Rev. Inst. Med. trop. São Paulo
38 (1): 59-60, janeiro/fevereiro, 1996.

BRIEF COMMUNICATION

MALARIA IN THE INDIAN RESERVATION OF "VALE DO JAVARI", BRAZIL.

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KEYWORDS: Malaria; Epidemiology; Indian populations; Amazon region

Malaria is a well known cause of morbidity and mortality in South-America populations living in the tropics, among which indians populations are particularly vulnerable [1,2,3]. In the present article, we report an epidemic outbrake of malaria inside an indian reservation, which was related to frequent invasions of the area by non-indians prospectors.

The indian reservation of "Vale do Javari" is located in the region of "Alto Solimões" in the extreme west of the Amazon State, in Brazil, beside Peruvian frontiers. In this reservation, there are approximately 3000 indians living along the rivers Javari, Jaquirana, Ituí, Curuçá and Itaquaí. The region has many natural resources, such as wood and minerals and, therefore is frequently invaded by prospectors [5].

By the year of 1993, it was reported to the National Foundation of Health of Brazil an unexpected number of deaths among that indian population, that was initially attributed to hepatitis. However, an epidemiological investigation conducted in order to elucidate this occurrence demonstrated malaria to be the main cause of morbi-mortality in that population [4]. In fact, the region had one of the highers annual parasite rate (97.8) reported on the Amazon State by the end of 1993. As a consequence, control measures such as inhouse DDT spraying and surveillance and treatment of acute malaria cases were initialized. In spite of these measures, control of the malaria outbrake was not achieved.

By May, 1994, the number of cases of malaria increased again, determining an intensification of the control measures previously adopted. During the months of Setember/October, 1994, another major epi-

TABLE 1
Geographical distribution of malaria

Village	*Number of Cases*	*Population*	*Intensity of invasion*	*Prevalence (%)*	*Odds Ratio*
Médio Ituí	73	298	++++	25.0	7.26
Curuçá	24	162	+++	14.8	3.89
Itaquai	34	271	+++	12.6	3.21
Maronal	24	240	++	10.0	2.49
Alto Ituí	16	374	+	4.3	1.00
TOTAL	173	1829		9.5	

χ^2 for linear trend = 60.562 $p \leq 0.00001$

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demiological evaluation was carried out in the area. Malaria prevalence ranged from 4.3% to 25.0% depending on the geographical placement of the indian settlement, which is strongly related to the intensity and frequency of invasions by prospectors. Table 1 shows these geographical distributions. The age distribution of malaria, showed in Table 2, demonstrated young adults to be most exposed.

TABLE 2
Age distribution of malaria

Age (years)	*Number of cases*	*Population*	*Prevalence (%)*	*Odds Ratio*
0 —| 5	24	370	6.5	1.00
5 —| 15	43	533	8.1	1.27
15 —| 25	26	295	8.8	1.39
≥ 25	19	469	4.1	0.61
TOTAL	112	1667	6.7	

χ^2 for linear trend = 5.562 p=0.04983

Malaria due to *P. falciparum* accounted for 68.2% of the cases reported. In spite of the generalized resistance to chloroquine reported on the Western Amazon Region two cases, wrongly diagnosed as *P. vivax* and treated with chloroquine, showed sensibility to the drug.

The age distribution of malaria in the area points to a predominantly extra-domiciliary pattern of transmission. By its geographical distribution, which corresponds to the areas most intensively invaded, it is possible to conclude that the outbrakes of malaria in the region are closely related to the activities of the invaders prospectors. So, urgent and energic actions of public health services, probably with the help of military forces, are demanded in order to avoid further invasions in the area.

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Recebido para publicação em 09/10/1995.
Aceito para publicação em 21/12/1995.