

Original Short Article

Epidemiological determinants of animal bite cases attending the anti-rabies clinic at V S General Hospital, Ahmedabad

Venu Shah¹, D V Bala², Jatin Thakker³, Arohi Dalal³, Urvin Shah³, Sandip Chauhan³, Kapil Govani³

¹Ex. PG Student, Dep. of Community Medicine, ² Professor & Head, Dep. of Community Medicine, ³ PG Students, Dept of Community Medicine, Smt NHL Municipal Medical College, Ahmedabad

Correspondence to: Venu Shah : venushah@yahoo.co.in

ABSTRACT

INTRODUCTION: Rabies is 100% fatal yet 100% preventable with timely and appropriate Post Exposure treatment. However, not all bite victims seek treatment. Moreover, myths and practices amongst people prevent appropriate treatment. Potent cell culture vaccines are available for the treatment of animal bite cases. **AIMS & OBJECTIVES:** 1) To study the epidemiological characteristics of victims of animal bite injuries. 2) To study the health seeking behaviour of persons with animal bite. **Methodology:** All new cases of animal bites registered in Anti Rabies Clinic of VS General Hospital for 3 months were studied by using pretested proforma.

STATISTICAL ANALYSIS: Proportions.

RESULT: Out of total 1112 cases of animal bite nearly 50% were below 25 years of age. Amongst them 850(76%) were males. Ninety six percent of cases were bitten by stray dog. Category III bites were seen in 754(67.8%) of cases. In 999(89.8%) cases lower extremities were affected. Two third of cases had attended the ARV clinic within 24 hours of bite. Only 24% of cases had done the wound washing. **Conclusion:** Local treatment of the wound soon after a bite is an important step in the management of a case and this was lacking in most of the subjects. Efforts to eliminate the stray dogs are required.

KEY WORDS: Rabies, Animal bite, health seeking behavior

INTRODUCTION

Rabies, a disease of antiquity continues to be a major public health problem in India. It is 100% fatal yet 100% preventable. It is estimated that the South East Asia Region accounts for approximately 60% of human deaths due to rabies in the world.^[1] In India, it is estimated that 20,000 deaths occur due to rabies annually.^[2] This may not be exact, as the disease is neither reportable nor notifiable. Multiple myths are associated with the disease, which vary from region to region, and they determine the post exposure treatment seeking behavior of animal bite victims. It is important to know about epidemiology of animal

bites, rabies and factors influencing post exposure treatment for preventing human deaths due to rabies and formulate rabies control strategies. This study was carried out with the objectives of collecting information from patients attending anti rabies clinic of V S general Hospital about epidemiology of animal bite and also elucidating the factors influencing the post-exposure treatment.

MATERIALS AND METHODS

Prior permission from ethical committee was taken to collect data. All the new cases of animal bite attending anti rabies clinic of V S General Hospital for the period of three months (August-October 2010) were interviewed. Written consent was taken from all the patients after the study was explained to the patients or their guardians (in case of children). Pre-designed and pre-tested proforma was used for collection of data. Data was analyzed using appropriate statistical software.

RESULTS

Out of total 1112 cases of animal bite, 538 (48.4%) were below 25 years of age. (Table 1) 850(76%) were males.

TABLE I: AGE-WISE DISTRIBUTION OF CASES

Age Groups (Years)	Frequency	Percent
<5	29	2.6
5-14	251	22.6
15-24	258	23.2
25-34	159	14.3
35-44	187	16.8
45-54	117	10.5
55-64	64	5.8
>65	47	4.2
Total	1112	100

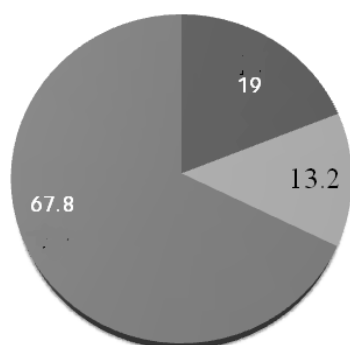
Stray dogs were responsible in 1070(96.2%) of cases while 39(3.5%) cases were bitten by pet dog. (Table II). Class II exposures

were seen in 147(13.2%) and 754 (67.8%) were of class II. (Figure I). Bites involved the lower limb in 999 (89.8%) of the victims followed by upper limb in 88(7.9%), trunk in 12(1.1%) and face in 6(0.5%) patients. (Table III) As many as 38.8% of bites occurred between 4 and 8 pm in the evening.

TABLE II: TYPE OF ANIMAL

Type of animal	Frequency	Percentage
Stray Dog	1070	96.2
Pet Dog	39	3.5
Cattle	3	0.3
Total	1112	100

FIGURE I : CATEGORY OF WOUND



■ Category I ■ Category II ■ Category III

TABLE III: SITE OF BITE

Site of bite	Number	Percentage
Lower Limb	999	89.8
Upper Limb	88	7.9
Trunk/abdomen	12	1.1
Face	6	0.5
*Lower Limb and Trunk	3	0.3
*Lower limb and Upper Limb	2	0.2
*Face and Lower limb	2	0.2
Total	1112	100

*Few victims had animal bites on more than one site.

TABLE IV: TIME BETWEEN ANIMAL BITE AND ATTENDING THE ARV CLINIC

Time period	Frequency	Percent
Within 24 hours	762	68.5
1-2 days	195	17.5
2-3 days	54	4.9
3-4 days	39	3.5
>4 days	62	5.6
Total	1112	100

Two third of cases had attended the anti rabies clinic within 24 hours of bite. (Table 4) Only 277(24.9%) of had done the wound washing after the bite. Half of the cases (52.6%) had applied indigenous materials on the wound. (Table V).

TABLE V: MEASURES TAKEN IMMEDIATELY AFTER ANIMAL BITE

Measures taken immediately after bite	Number	Percentage
Wash with water	277	24.9
Apply antiseptic cream	147	13.2
Apply indigenous product	585	52.6
No first aid taken	74	6.7
Consulted doctor	29	2.6
Total	1112	100

DISCUSSION

In this study, children and adult men were affected the most probably because of their outdoor activities. Similar findings were made in other studies too.⁴⁻⁷ The main biting animal was dog and this observation is seen uniformly in other studies too.³⁻⁷ Category III was present in 67% of bite victims. This finding is similar to that of study carried out by Ichhpujani et al (62.6%)⁸ and Ghosh (62%).⁹ Majority (72.5%) of victims did not even wash their wounds with soap and water. This is quite alarming and this calls for concerted health education of people through mass media. Another factor which causes concern is that 585(52.6%) bite victims had applied indigenous products like chilli powder, snuff etc. which are harmful.

CONCLUSION

In conclusion, the dogs were the main biting animal, affecting mostly the children and adult. The bite victims did not do proper wound care. The indigenous treatment was quite prevalent. All these call for concerted effort for a mass awareness campaign.

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A poem for public health

FIRST THEY VOTED to eliminate child care inspections

And I didn't speak up because I didn't have children

THEN THEY VOTED to stop inspecting food service establishments

And I didn't speak up because another agency did those inspections

THEN THEY VOTED to get rid of nursing home and hospital inspectors

And I didn't speak up because I worked in the OSTDS program

THEN THEY VOTED to abolish Environmental Health

And there was no one left to speak up

Anonymous