



Original Research Article

Determinants of Animal Bite and Practices Following Bite among the Victims Attending a Block Primary Health Centre of West Bengal

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ABSTRACT

Background: Rabies is a zoonotic disease, caused by Lyssavirus type 1. It usually spreads through close contact with infected animal via bites or scratches. More than 95% of human deaths due to rabies occur in Asia and Africa.

Objective: i) To find out the epidemiological determinants of animal bite. ii) To assess the practices of the victims following bite.

Materials & Methods: A descriptive, cross sectional study was conducted at anti rabies vaccine clinic of Amdanga Block Primary Health Centre, North 24 Parganas, West Bengal, which is the Rural Training Centre of R.G. Kar Medical College, Kolkata from 1st October to 31st October, 2013. All the victims (Total 102) receiving anti rabies vaccine in the clinic were included.

Result: About 57% individuals were below 25 years age group and 57.8% victims were males. 49.0% victims were bitten by dog and 45.1% by cat. Category II bite cases were 53.9% and rest were of category III bites. Most of the individuals were attacked by stray animals (57.8%). Maximum number of bites was in lower limbs (58.8%). After bite, 63.7% victims washed their wounds with soap and water, 6.9% applied indigenous product and 3.9% performed spiritual activity as first measure. Within 24 hours of bite, 65.7% victims attended anti rabies clinic and only 4.9% received first dose of anti rabies vaccine.

Conclusion: Unfavourable Practices were present among the respondents following bite. Delay in vaccination was mostly due to fixed day vaccination at health centre.

Key Words: Animal bite, rabies, practice following bite, anti rabies vaccine

INTRODUCTION

Rabies is an enzootic and epizootic disease. Globally, 2 persons die every hour due to rabies and 40% of people who are bitten by suspect rabid animals are children under the age of 15 years. Rabies in dogs is the source of 99% of human infection. [1] India has 36% of the global and 65% of the rabies cases in Asia. [2] Rabies is endemic all

over India except in island of Andaman, Nicobar and Lakshadweep which are found to be free of rabies. [3] It is universally fatal yet preventable with timely and appropriate Post Exposure treatment. However, not all bite victims seek treatment. [4] Control of rabies is a priority but the population remains vulnerable because of ignorance of people, shortage of anti rabies vaccine and

rabies immunoglobulin and very high case fatality rate in human beings. It has been estimated that there are 17.4 million animal bites per annum which accounts to animal bite incidence rate of 1.7%. [5] Although effective control measures are available, rabies remain neglected disease throughout our country. There are many myths, false beliefs and inappropriate practices associated with wound management after animal bite. Role of indigenous medicines that are of unproven efficacy also has been highlighted. Immediate wound cleansing and immunization within a few hours after contact with a suspect rabid animal can prevent the onset of rabies and death. Every year, more than 15 million people worldwide receive a post-exposure vaccination to prevent the disease - this is estimated to prevent hundreds of thousands of rabies deaths annually. [6] Rabies affects mainly poor and vulnerable populations whose deaths are rarely reported especially in remote rural area. Under-reporting of rabies also prevents mobilization of resources for the elimination of rabies. In this back ground, this study was conducted to add to the existing information on determinants of animal bite and practices following bite among the patients attending a Block Primary Health centre of rural West Bengal.

Objective:

- i) To find out the epidemiological determinants of animal bite.
- ii) To assess the practices of the victims following bite.

MATERIALS & METHODS

A descriptive, Cross sectional study was conducted at anti rabies vaccine (ARV) clinic of Amdanga Block Primary Health Centre (BPHC), North 24 Parganas, West Bengal, which is the Rural Training Centre of R.G Kar Medical College , Kolkata from 1st October to 31st October, 2013 after

obtaining permission from institutional ethics committee. All the victims (Total 102) receiving anti rabies vaccine were interviewed (exit interview) using a predesigned, pretested, semi structured schedule. So, only category II and category III bite cases were included in the study. Category I bite cases were not included as they didn't attend the ARV clinic for receiving anti rabies vaccine. Bites were categorized according to WHO guideline. [3]

Statistical analysis: SPSS (Version 20) was used for analysis of the data. Data were expressed in percentage and mean.

RESULTS

About 57% individuals were below 25 years age group. Mean age was 23.8±17.31 yrs. 57.8% victims were males and rest were females. Maximum number of bites occurred among students (40.2%). Among the victims, 69.7% were literate. Most of the individuals came from class IV socio economic status (46.1%) followed by class V (34.3%) according to modified B.G. Prasad scale 2013.

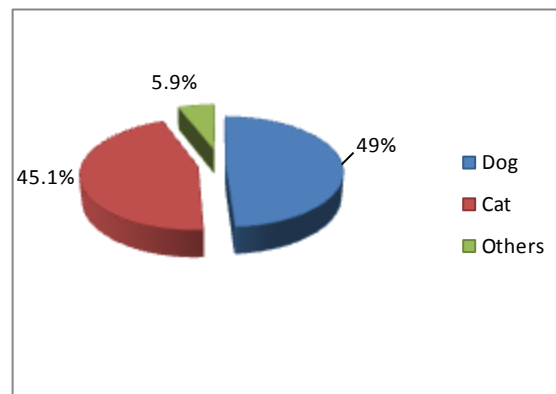


Figure 1: Distribution of victims according to type of biting animals (N=102)

Most common cause of morbidity was dog bite (49.0%) followed by cat (45.1%). ‘Others’ category included one rat bite, three mole bite, two monkey bite cases. Category II bite cases were 53.9% and rest were of category III bites. Most of the individuals

were bitten by stray animals (57.8%). Most of the bites occurred in the morning (39.2%) followed by afternoon (27.5%), evening (21.6%) and night (11.8%). Unprovoked Bites were 22.5%. Maximum bites were in lower limbs (58.8%).

Table 1: Distribution of victims according to first measure adopted after bite (N=102)

First measure adopted	Frequency (%)
Washing with soap and water	65(63.7)
Consulting govt. Doctor	9(8.9)
Consulting private doctor	4(3.9)
Consulting quack	6(5.9)
Applying antiseptic cream/lotion	4(3.9)
Applying indigenous product	7(6.9)
Cauterising the wound	3(2.9)
Attending faith healer	4(3.9)
Total	102(100.0)

About 64% individuals washed their wound with soap and water however 6.9% applied indigenous product on the wound, 5.9% consulted quack, 2.9% cauterised wound and 3.9% attended faith healer. So a total of 78 (76.5%) individuals adopted favourable measure i.e. washing the wound with soap & water or consulting doctor as first step after bite among them 61.5% individuals adopted that measure within 15 minutes after bite.

Table 2: Distribution of victims according to time gap between bite and attending BPHC (N=102)

Interval	Frequency (%)
≤24 hours	67(65.7)
24-48 hours	4(3.9)
>48hours	31(30.4)
Total	102(100.0)

Most of the victims attended BPHC within 24 hours of bite (65.7%). Among 35 victims who attended BPHC after 24 hours of bite, most common cause of coming late was attending faith healer (22.8%) followed by negligence (20%), referral from PHC to BPHC (17.2%) and family problem (17.2%).

Table 3: Distribution of victims according to time interval between bite and receiving of first dose of vaccine (n=102)

Interval	Frequency (%)
≤24 hours	5(4.9)
24-48 hours	46(45.1)
>48hours	51(50.0)
Total	102(100.0)

Only 4.9% victims received first dose of anti rabies vaccine (ARV) within 24 hours. All the victims received tetanus toxoid except those who received the same under the immunization schedule. None of the victims received rabies immunoglobulin.

DISCUSSION

Present study shows more than half of animal bite victims were less than 25 yrs age. Males are affected more (57.8%) than female. This finding is comparable with findings of a study conducted in Andhra Pradesh by Patnaik et al (57%).^[7] In this study Provoked bites were more prevalent (77.5%) than unprovoked (22.5%) and around 58% victims were bitten by stray animals. However Ichhpujani et al found that 64.3% were unprovoked bites and 64.7% by stray animals.^[8] nearly, half of the victims were attacked by dog. About 46% bites were of category III which is lower than findings by Shah et al (67%).^[4] Wound washing was practiced by (63.7%) of the victims which is comparable with findings by Ichhpujani et al (58.5%).^[8] A total of 13.7% victims resorted to harmful and/or indigenous practices which are comparable to findings of Ichhpujani et al (10.8%) and Gogtay et al (12.3%).^[8,9] Though 65.7% victims attended ARV clinic within 24 hours of bite only 4.9% were given first dose of vaccine within 24 hours as vaccine is given only on 2 days in a week. The WHO recommendations include immediate wound washing, administration of rabies vaccine and for category III exposure, infiltration of purified rabies immunoglobulin (RIG) in and around the wound. But none of the victims were given rabies immunoglobulin in this study. Gogtay et al also showed that less than 2 per cent patients took rabies immunoglobulin.^[9]

CONCLUSION

Animal Bite has become a major Public Health Problem. Health education should be given regarding fatality of Rabies, not to irritate animal unnecessarily and immediate as well as appropriate treatment after bite. Quacks should be trained regarding proper management of animal bite. ARV should be made available for 7 days in a week in the clinic as well as at the PHC level. Doctors should be aware regarding proper use of rabies immunoglobulin. So, good community involvement, properly trained health care providers and uninterrupted availability of anti rabies vaccine including rabies immunoglobulin are required to fight against rabies.

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