

CLINICO EPIDEMIOLOGICAL PROFILE OF WILD ANIMAL BITE VICTIMS ATTENDING ANTI RABIES CLINIC AT GOVERNMENT TERTIARY CARE CENTRE IN MANDYAJahnavi R¹, Vinay M², Manuja L. M³, Anil Kumar K⁴**HOW TO CITE THIS ARTICLE:**

Jahnavi R, Vinay M, Manuja L. M, Anil Kumar K. "Clinico Epidemiological Profile of Wild Animal Bite Victims Attending Anti Rabies Clinic at Government Tertiary Care Centre in Mandya". Journal of Evolution of Medical and Dental Sciences 2014; Vol. 3, Issue 66, December 01; Page: 14257-14261, DOI: 10.14260/jemds/2014/3912

ABSTRACT: INTRODUCTION: Rabies is an acute viral disease that causes fatal encephalitis in virtually all the warm blooded animals including man. In India it is estimated that annually 17.4 million animal bite cases occur and 20,000 deaths occur due to human rabies. Dogs are responsible for about 97% of the human rabies, followed by cats (2%), jackals, mongoose and others (1%). There is scarcity of literature regarding human rabies due to wild animals. **OBJECTIVES:** To describe the socio-demographic characteristics of wild animal bite victims attending Anti Rabies Clinic (ARC), Mandya Institute of Medical Sciences (MIMS), Mandya and to describe the circumstances, characteristics of bite and post exposure prophylactic measures taken to prevent rabies. **METHODOLOGY:** This hospital based case record analysis was done for a period of 3 years from January 2011 to December 2013 at Anti Rabies Clinic (ARC), Mandya Institute of Medical Sciences, Mandya. The details regarding the socio-demographic characteristics of bite victims, characteristics of the bite wound and post exposure prophylactic measures taken to prevent rabies were collected using case records of wild animal bite victims. **RESULTS:** A total of 12,798 animal bite victims had attended ARC during the study period, of which 67 (0.52%) cases were exposed to wild animals. Of these 67 cases, 45 (67.2%) of the victims were exposed to monkey and 13 (19.4%) were exposed to wild boar. 45 (67.2%) of the wild animal bite victims were in the age group of 15 to 60 years, 49 (73.1%) were males and 22 (32.8%) belonging to class IV socio-economic status. Many of the monkey bites happened when the monkey was trying to snatch food from the victims and while other wild animal bites happened when the farmers were guarding their field. 40 (59.7%) had bites on upper limb. 51 (76.1%) had washed the wound with soap and water before coming to ARC. RIG was advised to all victims but was taken by 49 (73.1%) of the bite victims. All four doses of Intradermal Rabies Vaccine were completed by 41 (61.2%) of the bite victims. **CONCLUSION:** Among wild animal bite victims reported to ARC, monkey bites were common followed by wild boar. Wild animal bite was more among productive age group, males and people residing in rural area. More than half of the bite victims received rabies immunoglobulin and completed the full course of IDRV.

KEYWORDS: Profile, Wild animal bite, Intra Dermal Rabies Vaccine.

INTRODUCTION: Rabies is an acute viral disease that causes fatal encephalitis that can affect virtually all warm blooded animals including man. The virus is found in wild and some domestic animals. The virus is transmitted to other animals & humans through their saliva following bite, scratches, licks on broken skin and mucous membrane.¹

Globally, 55,000 rabies deaths in human beings are reported every year. 84% of the deaths occur in rural areas. In India it is estimated that annually 17.4 million animal bite cases occur and 20,000 deaths occur due to human rabies.^{2,3}

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Rabies is a zoonosis which predominantly affects dogs. Most human rabies cases are due to dog bites. Rabies has been reported in wild carnivores in number of countries in the Middle East and Central, South and South East Asia. It is unclear whether wildlife rabies is independent of the dog rabies transmission cycle in these regions.⁴ In India; dogs are responsible for about 97% of the human rabies, followed by cats (2%), jackals, mongoose and others (1%).⁵

OBJECTIVES: As there is scarcity of literature regarding human rabies due to wild animals in India, the present study was under taken with the following objectives:

1. To describe the socio- demographic characteristics of wild animal bite victims attending Anti Rabies Clinic (ARC), Mandya Institute of Medical Sciences (MIMS), Mandya.
2. To describe the circumstances, characteristics of bite and post exposure prophylactic measures taken to prevent rabies.

METHODOLOGY: ARC at MIMS was started in September 2007. Since its inception Modified Thai Red Cross regimen (Intradermal Rabies Vaccine) and administration of Rabies Immune globulin to Category III bites and to all wild animal bite victims is being followed.

Necessary permission was taken to access the medical records from ARC at MIMS for a period of 3 years (01 Jan 2011 to 31 Dec 2013). Data was collected using data extraction sheet. Data extraction sheet consisted of 3 sections:

1. Information related to socio- demographic characteristics.
2. Circumstances of bite, characteristics & distribution of the bite wound.
3. Post exposure prophylactic measures taken to prevent rabies.

The collected data was entered and analysed using Microsoft Excel software and results were interpreted using descriptive statistics.

RESULTS: The total number of animal bite exposure reported during the study period of 3 years was 12, 798. Among these exposures 12, 731 (99.5%) was from domestic animals and 67 (0.5%) was from wild animals.

The commonest exposure among the domestic animals was due to dog bite, 12, 304 (96.6%) followed by cats, 362 (2.8%) and other animals like cow, goat and horse 65 (0.6%). Of the wild animal bite cases, the most common exposure was from monkey, 45 (67.2%) followed by wild boar (Table 1).

Wild animals	Number (%)
Monkey	45 (67.2)
Wild boar	13 (19.4)
Leopard	04 (05.9)
Bear	02 (03.0)
Fox	02 (03.0)
Tiger	01 (01.5)

Table 1: Distribution of exposure according to wild animals (n= 67)

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Of the total 67 wild animal bite victims, 45 (67.2%) were in the productive age group between 15- 60 years, majority were males, 49 (73.1%) and belonging to class IV socio economic status according to modified BG Prasad classification (Table 2).

Socio- demographic characteristics	Number (%)	
Age in completed years	0- 14	18 (26.0)
	15-60	45 (67.2)
	> 61	04 (05.9)
Sex	Male	49 (73.1)
	Female	18 (26.9)
Place of residence	Urban	09 (13.4)
	Rural	58 (86.6)
Socio economic status (according to Modified BG Prasad)	I	00 (00.0)
	II	09 (13.4)
	III	16 (23.9)
	IV	22 (32.8)
	V	20 (29.8)

Table 2: Socio- Demographic characteristics of wild animal bite victims (n= 67)

When the circumstances of wild animal bite was analysed, all the bites were provoked bites. Among the monkey bites, 41 (91.1%) happened when the monkey tried to snatch the food from the bite victims. The tiger bite was when the victim entered the forest to get wood log and rest other wild animal bite was when the victims were guarding their agricultural field.

In this study, 40 (59.7%) had bite marks on upper limb followed by head & neck. 51 (76.1%) of the bites resulted in multiple wounds i.e., abrasion, laceration and cut wound. Laceration was seen on 09 (13.4%) and only abrasion on 07 (10.5%) bite victims (Table- 3).

Site of bite	Number * (%)
Upper limb	40 (59.7)
Head and neck	34 (50.7)
Lower limb	22 (32.8)
Chest and back	13 (19.4)

Table 3: Distribution according to the site of the bite among wild animal bite victims (n= 67)

* Multiple responses

The post exposure prophylactic measures taken by the wild animal bite victims was as follows, 51 (76.1%) of the bite victims had done immediate wound toilet and rest did the wound toilet at ARC, MIMS. Among the victims who had done immediate wound toilet, 7 (10.0%) had applied irritants like turmeric and chili powder paste and 11 (17.0%) had sutured wound before coming to ARC. Rabies Immunoglobulin was advised to all the bite victims but was taken by 49 (73.1%).⁴ All the four doses of Intradermal Rabies vaccine (IDRV) was completed by 41 (61.2%) wild animal bite victims (Table 4).

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Doses of vaccine	Number (%)
All 4 doses completed	41 (61.2)
Taken 2 doses only	17 (25.4)
Received just 1 dose	09 (13.4)

Table 4: Compliance to the IDRV among wild animal bite victims (n= 67)

DISCUSSION: The animal bite cases reported to ARC, MIMS for the period of 3 years was 12, 798, among which 99.5% were from domestic animals and 0.5% from wild animal exposure. According to a study done by Indu et al in Thiruvananthapuram, it was observed that 6.3% of the animal bite victims were bitten by wild animals⁶ whereas Ranjana et al had stated that 2.4% of the bites were caused by wild animals in their study done at anti rabies clinic in Gwalior.⁷ Modi et al in their study done in Orissa have shown that 4.4% of the bites were attributed to the wild animal bites.⁸ This lower percentage of wild animal bite (0.5%) in our ARC can be attributed to location of ARC where there are no surrounding forest or hilly region.

The common wild animal exposure was from monkey followed by wild boar in our study. Rizwan et al in their study done in animal bite management clinic in rural Pondicherry has reported that 6% of the animal bite victims were bitten by monkey.⁹ According to study done by Ranjana et al among patients attending ARC in Gwalior it was found that 1.48% of the bites were caused by monkey, 0.42% by jackal, 0.03% by fox, 0.17% by mongoose bite.¹⁰ Behara et al in his study done in Orissa reported that 3.6% of the bites were caused by jackal and 7.9% by monkey.¹¹ Massodi et al in their study done in ARC, Government medical college, Srinagar reported that 0.9% of the bites were caused by jackal and 0.3% by monkey and 0.13% by bear.¹² M K Sudarshan et al in the WHO collaborated multicentric study revealed that 0.2% of the bites were due to jackal and 2.2% due to monkey and 0.1% by bear.¹³

CONCLUSION: In our study, Majority of the wild animal exposures were seen among productive age group, males and people residing in the rural area. Snatching of food by monkeys and other wild animal exposure while guarding their agricultural field were the common circumstances where the victims circumscribed to. The rural and tribal people residing in and around the forest area are at risk of wild animal bite exposure. Hence pre- exposure prophylaxis for the prevention of rabies has to be encouraged. As all wild animal bites have to be treated as Category III, RIG was advised to all the bite victims but was received by 73.1% of the victims. 61.2% completed the full 4 doses of IDRV in spite of phone call reminders for IDRV follow up, so the importance of the RIG and compliance to the IDRV has to emphasise in the 1st visit for all wild animal bite victims as the animals are difficult to be traced.

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AUTHORS:

1. Jahnvi R.
2. Vinay M.
3. Manuja L. M.
4. Anil Kumar K.

PARTICULARS OF CONTRIBUTORS:

1. No. 1033, Siri Sampada, 1st cross, BG Layout, Mandya.
2. Associate Professor, Department of Community Medicine, Mandya Institute of Medical Sciences, Mandya.
3. Post Graduate, Department of Community Medicine, Mandya Institute of Medical Sciences, Mandya.

4. Tutor, Department of Community Medicine, Mandya Institute of Medical Sciences, Mandya.

NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Jahnvi R,
1033, Siri Sampada,
1st cross, BG Layout,
Mandya.
Email: drjahnvi28@gmail.com

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