Received: September 22, 2003
Accepted: October 8, 2003
Published online: February 11, 2005.

J. Venom. Anim. Toxins incl. Trop. Dis.
V.11, n.1, p.34-38, 2005.
Original paper - ISSN 1678-9199.

SNAKE ENVENOMATIONS IN NORTHWEST COUNTIES OF THE RIO DE JANEIRO STATE, BRAZIL

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ABSTRACT: The frequency of envenoming in Northwest counties of the Rio de Janeiro State, Brazil, from 1995 to 2000 was evaluated. Reports from the Municipal Secretariat of Health of these counties were used. The results demonstrated that, from 1997 to 1999, there was a shortage of notification, and 40 cases of envenomations caused by *Bothrops* snakes were registered. These cases were more common from February to October, and the lower limbs of male peasants were the mainly affected areas.

KEY WORDS: poisonous snakes, *Bothrops*, envenomations, Rio de Janeiro, Brazil

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INTRODUCTION

According to the World Health Organization - WHO (10), snakes, among the poisonous animals, are the main responsible for envenomings, mainly in the Southeast of Asia and Tropical America. The frequency of envenomations in Brazil became a problem of public health, and the reports carried out in the states of São Paulo, Minas Gerais, and Rio Grande do Sul showed *Bothrops* snakes as cause of 90% of the cases (4). However, we focused on the several *Bothrops* species wide distribution over the Rio de Janeiro State (2,7). Based on this information, the present survey aims to evaluate the cases reported in some Northwest counties of the Rio de Janeiro State, Brazil.

MATERIAL AND METHODS

We analyzed the envenomations reports from the Municipal Secretariat of Health of Bom Jesus do Itabapoana, Italva, Varre-sai, Cardoso Moreira, Itaperuna, Laje do Muriaé, Natividade, Porciúncula, and São José de Ubá between 1995 and 2000. Sex, profession, and injured area of the people involved; month of the accident; and the snake's species were statistically evaluated (Student test; $p<0.05$).

RESULTS

Forty cases were reported in 1995, 1996 and 2000, all caused by *Bothrops* snakes (Table 1). Envenomations were more frequently reported in hot months (from February to May), mainly in 1995. It was also verified that the envenomings affected mainly the lower limbs of male peasants from 11 to 40 years old (Tables 2 and 3).

Table 1: Frequency of envenomations by *Bothrops* snakes in Northwest counties of the Rio de Janeiro State, Brazil, in 1995, 1996 and 2000

	Months												
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
1995	0	1	6	1	4	1	1	2	2	3	1	1	23 (57.5%)
1996	0	2	1	2	1	0	0	0	0	0	0	0	6 (15%)
2000	0	0	1	2	0	3	3	1	0	0	0	1	11 (27.5%)
Total	0 (0%)	3 (7.5%)	8 (20%)	5 (12.5%)	5 (12.5%)	4 (10%)	4 (10%)	3 (7.5%)	2 (5%)	3 (7.5%)	1 (2.5%)	2 (5%)	40 (100%)

Table 2: Frequency of envenomations in Northwest counties of the Rio de Janeiro State, Brazil, in 1995, 1996 and 2000, according to age range and sex

	Sex		
Age range	Male	Female	Total
1 – 10	0 (0%)	0 (0%)	0 (0%)
11 – 20	9 (26.5%)	0 (0%)	9 (22.5%)
21 – 30	8 (23.5%)	1 (16.7%)	9 (22.5%)
31 – 40	8 (23.5%)	3 (5%)	11 (27.5%)
41 – 50	6 (17.6%)	2 (33.3%)	8 (20%)
51 – 60	2 (5.9%)	0 (0%)	2 (5%)
> 60	1 (2.9%)	0 (0%)	1 (2.5%)
Total	34	6	40

Significant difference was not verified (Hotelling test; p>0.05)

Table 3: Frequency of envenomations in the Northwest counties of the Rio de Janeiro State, Brazil, in 1995, 1996 and 2000, according to profession and injured anatomical area

	Bitten area					
Professions	Foot	Legs	Foot finger	Hand finger	Trunk, hand and ankles	Total
Peasants	21	6	1	3	2	33[a] (82.5%)
Other professions	4	0	2	0	1	7[b] (17.5%)
Total	25 (62.5%)	6 (15%)	3 (7.5%)	3 (7.5%)	3 (7.5%)	40 (100%)

a>b; (Student test; p<0.05)

DISCUSSION

Envenomations were related to the distribution of the genus in areas occupied by the Atlantic forest, corroborating the reports of Barroso *et al.* (3). However, there was a shortage of notification from 1997 to 1999, what means that the real situation is unknown. Lack of notification was previously verified by Sales *et al.* (9) in Nova Iguaçu and Queimados counties. According to Barraviera (1), a shortage is consequence of a communication flaw between the doctor and the patient, caused by deficient campaigns, mainly in the rural area (5). We also believe that notifications of envenomation during the treatment with anti-ophidian serum stocked in health units are not conclusive for a real evaluation of the number of cases, because several rural leaders acquire the medication in pharmacies. Results of the evaluated variables and the reported genus (Tables 1, 2 and 3) also corroborated the reports of Puorto *et al.* (8) and Guimarães (6). It is important to highlight that Puorto *et al.* (8) also cited *Bothrops jararaca* as the main responsible for envenomations in urban areas, showing the species adaptability to environmental changes.

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