



To study epidemiological profile of dog bite cases attending anti rabies centre at SMS Hospital, Jaipur and pretreatment practices adopted by them following animal bite

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Abstract

Background: Rabies is a deadly Zoonotic disease caused by RNA virus *Lyssa virus Type 1*, most often transmitted to humans through a dog bite. As it is a fatal disease, most of these deaths could be prevented through post-exposure prophylaxis (PEP), including immediate wound washing, rabies immunoglobulin administration and vaccination. Various myths and socio cultural practices causes hindrance for rabies control and prevention.

Aim & Objectives: To study epidemiological profile of dog bite cases attending anti rabies clinic attached to SMS medical College, Jaipur and pretreatment practices adopted by them following animal bite.

Materials and Methods: The present cross sectional study was conducted at Anti-rabies vaccination (ARV) center of SMS Medical College, Jaipur. A total of 150 cases were interviewed by using pre designed pre tested structured questionnaire.

Results: A total of 150 dog bite cases were surveyed in the present study. Most of the cases belonged to the age group 5-25 years. The proportion of male victims were higher compared to the female victims. Majority (62.5%) of the bites were by pet dogs. Lower limbs were the most common biting sites in majority (83.2%) of the cases. and only 6.2% had washed the wound with soap and water.

Conclusions: With immediate pre treatment knowledge and post exposure treatment prevention of rabies is virtually assured. There is a strong need for generating awareness in public and community about rabies and animal bite.

Keywords: Dog bite, post-exposure prophylaxis, immediate wound washing, anti rabies vaccination.

Introduction

Rabies is an essentially fatal zoonotic disease capable of infecting all mammals and the disease is endemic in India with dog being the main reservoir.^{1,2} Globally 61,000 deaths occur annually due to rabies, of which 16,450 (27%)

occur in India³. The first aid after an animal bite is sought most commonly from health workers esp. in rural areas and they are usually the first ones to come in contact with a victim of animal bite.⁴ Dog bite is a very serious public health problem that causes considerable physical and

emotional damage on victims and also immeasurable hidden costs to communities. It is an underestimated problem in Jaipur city which should be focused on. Therefore, this study aims to study epidemiological profile of dog bite cases and pretreatment practices adopted by them following animal bite.

Material and Methods

Study area and Period- This study was conducted at the anti rabies centre, situated at SMS Hospital, Jaipur, Rajasthan, India between May 2017 – October 2017.

Study Type- It is a cross-sectional study, where all dog bite cases attending anti rabies clinic were studied.

Study Tool- Pre designed and pre tested structured questionnaire was used which consist of the following parts:

- 1) **First Part:** Socio demographic characteristics such as age, gender details.
- 2) **Second Part:** Questions related to the dog that had bitten them, the type of dog-pet or stray, site of bite, whether dog was vaccinated or not, time taken to seek treatment.

Inclusion Criteria- Only dog bite cases coming for vaccination were taken for study.

Exclusion Criteria- Other animal bite cases and those who were unwilling to participate were excluded.

Statistical Analysis- Frequencies and Percentages Percentages of the study population, their socio demographic characters, their nature of dog bites, first aid taken, vaccine administered and reasons for not vaccinating were studied.

Results

A total of 150 dog bite cases were surveyed in the present study. The socio demographic profile of the participants is as follows:

Table 1 Socio demographic profile of dog bite cases

Socio demographic factors	Frequency	Percentage (%)
Age		
<5	2	1.3
5-25	52	34.5
26-45	49	32.9
46-65	47	31.3
>65	0	0
Sex		
Male	87	58.2
Female	63	41.8

Most of the cases belonged to the age group 5-25 years (34.5 %). followed by age group 26-45 (32.9%) and 45-65years (31.3%). The percentage of male victims (58.2%) were higher compared to the female victims (41.8%).

Table 2 Distribution of type of dogs

Type of dog	Frequency	Percentage (%)
Pet	94	62.5
Stray	56	37.5
Total	150	100

62.5% of the bites were by pet dogs. Stray dog bite was only 37.5%. The bite percentage was more by pet dogs.

Table 3 Distribution as per vaccination status of bitten dogs

Vaccination status of bitten dogs	Frequency	Percentage (%)
Yes	19	12.8
No	131	87.2

87.2% of the pet dogs were not vaccinated. Only 12.8 % of the dogs were vaccinated. The results of vaccination status of the bitten dog were unsatisfactory. It was found that provoking gestures (22.3%) and playing (19.2%) were the most common cause of bite in pet dogs.

Table 4 Distribution as per site and category of bite

Site of bite	Frequency	Percentage (%)
Upper Limbs	17	11.2
Trunk	5	3.2
Head, Neck, Face	4	2.4
Right lower limb	70	46.7
Left lower limb	54	36.5

Lower limbs were the most common biting sites in majority (83.2%) of the cases. Upper limbs

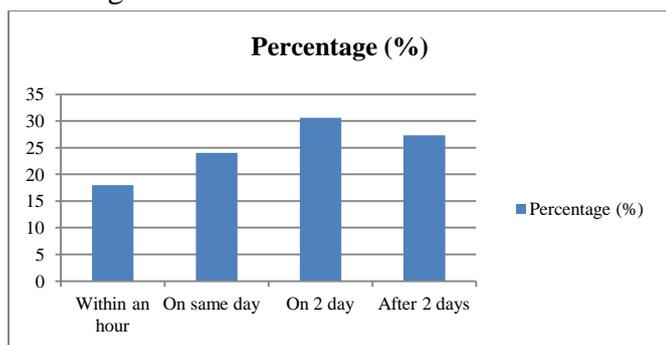
were next common biting site as 11.2% had bites of upper limbs. In 4 cases there were bites of both right upper and lower limbs. Other biting sites were trunk (3.2%) and head/ neck/face (2.4%)

Table 5 Distribution of subjects as per immediate pre-treatment taken after dog bite

Immediate pre-treatment after animal bite	Frequency	Percentage (%)
Soap & Water	9	6.2
Local Remedies (turmeric, kerosene, chilli, mud etc.)	94	62.4
Without any pre treatment	47	31.4

Immediate pre-treatment at the site of bite was done by 68.6% of the patients and only 6.2% had washed the wound with soap and water. Majority (62.4%) had gone for the various types of local applications like turmeric, chilli.

Table 6 Time interval between animal bite and receiving ARV



Majority of cases did not report immediately to the health care facilities. Only 18% reported within an hour of bite. 24% seek the treatment on the same day of bite. Majority of them reported after 24 hours of bite.

Discussion

A total of 150 dog bite cases were surveyed in the present study. Most of the cases belonged to the age group 5-25 years (34.5 %) which is supported by the study done by Rasanía et al⁵ and Shetty et al⁶ where the maximum number of cases were in the age category 0-14. In the present study percentage of male victims (58.2%) were higher compared to the female victims (41.8%) similar to the study at Pune by Shetty et al⁶ who reported the

ratio of 1.98:1. Rasanía et al also reported male pre-ponderance among animal bite cases. 62.5% of the bites were by pet dogs. Stray dog bite was only 37.5%. The bite percentage was more by pet dogs. 87.2% of the pet dogs were not vaccinated.

Lower limbs were the most common biting sites in majority (83.2%) of the cases. This finding is similar to finding of Shetty et al. In the present study only 6.2% had washed the wound with soap and water which is supported by Shetty et al who reported that the wound was washed with soap and water in only 3.6% of cases. Also Sudharshan et al⁷ reported that high proportion of bite victims did not wash their wounds with soap and water (39.5%), in contrast Rozario et al⁸ reported that in the 39.5% of bite victims washed the wounds with soap and water. The difference may be due to difference in socio demographic characters of the participants.

Majority of cases did not report immediately to the health care facilities. Only 18% reported within an hour of bite. 24% seek the treatment on the same day of bite. Similarly Sharma et al⁹ reported that majority of cases of animal bite did not report immediately to PHC for treatment after dog bite. In contrast Bharadva et al¹⁰ observed that 94.7% patients reported to the clinic within 24 hours of the bite.

In the present study Majority (62.4%) had gone for the various types of local applications like turmeric, chilli which is supported by the study by Bhargava et al¹¹ reported different practices including use of traditional remedies such as application of chilli paste, are prevalent for wound treatment.

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