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INTESTINAL PARASITES AMONG KARITIANA INDIANS FROM RONDÔNIA STATE, BRAZIL

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SUMMARY

Gravity sedimentation parasitological examinations were performed in stool samples from 111 Karitiana Indians from Rondônia State, Brazilian Amazon Basin. Intestinal parasites were found in 43 samples (38.7%). **Ascaris lumbricoides** was the most prevalent helminth species (18.9%). Egg counts in samples positive for **Ascaris** suggested an overdispersed distribution of worm burdens in the host population. Age-distribution pattern of intestinal parasites among Karitiana Indians was found to be rather unusual: the highest prevalence (60.0%) was detected in the 12- to 16-year-old age group.

KEY WORDS: Intestinal parasites; Brazilian Indians; Quantitative coproscopy; **Ascaris lumbricoides**.

INTRODUCTION

As a general rule, coproparasitological surveys in Brazilian Indians are infrequent and predominantly based upon qualitative data[3,7]. Quantitative coproscopical examinations in Iaualapiti Indians (Xingu Park, Mato Grosso State, Brazil) revealed high prevalence of intestinal parasites and low worm burdens distributed according to an overdispersed pattern[6].

The prevalence of enteroparasitic infections in Karitiana Indians is the subject of this report. Egg counts were performed in fecal samples positive for **Ascaris lumbricoides** and used as an estimate for intensity of infection[8].

MATERIALS AND METHODS

1. Area and population

The Karitiana Indian Reserve occupies a 69,698-hectare area (64°15'W, 9°30'S), about 90 km southwest of Porto Velho, Capital of the Rondônia State. This region has characteristically an equatorial climate with high average temperatures (17-32°C) and a rainy season between October and May. The reserve is inhabited by 111 Indians.

2. Collection and examination

Stool samples from the whole Indian population of the Karitiana reserve were collected, during October 1990, in glass test tubes containing a known volume of merthiolate-formalin (MF) solution[2]. All samples were examined according to Hoffman, Pons & Janer's gravity sedimentation method[2]. An aliquot from each fecal sample positive for **A. lumbricoides** was weighed, diluted with distilled water (1/100 w/v) and mixed. This suspension was transferred to a 650-mm^3 counting chamber[5]. The results of counts done in the whole chamber were expressed in terms

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of eggs per gram feces (epg) by multiplying the number of eggs counted by a factor (154).

RESULTS

Parasite forms (helminth eggs or protozoan cysts) were demonstrated in 43 samples (38.7%). The proportions of positive samples are shown in Table I. Ten hosts harbored more than one parasite species. Quantitative coproscopy suggests an overdispersed distribution[4] of **A. lumbricoides** in the parasitized population (21 subjects): five individuals were found to be passing 77.9% of the total number of counted **Ascaris** eggs. According to criteria accepted by the Word Health Organization[9], **Ascaris** infection was light in five individuals (less than 5,000 epg), moderate in fifteen and heavy in one (more than 50,000 epg). All infected individuals were eventually given appropriate antiparasitic treatment.

Age-distribution of enteroparasitosis prevalence in Karitiana Indians is shown in Table II. Pre-school children, a frequent object of coprological surveys, were found to have very low infection prevalence. **A. lumbricoides** burdens were found to be greater, but not significantly so ($p < 0.05$, Student's t-test on log-transformed counts), in the nine infected individuals more than 16-years old as compared with younger ones. Children aged one year or less were not found to be parasitized.

TABLE 1
Prevalence of enteroparasitoses in Karitiana Indians (n = 111).

Parasite	Positive samples	Prevalence %
Ascaris lumbricoides	21	18.9
Hymenolepis nana	12	10.8
Entamoeba coli*	12	10.8
Entamoeba histolytica	5	4.5
Ancylostomidae	1	0.9
Trichuris trichiura	1	0.9
Enterobius vermicularis	1	0.9

*Commensal species

TABLE 2
Prevalence of enteroparasitoses by age in Karitiana Indians.

Age (years)	Individuals examined	Prevalence % all parasitoses	Prevalence % ascariasis
< = 1	7	0.0	0.0
2 - 6	32	25.0	3.1
7 - 11	18	50.0	16.7
12 - 16	10	60.0	50.0
> 16	44	45.5	27.3
All	111	38.7	18.9

DISCUSSION

The overall prevalence of enteroparasitoses in Karitiana Indians is low. Age distribution of intestinal parasites is a remarkable aspect of this population; it differs from most urban and rural epidemiological patterns previously described[1], including those found in Iaualapiti Indians[6]. This fact may be, at least partially, accounted for a previous therapeutic intervention by the health personnel of Fundação Nacional do Índio (FUNAI) without coproscopical diagnosis.

RESUMO

Parasitas intestinais entre índios Karitiana do Estado de Rondônia, Brasil.

Exames parasitológicos por meio da técnica de sedimentação por gravidade foram feitos em amostras fecais de 111 índios Karitiana, do Estado de Rondônia, na Amazônia brasileira. Encontraram-se parasitas intestinais em 43 amostras (38,7%). **Ascaris lumbricoides** foi o parasita mais prevalente (18,9%). As contagens de ovos em amostras positivas para **Ascaris** sugeriram uma distribuição superdispersa das cargas parasitárias na população hospedeira. Encontrou-se uma distribuição etária incomum de parasitas intestinais entre os índios Karitiana: a maior prevalência (60%) foi detectada na faixa etária entre 12 e 16 anos.

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