

Study of certain Epidemiological factors of animal bite cases reported at ARV clinic at GMC, Miraj

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Abstract

Introduction: Rabies is a public health problem of considerable magnitude in India. It is 100% fatal disease. Vaccination remains the only means of saving those who have been exposed to the virus. Unquestionably the level of knowledge of the community and concern about dog bite injuries has an important role to play in dealing with this problem. 20,000 Deaths and 17.4 million animal bite cases were reported in India alone every year. This study was carried out with the objectives of to explore epidemiological factors associated with animal bites and to assess awareness about the post-exposure treatment. **Materials and methods:** Descriptive cross sectional study was conducted at ARV (Anti-Rabies Vaccination) OPD GMC Miraj. A pre tested semi structured questionnaire was used to record data pertaining to the epidemiology as well as awareness of post exposure prophylaxis. **Results:** Out of a total 152 cases, majority were in the age group of 30-45 yrs. 78 % cases were of dog bites and remaining 22% were due to bite of other animals. Only 18% of cases reported within 12hrs. Wound toileting was done in 73% of cases out of which 55% with water and 45% with soap and water. 25% cases applied some agents like lime, oil, antiseptic and other agents like mirchi, powder, turmeric over wound. 86% of the victims suffered from class III exposure and received ARS. 71% were aware of anti-rabies vaccine. **Conclusions:** Dog bites were the commonest form of animal bites. There are many misconceptions about wound toileting among patients. Therefore, education regarding the immediate wound management is needed. **Keywords:** Rabies, animal bites, anti-rabies vaccine, wound toileting.

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INTRODUCTION

Rabies is a public health problem of considerable magnitude in India. It is 100% fatal disease. According to WHO report, worldwide human deaths from endemic canine rabies were estimated 55000 deaths in a year¹ with

56% share from South East Asia Region.² 20,000 Deaths and 17.4 million animal bite cases were reported in India alone every year² Rabies is reported in India throughout the year from all states except Lakshadweep and the Andaman and Nicobar Islands.³ Vaccination remains the only means of saving those who have been exposed to the virus. Unquestionably the level of knowledge of the community and concern about dog bite injuries has an important role to play in dealing with this problem. This study was carried out with the objectives of to explore epidemiological factors associated with animal bites and to assess awareness about post-exposure treatment.

MATERIALS AND METHODS

Descriptive cross sectional study was conducted at ARV (Anti-Rabies Vaccination) OPD GMC Miraj. All the new and old patients coming for ARV in the hospital during

the given period of 2 months were interviewed. Total number of subjects was 152. Written consent was taken from all the patients after the study was explained to the patients or their guardians (in case of children). Personnel interview of patient and clinical examination was done for each case. A pre tested semi structured questionnaire was used to record data pertaining to the epidemiology as well as awareness about post exposure prophylaxis. The collected data were analyzed using spss statistical software version 20. Categorization of exposures was done as per guidelines given by World Health Organization (WHO)⁴

OBSERVATIONS AND RESULTS

Total 152 cases were reported during the study period. Male constituted 106 (69.7%) cases and female constituted 46 (30.3%) cases. Majority of the cases 71 (46.7%) were in the age group of 30-45 years. Details are given in table 1.

Table 1: Distribution of cases according to age-group and gender (n=152)

Age group (yrs)	Male (%)	Female (%)	Total (%)
0-15	5 (3.3)	6 (3.9)	11 (7.2)
15-30	28 (18.4)	11 (7.2)	39 (25.6)
30-45	53 (34.9)	18 (11.8)	71 (46.7)
45-60	15 (9.9)	7 (4.6)	22 (14.5)
>60	5 (3.3)	4 (2.6)	9 (5.9)
Total	106 (69.7)	46 (30.3)	152 (100)

78% cases were due to dog bites out of which 60% cases were attributed to pet dogs and 40 % were attributed to stray dogs. 12% cases were due to other animal bits (rat, monkey etc) followed by 10 % cases were due to cat bite.

Table 2: Distribution of cases according to site of animal bite

Site of bite	Number of subjects	Percentage
Lower extremity	87	61.3
Upper extremity	43	30.3
Head, Neck, and Face	7	4.9
Chest and Trunk	5	3.5
Total	142*	100.00

* 10 Patients Had Indirect Contact

Lower extremity was the most common site exposed to animal bite in 87 (61.3%) cases. Other sites involved were upper limb 43 (30.3%) followed by head, neck, face 7 (4.9%) and chest and trunk 5 (3.5%). 86% of cases suffered from class III exposure followed by class II (9%) and class I (5%) exposure.

Wound toileting was done in 73% of cases out of which 55% with water and 45% with soap and water. 25% cases applied some agents like lime (61%), oil (6%), antiseptic (19%) and other agents like mirchi, powder, turmeric (14%) over wound.

The details regarding distribution of cases according to interval between animal bite and reporting is shown in figure 1.

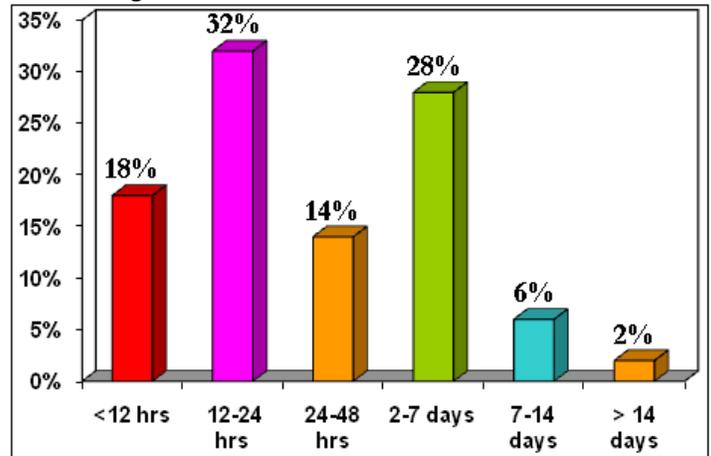


Figure 1: Distribution of cases according to interval between animal bite and reporting

Majority (32%) cases reported within 12-24 hrs. 86% cases received anti-rabies serum.

The details regarding distribution of cases according to awareness is shown in table 3. 71% were aware of anti-rabies vaccine.

Table 3: Distribution of cases according to awareness:

	Yes	No	Don't know
Fatal disease	57 (38%)	67 (44%)	28 (18%)
Prevention of rabies	92 (60%)	44 (29%)	16 (11%)
Anti-rabies vaccine	108 (71%)	34 (22%)	10 (7%)

DISCUSSION

Animal bites, especially dog bites still pose an important public health problem in urban area of our country. The epidemiological profile of animal bite cases in this study revealed that men are affected more than women, due to occupational travelling of man outside of home as compared to women which is quite similar to previous studies conducted by Niraj Bharadya *et al*⁵, Anita Khopkar *et al*⁶ and Ichhpujani RL *et al*⁷. Predominantly cases belonged to 30-45 years of age group .The lower extremity was affected mostly (61%) may be due to easy accessibility. Majority (86%) of the cases belong to class III bite and rest class II. Less number of class I and II may be due to ignorance. Other studies by Patle R *et al*⁸ and Sirshendu Chaudhuri⁹ also showed similar kind of findings with minimal reporting of class I bite.

Application of lime, chilli paste, turmeric and other indigenous substances have been reported by Sirshendu Chaudhuri *et al*.⁹ Majority (32%) cases reported within 12-24 hrs. Ignorance, lack of transport facility and non-availability of family members was the important causes for delay. These findings were

consistent with study conducted by Niraj Bharadva *et al*⁵. The majority of respondents identified that rabies could be prevented by avoiding dog bites and confining dogs. 71% participants were aware about anti-rabies vaccine while in a study conducted by Tadesse Guadu *et al*¹⁰ 55.7% were aware of taking anti-rabies vaccine immediately after a suspected animal/dog bite.

CONCLUSIONS

Dog bites were the commonest form of animal bites. There are many misconceptions about wound toileting among patients. Only effective I.E.C. activities can encounter not only false beliefs about the disease but also widespread misconceptions about treatment, which should be carried out regularly at health facilities. Vaccination and municipal licensing of pet dogs must be enforced.

REFERENCES

1. World Health Organization. WHO technical report series 931: WHO expert consultation on rabies; first report. Geneva Switzerland: WHO; 2005. p13.
2. World Health Organization, Regional Office for South East Asia. Prevention and control of rabies in South-East Asia Region 2004, New Delhi. SEA-Rabies; 2004.
3. APCRI guidelines for rabies prophylaxis. Available at <http://rabies.org.in/rabies/wp-content/uploads/2009/11/APCRI-Guidelines-for-Rabies-Prophylaxis.pdf>.
4. WHO guide for post exposure prophylaxis. Available at <http://www.who.int/rabies/human/postexp/en/>
5. Niraj Bharadva*, Shreyash R. Mehta, Pravin Yerpude, Keerti Jogdand, Kartik N. Trivedi. Epidemiology of Animal Bite Cases Attending Tertiary Health Care Centre of Bhuj City of India: A Cross-Sectional Study. International Journal of Interdisciplinary and Multidisciplinary Studies (IJIMS), 2015, Vol 2, No.9,98-102.
6. Anita Khokhar, G.S. Meena, Malti Mehra. Profile of dog bite cases attending m.c.d. dispensary at Alipur, Delhi 2003. Indian Journal of Community Medicine Vol. XXVIII, No.4: 157-60.
7. Ichhpujani RL *et al*. Epidemiology of Animal Bites and Rabies cases in India. A Multicentric study. J Commun. Dis. 40 (1) 2008: 27-36.
8. Patle R, Khakse G. Clinico---demographic and treatment seeking profile of children below 15 years attending the anti---rabies clinic. Int J Med Public Health. 2014;4(2):151.
9. Sirshendu Chaudhuri. Knowledge, attitude and practice about animal bite and rabies among victims attending a rural hospital in eastern India. Global Journal of Medicine And Public Health www.gjmedph.org Vol. 4, No.1 2015.
10. Tadesse Guadu, Anmaw Shite, Mersha Chanie, Basazinew 1 1 2 2 Bogale and 3 Tewodros Fentahun. Assessment of Knowledge, Attitude and Practices about Rabies and Associated Factors: In the Case of Bahir Dar Town. Global Veterinaria, 13 (3): 348-354, 2014.

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