

BRIEF COMMUNICATION

FREQUENCY AND PRECOCITY OF HUMAN INTESTINAL PARASITISM IN A GROUP OF INFANTS FROM RIO DE JANEIRO, BRAZIL

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Few cases of parasitic infection in infants by geo-helminths or other parasites transmitted by the fecal-oral route, mainly occurring during first months of life, have been reported in the literature^{5,6,8}. The limited motor activity and the continuous protection against environmental exposure imposed by the persons responsible for children has led people to underestimate the magnitude of child contamination. In the present investigation we studied the frequency and precocity of enteroparasitosis in infants younger than one year from a low income group in Rio de Janeiro city. The study was carried out in a city area from March 1990 to May 1991. We analyzed 402 fecal samples using the MIFC method¹. During this period, a total of 182 samples were taken from outpatients attended by the Public Health Service (Policlínica Américo Piquet Carneiro, Ministério da Saúde). The infants were followed up monthly in order to verify their development. The remaining samples (220) were directly obtained from children living in slums during visits by health workers. The selected slums were Formiga in Tijuca, Nelson Mandela in Manguinhos, Jacarezinho in Jacarezinho, and Vila Nova Cruzado in Jacarepaguá. The age of the infants (months) was recorded in all cases. Data were analyzed statistically by the chi-square test (X^2), with the level of significance set at 95%.

We detected an 11.0% (44/402) rate of intestinal parasitic infection in our study. The most frequent parasites were *Ascaris lumbricoides* and *Giardia lamblia*, with 5.7% and 4.2% positive results, respectively. When the cases were divided according to locality, no significant difference were observed between the Public Health Service infants and those from the slums (Table 1). Monoparasitism was observed in 90.9% of the cases studied. Among the infants from the slums, younger than one year-old, 69.4% were from Vila Nova Cruzado, 49.4% from Formiga, 33.7% from Mandela and 11.7% from Jacarezinho. A significant difference in the frequency of parasitism was observed between children under (2.8%) and over (15.6%) six

months of age. Four children less than six months old who presented parasitism were infected with *A. lumbricoides*. The youngest patient was a two month-old infant with ascariosis from the Nelson Mandela community that was being partially breast-fed.

With respect to mortality among infants younger than one year in the Rio de Janeiro municipal district, 50% of all deaths are basically caused by diarrhea and/or malnutrition, which can be worsened by enteroparasitosis². This highlights the importance of the 11% prevalence detected in the present study. The frequency of *A. lumbricoides* and *G. lamblia* in infants under one year of age detected in our study, has been previously reported in Brazil⁷. The prevalence of monoparasitism obtained was expected for this age group although the frequency of parasites differed from one community to another. *A. lumbricoides* was the most frequent and precocious parasite infecting infants under six months. In this study, the detection of this parasite in a two month-old infant was puzzling. Since *A. lumbricoides* is a geo-helminth parasite with a 60 day minimum pre-patent period, and has been reported to be responsible for congenital transmission in neonates^{3,4}, we did our best to

TABLE 1

Distribution of 402 infants by locality and frequency of infection by enteroparasites

Localities	% positivity*
Public Service	8.2 (15/182)
Morro da Formiga	16.5 (15/91)
Nelson Mandela	15.6 (5/32)
Jacarezinho	9.3 (5/54)
Vila Nova Cruzado	9.3 (4/43)
Total	11.0 (44/402)

* No significant difference.

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investigate this possibility. However, the mother's parasitological exam carried out concurrently with the infant's proved negative. Unfortunately, fecal parasitology exams during the pre-natal period were not available. This infant has been partially breast-fed by his mother although we know that during this period a child should be exclusively breast-fed. Thus, considering the frequency of 11% detected and the extreme precocity of acquisition of a parasitic intestinal infection by infants, further studies are needed.

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