



A Cross Sectional Study on Epidemiological Profile of Patients, Attending Anti- Rabies Clinic in Hyderabad, Telangana, India (Research Article)

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ABSTRACT

Background: *In developing countries over 90% of human deaths from rabies are caused by dog bites. It is estimated that the South East Asia Region accounts for approximately 60% of human deaths due to rabies in the world. In India alone, 20,000 deaths occur due to rabies annually.*

Objectives: *The study was conducted to describe epidemiological characteristics of patients attending anti-rabies clinic at Institute of Preventive Medicine (IPM), Hyderabad.*

Materials & Methods: *A cross-sectional study, at IPM was carried out in May 2015 among eight hundred and seventy two patients using a pre tested questionnaire*

Observations & Conclusions: *Around 71% were males and 29% were females with maximum number of animal bites (22.6%) in the age group of <10 years and 51.8% of population immunized themselves with anti-rabies vaccine within 12-24 hours of exposure to animal bite. Majority (90.9%) of patients were exposed to dog bites, followed by cat bites (6%). Timely and correct post exposure prophylaxis for the animal bite victims is necessary to prevent rabies.*

Keywords: *Dog bite, rabies, anti-rabies vaccine, post exposure prophylaxis.*

Introduction:

Rabies is a highly infectious, viral zoonotic disease with high case fatality rate. The disease spreads to man, when a rabid animal (animal suffering from rabies) bites or licks human beings. Human rabies continues to be endemic in India. In

India, approximately 20,000 deaths occur with almost 17.4 million people being exposed to animal bites every year.¹The data on animal bites is very scanty and unreliable due to poor surveillance/reporting system and hence, the projected figures are far less from the actual

numbers. There is no treatment or cure for rabies. Prevention in the form of post exposure prophylaxis (PEP) is the only intervention. It has been estimated that if timely post exposure prophylaxis is not given then every year 3.27 lakh people would die just in Asia and Africa.²

In India, in the year 2014, dog bite cases were second highest in state of Telangana. A staggering 1, 63,726 dog bite cases were recorded in Telangana in 2014. Nalgonda district had the highest number of cases recorded – 32,793 followed by Mahboob nagar district, which had 24,177 cases.³

Knowledge about post exposure prophylaxis is essential in the community to seek vaccination after animal bite. Anti-rabies vaccine is being provided free of cost, at Institute of Preventive Medicine, (IPM) Hyderabad and animal bite victims from various places of Hyderabad and vicinity visit this center for vaccination. Hence, a study was undertaken to describe the epidemiological characteristics of patients attending anti rabies clinic for vaccination.

Objectives

- ❖ To describe the epidemiological characteristics of patients attending anti-rabies clinic at Institute of Preventive Medicine (IPM), Hyderabad.

Materials and Methods

Study Design: Cross- sectional study

Study Area: Institute of Preventive Medicine, (IPM) Hyderabad – Apex center for anti -rabies vaccination in the district.

Study Tools: Semi structured, Pre designed and Pre tested questionnaire was used.

Study Duration: 1 month (May 2015)

Study Population: Patients attending anti rabies clinic for ant rabies vaccination.

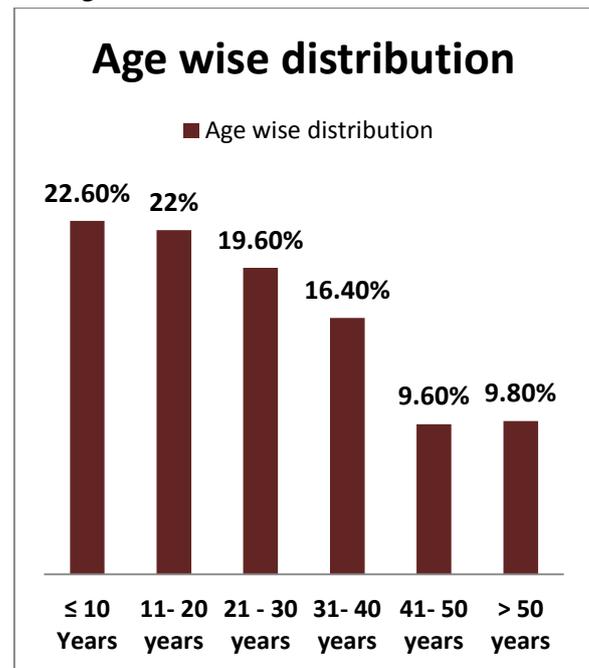
Sample Size: All patients attending Anti rabies clinic for immunization during study period were included in the study. A total of 916 patients attended the center and 872 of them participated in the study.

Data Analysis: Data was analyzed using MS excel and epi- info software. Frequency distributions and percentages were calculated for all the variables.

Ethical Considerations: Informed consent was taken from the participants.

Observations

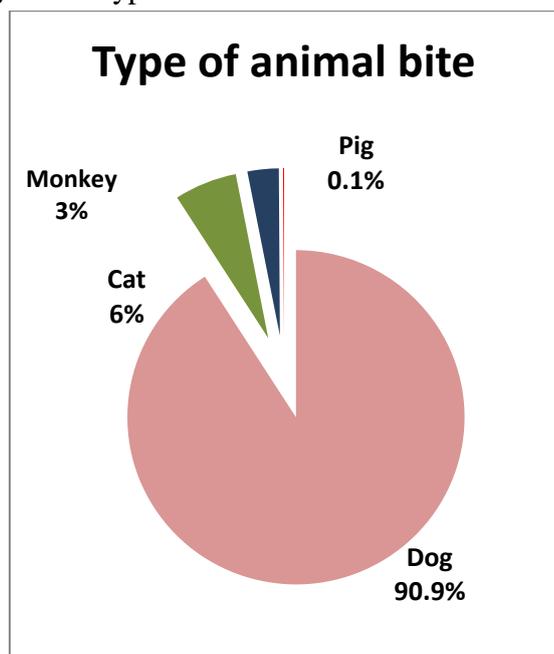
Figure 1: Age wise distribution of patients attending anti rabies clinic



Of the total 872 animal bite victims, highest proportion of victims were found in the age group of ≤ 10 years (22.6%) followed by 11 – 20 years (22%). Almost 36% of people belonged to age group of 21-40 years. Around 19.4% of people belonged to age group of >41 years.

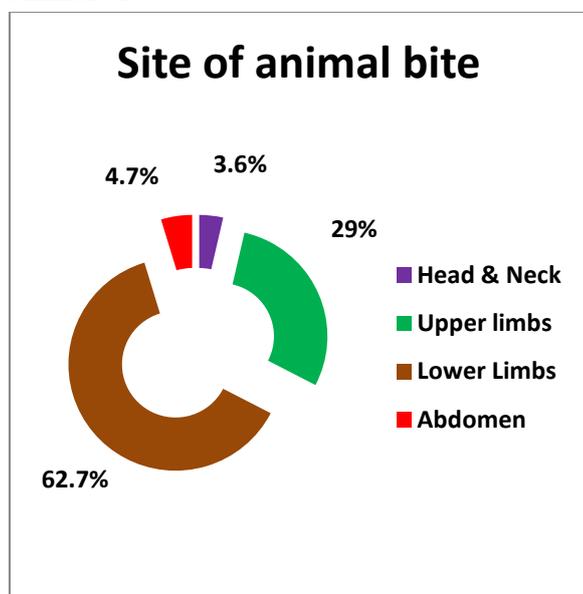
There were a total of 619 (70.98%) males and 253 females (29.02%) among the study population. Half of the study population (50%) belonged to urban slums and 42% of them belonged to urban non slum area. Eight percent of study population came from rural areas for vaccination.

Figure 2: Type of animal bite



Around 90.9% of animal bites were dog bites, followed by cat bites (6%). Monkey bites and pig bites were 3% and 0.1% respectively. Among the dog bites, 54.8% of the bites were pet dog bites and 45.2% were stray dog bites. Majority (66%) of pet animals were unimmunized against rabies.

Figure 3: Distribution of patients according to site of animal bite



A total of 62.7% of animal bites were in the lower limbs, followed by upper limbs (29%). Animal bites on abdomen were 4.7% and bites on head and neck region were 3.6%. Maximum bites were category II bites (90.6%) followed by 6.9% of

category I bites and least were category III bites (2.5%).

All the category III bites and 18% of category II bites were given rabies immunoglobulin at the site of animal bite

Table I: Time lag between animal bite and patient reporting to Anti-rabies clinic

Time taken	Number (%)
0-12 hours	121 (13.9)
12-24 hours	452 (51.8)
24- 48 hours	145 (16.7)
2 days – 1 week	118 (13.5)
>1 week	36 (4.1)
Total	872 (100)

Majority (51.8%) of the animal bite victims' came within 12-24 hours of exposure for vaccination. Around 13.9% of them came within 12 hours of exposure to animal bite. Almost 16.7% of patients reported after 24 hours and less than 48 hours and 13.5% of patients reported after 2 days and less than 7 days. Around 4.1% of the patients came for vaccination after 1 week of animal bite.

Table II: Measures taken immediately after animal bite

Measures	Number (%)
Washed with water alone	96 (11)
Washed with soap and water	523 (60)
Home remedies	61 (7)
Applied antiseptic	157 (18)
Did nothing	35 (4)
Total	872 (100)

Around 60% of patients washed the wound with running water and soap/detergent before reporting to Anti rabies clinic. Almost 18% of them cleaned the wound with anti-septic lotion, like Dettol, savlon etc. Around 11% of patients washed their wound with water alone and 7% smeared Turmeric powder, chilli powder, mustard oil, lime etc. over the wound. Four percent of patients did neither wash their wound nor applied any substance before reporting to anti rabies clinic.

Table III: Age wise distribution of Category III wounds

Age	Number (%)
≤ 10 years	88 (40.4)
11 – 20 years	21 (9.6)
21- 50 years	15 (6.9)
> 50 years	94 (43.1)
Total	218 (100)

Majority of category III wounds, were found in extremes of age groups – 40.4% among ≤10 years and 43.1% among > 50 years of age. Sixteen percent of the wounds were found in 11-50 years of age group.

Discussion

In the present study it was found that, children and adult males were major victims of animal bite. This could be because of higher outdoor activities of children and males. Similar findings were found in a study conducted by Sahu et al⁴ and Dr. Narwane Ganesh et al.⁵

In present study, the main biting animal was dog, which is similar to various other studies.⁴⁻⁷

However, in present study pet dog was the common biting animal study which differed from other studies where stray dog was the most common biting animal.⁴⁻⁷

Lower limb was the most common site of animal bite as it is easily accessible to dogs/animals. Similar findings were found in other studies too.^{5, 8-9}

Category II wounds were highest and category III wounds were the least among study population. This finding differed from a study conducted in Pune, where category III bites were highest.⁵

Almost 65.7% of patients received post exposure prophylaxis within 24 hours of animal bite. This could be because of the reason that the anti-rabies vaccination clinic functions between 8 AM to 2 PM, and patients exposed to animal bites during evenings report the next day. This finding was similar to a study conducted in Lucknow, where approximately 2/3rds of study population received post exposure prophylaxis within 24 hours of animal bite.⁴

In the present study majority (60%) of victims washed their wound with soap and water. This finding was comparable to a study conducted by Harish et al, where 69.8% of study population washed their wound with soap and water. However, the study findings differed with a study conducted by Jahnvi R et al,¹⁰ where majority (37.65) of them either did not wash their wound or applied irritants to the wound.

It was observed that majority of category III wounds were found in extremes of age group. This could be implied to the fact that extremes of age group cannot run faster and escape from the animal.

Conclusions

Dog was the most common biting animal affecting children less than 10 years of age and people from poor communities residing in slums. Unimmunized pet dog bites were higher than stray dog bites. Time lag between the exposure and post exposure prophylaxis was found to be 12 – 24 hours in half of the study population. Wound care after animal bite was found to be satisfactory among the study population.

Recommendations

Simple messages like “vaccinate your dogs and cats against rabies”; “seek anti rabies vaccination after an animal bite” should be propagated and emphasized through electronic and print media.

Awareness campaigns, highlighting the severity of disease and knowledge about free availability of highly effective anti-rabies vaccine should be imparted to the community.

Local leaders and health workers should educate the community about reporting dog bite cases; seeking immediate wound care by washing the wound with soap and detergent and to take vaccination against rabies at the nearest health center after dog/animal bite.

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