

A Study On Assessing The Knowledge, Attitude & Practice Among The Victims Of Animal Bites In Trichy, Tamilnadu.Shankar.S,¹, Raghuram.V^{2*}, M.Krishnakumar³, Elango.S⁴

1.Assistant Professor, Department of Community Medicine,2. Professor, Department of Community Medicine, 3. Intern, Department of Community Medicine, & Professor & HOD, Department of Community Medicine, CMCH&RC, Trichy, Tamil Nadu

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***Author for correspondence:** Dr. Raghuram.V, Professor, Department of Community Medicine, Chennai medical college hospital and research centre (CMCH&RC), Trichy, Tamil Nadu. E-mail: raghu3873@gmail.com**Abstract**

Background: Rabies is highly prevalent in India contributing to 36% of world's rabies death. The main constraint for prevalence is poor knowledge among people regarding rabies. This highlights the need for creating awareness among public regarding Rabies. **Methodology:** A community based cross sectional study was carried out from June to November 2016 among 254 participants at three primary health centres at Trichy district in Tamil Nadu. All dog bite victims who are willing in the study are included. Guardian or parents are included in the place of children because children are not aware, moreover parents or guardians play a role in developing the knowledge of children. Pre-tested and semi-structured questionnaire was used for the study. The data from the questionnaires were entered and analysed in SPSS 15.0 Trial version. **Results:** The majority of the respondents (71%) had previously know about rabies, among them only 69% of victims are aware of its dangerousness. 55% of illiterate victims do not know about rabies. About 33% of victims have not received any first aid and 21 % of victims disagree with first aid; only 58% of victims have attended the health centres immediately after animal bite. About 7.5 % of victims have attended health centres after 2 weeks of animal bite & 29% of victims are not aware of vaccinating the animals. Only about 20% of victims having pets are not aware of vaccination of their animals. 26% of victims still believe that native medication will cure rabies. All the study participants were vaccinated during the study period in the health centre. **Conclusion:** The knowledge gap of rabies can be further improved by operating programmes to promote control of rabies in collaboration with different sectors of service.

Key-words: Animal bite, Vaccine, Rabies, Management, India.**INTRODUCTION**

Animal bite and rabies are highly endemic in India and has highest number of death burden worldwide contributing 36% of the total.¹ Estimates indicate that every year more than 50,000 people worldwide die from this disease and two persons die every hour due to rabies globally in spite of which ,rabies is classified as neglected tropical disease.²⁻⁴ However, it is estimated that number of deaths due to rabies are 10 times more than those reported.⁵ Rabies which is an acute fatal viral encephalitis with enzootic and epizootic disease of worldwide importance³, is caused by an RNA virus belonging to the Lyssavirus genus due to close contact with infected saliva via dogs, cats and monkeys, ranks number ten among all infectious disease worldwide and is almost 100% fatal once clinical signs develop.^{1,6-8} But Rabies is preventable to a large extent by appropriate wound care and vaccination with modern

cell culture anti-rabies vaccine by intradermal route which is safe, efficacious, feasible and is cost effective.^{6,9} The psychological impact of the trauma of the bite and post-exposure prophylaxis results in 0.04 million DALY's each year⁴ for which dog is mainly responsible in India. This impact is prevented by "one health approach".¹⁰ The "one health approach" is a concept that promotes partnership among multiple disciplines including human and veterinary medicine.¹⁰ But in India there is very little "collaboration" between medical and veterinary services. There are two separate ministries, one for preventing rabies in humans' i.e. public health and the other for controlling rabies in animals' i.e. agriculture and animal husbandry. Also, rabies is a neglected disease both in public health and veterinary sectors.¹⁰ However, from 2007 to 2011 a "National Pilot Project on Human Rabies Prevention" was implemented by Government of India in five cities, which

attempted to bring together both medical and veterinary sectors for preventing rabies in humans.¹⁰ However it is, the level of knowledge among community will help the government to formulate further programme. Therefore , this KAP study will assess the knowledge, attitude and prevention of rabies among the animal bite victims to highlight the myths and concepts associated with animal bite among the community which may impair the utilisation of health service for animal bite management. It is hypothesized that knowledge about rabies translates into better practices for control and prevention.¹¹

Rationale of the study: Rabies is a communicable zoonotic disease highly prevalent in India and is highly fatal. In spite of availability of preventive and first aid measures at health centres at all places, 36% of the world's rabies deaths occur in India each year.² Therefore, this study aims at highlighting the prevailing knowledge, attitude and practice of animal bites among the community, which will help to impart awareness among the population to decrease the prevalence and moving forward towards control & elimination of the disease by providing health education measures.

Objectives:

To study the knowledge and attitude, behaviour and practice on the animal bites

To identify the level of knowledge about First Aid measures of wound management & rabies vaccination among the victims.

To know the hospital management of animal bites.

MATERIALS AND METHODS

This is a community based cross sectional study carried out from June to November 2016 at medical college field practice area (Primary Health Centres of Pullambadi Alundhalipur, Sirugambur) of Trichy district in Tamil Nadu. The study was conducted after obtaining clearance from Institutional review board of CMCHRC. Study population included all animal bite victims attending outpatient departments at PHCs who were willing to participate. In cases where the victim was a child parent/guardian were interviewed. Interviews were anonymous and data remained confidential throughout the study. Each participant was informed about the purpose of the study and informed consent was obtained from each respondent. Data was collected using pre tested and semi structured questionnaire. The questionnaire was developed based on the information gathered from literature. The questionnaire was first prepared in English and explained to the study population in Tamil. Data was collected by personal interview method. Participation in the study was voluntary and respondents were free to withdraw from the study at any time. The data from the questionnaires were entered and analysed in SPSS 15.0 Trial version. Chi

square test was used to compare proportions. A p-value of <0.05 was considered statistically significant.

RESULTS

Total number of study subjects were 254, the gender distribution of the study population was almost equal, about 15% were children and 25% of victims had graduation (Table 1). Majority of Animal bites were due to Dogs followed by Cats and Monkeys & majority had category 2 level of Injury (Table 2).

Table1: Socio demographic characteristics (n=254)

Variables	Types	Number of victims	Percentage
Gender	Male	139	55
	Female	115	45
Age	Children 1–12 years	39	15
	Adolescents 13–19 years	28	11
	Adults 20 – 65 years	164	65
	Geriatric (>65 years)	23	9
Educational status	Illiterate	38	14.96
	School	152	59.84
	Graduate	64	25.2

Table 2 .Distribution of study population according to biting animal and category of bites (n=254)

Variables	Types	Number of victims	Percentage
Animal bite wise distribution	Dogs	232	91.3
	Cats	19	7.5
	Monkeys	3	1.2
Category of dog bite*	Category 1	72	28.3
	Category 2	162	63.8
	Category 3	20	7.9

Table 3. Knowledge of Rabies among victims. (n =254)

Variable		Number of victims	Percentage
Total no of people who heard about Rabies	Yes	181*	71.25
	No	73	28.75
Victims who know that rabies is preventable among n ₁ *		165	91.16
Victims who know that rabies is dangerous among n ₁ *		125	69.06

* n₁ = 181

Among 181 victims, who were aware about rabies, 91% thought rabies was preventable and 69% had known that rabies was life threatening (Table 3). It was perceived that bite was a main mode of rabies transmission. Among the preventable methods 65% of the respondents knew about vaccination and only few 26% knew about other methods to control rabies in animals such as restraining dogs/ killing suspected animals. Respondents with higher education levels had good rabies knowledge compared to others. It was observed that there was statistically significant difference in knowledge regarding rabies among victims, which was higher with increasing levels of education (Table 4). The knowledge of vaccinating pets were higher among those who owned their pets (80%) compared to who didn't own (59%) which was statistically significant (Table 5 & 6).

Table 4: Knowledge Of Rabies According To level of education Among The Victims (n=254)

Educational status	Number of victims know about Rabies	Number of victims do not know about Rabies	Total
Illiterate	17	21	38
Primary school	17	25	42
Middle school	48	10	58
High school	40	12	52
Diploma	15	1	16
Graduate	38	3	41
Profession	6	1	7
Total	181	73	254

*chi-square value-3.84

Table 5- Knowledge regarding vaccination of pets among the bite victims(n=254)

Variables	Number of victims have their own pets (n1 =140)	Number of victims do not have their own pets (n2 =114)	Percentage
Number of victims know to vaccinate their pets	112	67	70.4
Number of victims do not know to vaccinate their pets	28	47	29.5

It was also observed that 26% of victims had a strong belief that native medicine helps in rabies treatment. Another important observation was that 21 percent of victims disagreed with the fact that correct first aid will help in management which was statistically significant (Table 6). It is appreciable that common first aid followed was washing

the wound with soap and water (67%), followed by native medicine and traditional healers(21%), whereas 6% people preferred to do nothing as first aid (Table 7).

Table 7. First aid followed by victims of animal bite

First aid	Number of victims	Percentage
Wound wash with soap and water	170	67
Local application of native medicine*	53	20.9
Dressing the wound	15	5.9
Nothing	16	6.3

*Lime juice, onion juice, ghee, neem, mango leaves, turmeric and branding the bite site. Chi square value of 7.82 is significant, table value is 252.9 at 3 degree of freedom.

Table 8: Number of victims seeking medical advice according to the category of animal bite

Category of bite	Utilisation of Medical Services			Total	Percent
	Immediately	Within 2 weeks	After 2 weeks		
1	41	27	4	72	28.34
2	98	51	13	162	63.77
3	10	8	2	20	7.89
Total	149	86	19	254	
Percent	58.7	33.9	7.5	508	

Following a suspect animal bite, only 58.7% of people sought the medical advice immediately 33.9% within 2 weeks, 7.5% after 2 weeks (Table 8). Majority (59%) of the Victims seek medical advice immediately followed by 34% within 2 weeks and 7% after 2 weeks (Table 8). Treatment given at the hospital, 93.3% of victims were given wound wash with antiseptics, vaccines and antibiotics were given to 100 percent of victims. Immunoglobulin was administered to 100 Percent of category 3 victims.

DISCUSSION

Rabies remains an important public health problem in India and the bite of an infected dog is the most common means of transmission. Human rabies deaths are entirely preventable through prompt delivery of Post Exposure Prophylaxis to victims. The majority of the respondents in the study (71%) had previously know about rabies, among them only 69 percent of victims are aware of its dangerousness. More than half of the illiterate victims did not know about rabies which is a huge proportion. About 33 percent of victims did not receive any first aid and 21 percent of victims disagree with the usefulness of first aid. Only 59 percent of victims have attended the health centres immediately after animal bite. About 7 percent of victims had attended health centres after 2 weeks of animal bite. Nearly one third of victims were not aware of

Table 6. Knowledge and attitude on vaccinating pets among victims (n=254)

Variable	Types	No. of victims	Percentage	Significance	
Ownership of pets (n=254)	Number of victims own a pet	140	55.11	Not Significant	
	Number of victims without a pet	114	44.89		
Knowledge about vaccination of pets	Victims having pets (n=140)	Aware	112	80	Significant.
		Not aware	28	20	
	Victims without pets(n=114)	Aware	67	58.77	Not Significant.
		Not aware	47	41.23	
knowledge about Vaccination of Animals irrespective of having pets	Number of victims with awareness of vaccination of animals	179	70.47	Significant.	
	Number of victims without awareness of vaccination of animals	75	29.53		
Victims think that native medication will cure rabies	Agree	66	26	Significant.	
	Disagree	188	74		
Victims think that correct first aid will help in management	Agree	202	79	Significant.	
	Disagree	52	21		

importance of vaccinating animals. About 20 percent of victims having pets were not aware of vaccination status of their animals. Among the study subjects 26 percent of victims still believed that native medication will cure rabies. All the animal bite victims were vaccinated at the health centres during the study period. It was observed at this point that poor awareness about the fatal nature of rabies suggests that human deaths are likely to occur due to lack of knowledge in spite of good health care facilities. Ownership of pets does not seem to play any role with knowledge about rabies. But awareness of vaccination of pets among people with their own pets plays a significant role in control of rabies when compared to people without their own pets. However, it should be noted that knowledge among victims regarding vaccination plays a major role.

Studies from different parts of India have shown that Under 14 year children were the main victims- 47.9 Percent and showed male preponderance.⁶ In contrast to this, in the present study adult population constituted 65% of bite victims.

More than four fifth of the patients presented late (>24hours) to hospital.⁶In the present study more

than half of the bite victims presented to the healthcare facility within 24 hours of incident. Initial wound management with soap and water was done by 30.3% of the victims.⁶In contrast to this majority (67%) of animal bite victims had initial wound management with soap and water in the present study.47.8% victims knew about washing the wound with soap and water.³ A study has found that majority 24.3% applied local remedies.¹ The present study also revealed similar findings in this regard (21%). A study in Srilanka has shown that only 33% of the participants identified that rabies was 100% fatal.⁴ A study in Philippines states that most of the pet dogs were not vaccinated their owners, the reason being that they are not aware of vaccination.⁷ About 44.8 percent of dogs are vaccinated by their owners. In the present study majority (70.4%) of bite victims were aware about the vaccination of the pets.

World Health Organization (WHO) recommendations for post-exposure treatment divide rabies exposure into three categories: category I – and least serious – when the victim has been touching or feeding infected animals, but shows no skin lesions; category II, when the victim has received minor scratches without bleeding or has been licked by an infected animal on broken skin; and category

III, when the victim has received one or more bites, scratches or licks on broken skin or has had other contact with infected mucus. Exposure to bats, whatever the nature of the contact, falls under category III

It can be inferred from this study that people in Trichy district of TamilNadu hadadequate (50% – 80%) level of knowledge and showed favourable attitude towards seeking treatment for animal bites and practices done after animal bite was found to be adequate.

Conclusion: The moderate knowledge of rabies which is better than some other parts of the country can be further improved by operating programmes to promote control of rabies in collaboration with different sectors of service. The WHO suggests that prevention of human rabies is possible through mass dog vaccination, promotion of responsible dog ownership and dog population control programmes with a partnership approach. Acknowledging that rabies is a major public health challenge in India, the government proposes to make it a priority disease for control under the 12th Five Year Plan.

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