

# Cultural Practices among Animal Bite Cases of Government Medical College, Latur

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## Research Article

**Abstract: Background:** The annual animal bite load is estimated to be 17.4 million (1.7%) and 46.9% takes antirabies vaccination. In India, various cultural practices are followed after dog bite. Multiple myths are associated with the disease, which determine the post exposure treatment seeking behavior of animal bite victims. **Objectives:** 1) To study epidemiological profile of animal bite cases attending Government Medical College and Hospital, Latur. 2) To study the cultural practices and taboos associated with the same animal bite cases and give recommendations based on the findings. **Methodology:** This is cross-sectional study conducted in Antirabies Clinic of Government Medical College and Hospital, Latur. Required data from 223 animal bite cases was collected by predesigned, pretested questionnaire during 1st April to 30 September 2012. Sampling technique used was systematic random sampling. The data collected included age, sex, residence, education, site of bite, reporting time and washing of wound, type of biting animal as well as cultural practices and taboos etc. Data was entered in MS-excel and analyzed. **Results:** In this study majority of the animal bite cases were in the age group of 15-44 years, 44.84% and were males, 62.78%. Most of the cases were educated up to primary school (23.32%). Majority of the cases occurred among people with the occupations with extensive or some travel (70.85%). Only 43.5% cases visited ARC within 24 hours. Most common site was lower extremity (86.54%). About 69% animal bite cases were associated with one or more cultural practices and 42% with taboos. Burning of wound with Harwadi's medicine was common practice. **Conclusion:** Washing of wound with soap and water after animal bite is very important for prevention of Rabies, which was lacking in 90% cases. Some cultural practices and taboos associated with animal bite are useless and can be harmful.

**Keywords:** Animal bite, cultural practices, washing of wound.

## Introduction

Rabies is a highly fatal viral disease of the central nervous system, caused by Lyssavirus type 1. It is primarily a zoonotic disease of warm blooded animals, particularly dogs, cats, jackals and wolves. It occurs in more than 150 countries and territories. Rabies in dogs is the source of 99 percent of human infection and poses a potential threat to more than 3.3 billion people<sup>1</sup>. According to WHO report, worldwide human deaths from endemic canine rabies were estimated 55000 deaths in a year<sup>2</sup>. In India, it is estimated that, around 20,565 to

30,000 persons die of rabies, with incidence of 1.7 per 100,000 population<sup>2</sup>. The annual animal bite load is estimated to be 17.4 million (1.7%) and 46.9% takes antirabies vaccination<sup>3</sup>. In India, various cultural practices are followed after dog bite. The application of soil, chili paste, oil etc is common but unnecessary and damaging the tissue further<sup>4</sup>. 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<sup>6</sup>. With this background, the present study was carried out to know epidemiological profile of dog bite patients attending antirabies clinic attached to Government medical College, Latur and to know some cultural practices associated with dog bite victims.

## Material and Methods

The present cross sectional study was carried out among patients attending anti-rabies clinic (ARC) of Govt. Medical College, Latur of Maharashtra State, for antirabies vaccination during 1st April to 30 September 2012. During the study period a total of 2231 new animal bite cases attended the antirabies clinic. Out of which 223 subjects were taken in the study by systematic random sampling method. Starting number was selected by simple random technique i.e. by lottery method as 4 out of numbers 1 to 10. After explaining the purpose of the study to the patients, every 10th patient was interviewed with the help of pretested proforma as a part of intern's project. Data was collected in ARC OPD up to the end of study period till 223 as study subjects. The variables studied were age, sex, residence, education, anatomical site of bite, reporting time and first aid treatment. Information of biting animal as type of biting animal, ownership of animal whether pet or stray (in case of dog and cat), provocation status was collected. All the cases of animal bite were classified as per guidelines given by World Health Organization (WHO) (Park K, 2009). Information about cultural practices, taboos was also asked to the animal bite cases. Statistical analysis was done using percentage.

**Table 1:** Socio-demographic profile of animal bite cases (n=223)

Age group(years)	Number	Percentage
<5	27	12.1
5-14	45	20.18
15-45	100	44.84
46-60	20	8.97
>60	31	13.90
<b>Sex</b>		
Male	140	62.78
Female	83	37.22
<b>Residence</b>		
Urban	144	64.57
Rural	79	35.43
<b>Education</b>		
Illiterate	57	12.11
Primary	52	23.32
Secondary	24	10.76
Higher secondary	38	17.04
SSC	12	5.38
HSC	14	6.28
>/=Graduation	26	11.66
<b>Occupation♦ (n=193)</b>		
Occupation with extensive or some Travel♦♦	158	70.85
Occupation with least or no travel	35	15.69

♦-20 cases were dependents; ♦♦- farmer, driver, labourer, watchman, student, engineer etc.

**Table 2:** Time interval between animal bite and attending the ARV clinic

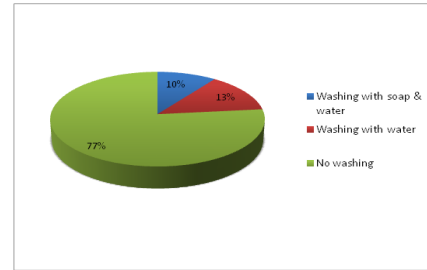
Time Period	Number	Percentage
Within 24 hours	97	43.5
1-2 days	45	20.18
2-3 days	37	16.67
3-4 days	37	16.67
>4 days	7	3.31

**Table 3:** Distribution of cases as per Site of bite and class

Site of bite	Number	Percentage
Lower limb	193	86.54
Upper limb	22	9.86
Trunk/abdomen	7	3.14
Head, neck, face	1	0.45
<b>Class of dog bite</b>		
Class I	4	1.79
Class II	150	67.26
Class III	69	30.94

**Table 4:** Distribution of cases as per type of animal

Animal	Number	Percentage
Dog	210	94.17
Cat	6	2.68
Monkey	4	1.79
Others pigs ,fox	3	1.34



**Figure 1:** Distribution of cases according to washing of wound

**Table 5:** Cultural practices related to animal bite

Cultural practices	Number	Percentage
Application of lime	39	17.48
Burning of wound	63	28.25
Practice of veeda	6	2.69
Nakshtra	10	4.48
Application of thread	3	1.34
Application of lime and burning of wound	19	8.52
Application of lime, burning of wound and veeda	3	1.34
Application of lime and veeda	3	1.34
Burning of wound and veeda	12	5.36
Burning of wound and nakshtra	2	0.89
Nil	70	31.39

**Table 6:** Taboos related to animal bite

Taboos	Number	Percentage
Not taking bath	29	12.99
Not drinking water	5	2.23
Food practices	49	21.97
Not taking bath and food practices	11	4.93
Nil	129	57.85

## Results

As per Table 1, most of the animal bite cases belonged to age group 15-45 (44.84%), followed by others. More cases i.e.62.78% occurred in males than females. Most of the cases were educated up to primary school (23.32%), followed by 17.04% up to higher secondary,11.66% up to more than or equal to graduation,10.76% up to secondary, 6.28% up to HSC,5.38% up to SSC.12.11% cases were illiterate. When the occupation of the animal bite cases was studied, most of the cases occurred among people with the occupations like farmer, driver, labourer, watchman, student, engineer etc(70.85%).Less cases occurred among people with occupations like, cook, businessman, housewife, retired persons, welder etc. Only 43.5% cases visited ARC within 24 hours about 20.18% patients visited antirabies clinic within 1 to 2 days, followed by 16.67% within 1-2 days and 2-3 days each. Only 3.31% visited the OPD after 4 days(Table 2). When the site of animal bite was studied, it was found that, in about 86.54% cases, the site was lower limb, followed by upper limb, trunk/abdomen, head neck face. Most of the

cases of animal bite were class II(67.26%), followed by class III and class I(Table 3) .The biting animal in most of the cases was dog(94.17%), followed by cat, monkey, pig, fox etc.(Table 4). The practice of washing of wound with water and /or soap and water was seen in very less number of cases in this study i.e.23 % (fig.1). In this study, (Table 5) the most common cultural practice was burning of wound .For this; patients go to a nearby village Harwadi, which is 10 to 12 km. away from Latur. A quack puts some white powder, black powder on the wound. After which there is formation of smoke and patients think that the wound is cleared of germs. This practice was seen in 28.25% cases, followed by application of lime (17.48%), taking Veeda from quack (2.69%), seeing nakshtra (4.48%), application of thread on arm(1.34%) and combination of these. Cultural practices were not followed by 31.39% cases. Some taboos were also common among animal bite cases (Table 6).Most common taboos were related to food (21.97%). This taboo was followed by not taking bath(12.99%).About 2.23% cases had not drunk water for one day. Most of the cases do not follow any taboos (57.85%).

### Discussion

In this study, the age group most commonly involved was 15-44 years, similar to study by Umrigar P<sup>9</sup>, Virendra<sup>10</sup>; it was 5-24 in the study by Venu Shah<sup>6</sup>, 21-30 in study by Mohd Junaid<sup>7</sup>, up to 10 years in study by Gadekar<sup>8</sup>, less than 15 years in study by Khokar A.<sup>5</sup>, 16-30 and >30 in study by S.Goel<sup>11</sup>.From this we can say that, adolescents and adults are most common victims of animal bite. When sex wise distribution of cases was studied, it was found that, 62.78% males were affected, this was more or less similar to study<sup>5</sup>, but the percentage of males affected was less than in other studies<sup>6-10</sup>; females were more affected in study<sup>11</sup> than the present study. Due to their outdoor activities, males were more common victims of dog bite. Most of the patients in this study belonged to urban area. This may be due to feasibility and rural area people going to nearby Primary Health Center. Rural cases were more in the study by Gadekar<sup>8</sup>, Virendra<sup>10</sup>. Illiteracy in this study was more or less comparable with the study by Umrigar P<sup>9</sup> ;but less as compared to Gadekar<sup>8</sup>.Most of the patients in present study were educated up to primary school but up to secondary in studies<sup>8,9</sup>. Up to 71% cases occurred in people with extensive or some travelling similar to study<sup>9</sup>, while in the study by Virendra<sup>10</sup> most cases occurred among people with field job, farmers, students. In this study, patients reporting to ARC after animal bite within 24 hours were less than the study by Virendra<sup>10</sup>Venu Shah<sup>6</sup>, Mohd Junaid<sup>7</sup> Umrigar P<sup>9</sup> but it was more than Gadekar<sup>8</sup>.Most patients in the present study reported

between 2-4 days. The commonest site of animal bite was lower extremity in this study, similar to study by Venu Shah<sup>6</sup>, Gadekar<sup>8</sup> ; it was both upper and lower extremities in studies by Khokar A.<sup>5</sup>, Mohd Junaid<sup>7</sup>. Most of the cases in the present study were of Class II bite, similar to Umrigar P<sup>9</sup>; but in the studies<sup>5,6,8,10</sup> most cases were of class III. Most common biting animal was dog in this study as well as studies<sup>5-10</sup>, except in the study in Himachal Pradesh by S.Goel<sup>11</sup> in which bee bite was common. The practice of washing of wound with water and /or soap and water was seen in very less number of cases in this study. Wound should be washed with plenty of so preferably under a running tap for at least 5 minutes , irrigation with virucidal agents, which can reduce the chances of developing rabies by up to 80%<sup>1</sup>.But in the studies<sup>7,8</sup> it was seen in still lesser number of cases and least in study<sup>5</sup>. The most common practice after animal bite was burning of wound by Harwadi's medicine. In the studies<sup>5, 7, 9</sup> application of chili paste to wound was common; the practice of applying lime similar to this study was also seen in study<sup>9</sup>, application of turmeric, bitter leaves, and herbs was seen in studies<sup>8,9</sup>. Application of lime, turmeric powder and paste of bitter gourd leaf which has no value as a first aid or even these practices may damage the nerve ending and favors the virus entry in nerves<sup>8</sup> Kundalwadi's medicine was practiced in study<sup>8</sup>. People are still having faith on traditional healers. Herbal medicines used by these traditional healers do not have any scientific base. The food taboos were like, not eating potatoes, milk, coriander, dal, spicy foods, tomatoes, meat etc. Some people eat only dal roti or only chatni roti, some had fast with only tea, some eating only one time. Some people were not taking bath for one day but some were not bathing for up to 7 days.

### Conclusions

Persons with age 15-45 years, males, urban people, persons with extensive or some travelling were most common victims of animal bite. Less people visit ARC within 24 hours. Most common site of animal bite was lower extremity. Surprisingly practice of washing of wound with soap and water was seen in very less person's .In the present study, many cultural practices were prevalent; which are useless and sometimes harmful.

### Recommendations

Effective IEC (Information, Education and Communication) activities can reduce not only false beliefs about the disease but also misconceptions about treatment, which should be carried out regularly at health facilities. Proper information should be given to people by using mass media and health education.

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