>
</tr>
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<tbody>
<tr>
<td><strong>Protozoa:</strong></td>
<td></td>
</tr>
<tr>
<td><em>Giardia lamblia</em></td>
<td>20</td>
</tr>
<tr>
<td><em>Endolimax nana</em></td>
<td>25</td>
</tr>
<tr>
<td><em>Entamoeba coli</em></td>
<td>68</td>
</tr>
<tr>
<td><strong>Helminths:</strong></td>
<td></td>
</tr>
<tr>
<td><em>Enterobius vermicularis</em></td>
<td>02</td>
</tr>
<tr>
<td><em>Ancylostomatidae</em></td>
<td>02</td>
</tr>
<tr>
<td><strong>TOTAL GERAL</strong></td>
<td>117</td>
</tr>
</tbody>
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