Title: TREATMENT SEEKING BEHAVIOUS OF ANIMAL BITE VICTIMS AMONG RURAL POPULATION IN TRICHY DISTRICT

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Keywords Animal bite, Health education, Rabies, Vaccination

Abstract Animal Bite is a major health problem which can be prevented from causing health problems by providing proper health education and medical services. So for a an effective strategy, this study takes into account the epidemiology of animal bites, pet animals and their care, post exposure treatment and factors influencing them.

Original Article:

TREATMENT SEEKING BEHAVIOUR OF ANIMAL BITE VICTIMS AMONG RURAL POPULATION IN TRICHY DISTRICT

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ABSTRACT:

AIM: Animal Bite is a major health problem which can be prevented from causing serious health problems by providing proper health education and medical services. So for an effective strategy, this study takes into the account the epidemiology of animal bites, pet animals and their care, post exposure treatment and factors influencing them.
MATERIALS AND METHODS: On account of this idea, a proforma was created and used to interview cases of animal bite and get retrospective information. The study was carried out at two rural areas namely Sangenthi, and Pullambadi, 25 kms from Trichy city. To maintain quality and uniformity supervisory checks were done during the survey. Taking an average of 4 members in a household consisting of 100 families were included.
RESULTS : From the study conducted it was found that dog bite was the most common animal bite, most commonly affecting men of age group more than 60 years. Animal bite is usually caused by non pet animals commonly associated while sleeping outside the house.
CONCLUSION: Most of the affected population seeks treatment from nearby PHC where immunization was given as treatment and a need for health education program for animal bite should be considered.
KEY WORDS: Animal bite, Health education, Rabies, Vaccination.

INTRODUCTION:

[1]Mammals live closely and interact with man can inflict injury leading to death in human beings through bites. Annually, worldwide around 10 million persons are experiencing animal bites. According to WHO (2002), an estimated 30,000 human rabies deaths occur every year in India. Annual animal bite incidence rate was 17.4/1000 population.[3]In Tamilnadu, overall period prevalence of animal bite is around 81.4/1000 population. Among them, dog bite found to be most common bite.[2]Most of the deaths can be prevented by simple wound washing, proper treatment, vaccination, rabies immunoglobulin. Unfortunately, at risk populations are not well informed about the risk and what to do in case of animal bites. The people most affected by these bites live in poor rural communities, although the impact of these health issues are significant it does not appear to be a priority health issue in the design of national health programs and therefore regarded as most neglected global health problems.[4]Most of the studies available are either hospital based retrospective studies or on a particular condition which is not indicating the true incidence of the animal bites in the community. Hence the present study was conducted with objectives of finding period prevalence of different bites, its epidemiological risk factors and its treatment seeking behavior. This study will help us in establishing the anti-rabies clinic in the Rural Health Training Centre and to develop health education messages for the community.

MATERIALS AND METHODS:

STUDY AREA: The present study is undertaken in Sangenthi, Pullambadi villages belonging to Trichy district, Tamilnadu, which is located around 25 km from Trichy city. The SRM Rural Health Training Centre located in Sangenthi is the peripheral centre of department of Community Medicine, Chennai Medical College Hospital and Research Centre, Irungalur, Trichy.

SAMPLE SIZE: Taking an average of 4 members in a household consisting of 100 families belonging to Sangenthi, and Pullambadi villages were included in the study. All members belonging to all age groups and both sexes were included in this study.

DATA COLLECTION TOOLS:A questionnaire was prepared consisting of following data, demography, socioeconomic status, presence of pet animals in the house, history of animal bite in family members in past 3 months, treatment seeking behavior

DATA COLLECTION: Data was collected for a period of one month by house to house visits in all villages. Data was also collected from patients visiting RHTC, Sangenthi. After obtaining verbal consent, questionnaire was given to the respondents.

House wife or any other responsible adults were enquired about the bites caused to all family members during past 3 months.

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To ensure the quality of data, filled up questionnaire was randomly rechecked in the field accuracy and complete data handed over to project guide and faculty of community medicine department.

TABLE 1:
SOCIO-DEMOGRAPHIC DETAILS OF THE STUDY POPULATION

VARIABILITY		NUMBER(%)
AGE GROUP	<10 YEARS	43(12.6%)
	10-19	44(12.9%)
	20-39	143(41.8%)
	40-59	91(26.6%)
	>60	21(6.1%)
SEX	FEMALE	172(50.3%)
	MALE	170(49.7%)
EDUCATION	PROFESSIONAL	6(1.8%)
	GRADUATE	49(14.3%)
	HIGH SCHOOL	137(40.1%)
	MID SCHOOL	33(9.6%)
	PRIMARY	100(29.2%)
	ILLITERATE	3(0.9%)
	NOT ELIGIBLE	14(4.1%)
OCCUPATION	PROFESSIONAL	1(0.3%)
	SEMI SKILLED	184(53.8%)
	SKILLED	44(12.9%)
	UNSKILLED	10(2.9%)
	STUDENT	77(22.5%)
	UNEMPLOYED	12(3.5%)
	NOT ELIGIBLE	14(4.1%)
SOCIO ECONOMIC STATUS	UPPER	35(10.2%)
	UPPER MIDDLE	48(14%)
	LOWER MIDDLE	172(50.3%)
	LOWER	87(25.4%)
HOUSING TYPE	PUCCA	66(19.3%)
	SEMI PUCCA	213(62.3%)
	KATCHA	63(18.4%)
SLEEPING OUTSIDE	NO	299(87.4%)
	YES	43(12.6%)
PET ANIMAL	YES	32(9.4%)
	NO	310(90.6%)
NAME OF PET ANIMAL	DOG	13(3.8%)
	CAT	10(2.9%)
	COW	2(0.6%)
	GOAT,COW	5(1.5%)
	GOAT	2(0.6%)

Table1: Shows the study population in the age group between 20-39 years 143 (41.8%) and few of them above 60 years 21(6.1%). Almost both sexes are equally included in this study. Educational status shows most of them fall in high school category 137(40.1%) and few in professional category 6(1.8%).Majority of the population are semi-skilled 184(53.8%) followed by students 77(22.5%) and very few professionals 1(0.3%).Socio economic status showing 50% of population occupying lower middle class 172 (50.3%) and 10% of upper class. Most of the population are residing in semi pukka type of housing 213 (62.3%) and 46 (12.3%) of the population sleep outside the house. Few families have pet animals in their house 32 (9.4%) of which most of them are dogs 13 (3.8%).

TABLE 2:
TREATMENT SEEKING BEHAVIOUR OF ANIMAL BITE IN VICTIMS RURAL AREA

VARIABILITY		NUMBER (%)
ANIMAL BITE IN LAST 3 MONTHS	YES	49(14.3%)
	NO	293(85.7%)
IS IT PET ANIMAL	YES	13(26.5%)
	NO	36(73.5%)
TIME OF ANIMAL BITE	MORNING	11(22.4%)
	AFTERNOON	2(4.1%)
	EVENING	18(36.7%)
	NIGHT	18(36.7%)
ACTIVITY DURING BITE	SLEEPING	21(42.8%)
	WORKING	15(30.6%)
	RETURNING HOME FROM WORK	4(8.2%)
	PLAYING	9(18.4%)
PLACE	INSIDE HOUSE	20(40.8%)
	IN AND AROUND HOUSE	29(59.1%)
IMMEDIATE ACTION AFTER BITE	NO ACTION	22(44.9%)
	HOSPITA LISATION	18(36.7%)
	WOUND WASHING	9(18.4%)
HOME TREATMENT	YES	13(26.5%)
	NO	36(73.5%)
WENT TO HOSPITAL	YES	31(63.3%)
	NO	18(36.7%)
WHICH HOSPITAL	PHC	19(38.7%)
	GH	9(18.4%)
	PRIVATE HOSPITAL	3(6.1%)
TIME TO HOSPITAL	IMMEDIATELY	12(24.5%)
	AFTER 2 HOURS	3(6.1%)
	AFTER 3 HOURS	5(10.2%)
	AFTER 4 HOURS	2(4.1%)
	AFTER 5 HOURS	2(4.1%)
	AFTER 8 HOURS	3(6.1%)
TREATMENT	TT AND ANTI RABIES VACCINE	23(46.9%)
	TT	8(16.3%)
SATISFACTION WITH TREATMENT	YES	30(61.2%)
	NO	19(38.8%)

Table 2: Shows that 49 (14.3%) population have experienced animal bite in last 3 months and in that 13 (26.5%) of animal bite is from pet animal which happened mostly around evening and night hours 18 (36.7%) during sleeping 21 (42.8%) and working 15 (30.6%). Most of the incident took place in and around house 29 (59.1%). 22 (44.9%) of the population didn't take any action immediately following animal bite and 18 (36.7%) of them were hospitalised.26.5% of population were given home treatment. Most of them were taken to hospital 31(63.3%).Study shows most of those who experienced animal bites were taken immediately to hospital, 12 (24.5%) preferring nearby primary health center 19 (38.7%) as their first choice where Tetanus toxoid and anti-rabies vaccine was commonly given as treatment 26 (46.9%).

TABLE 3:
ASSOCIATION BETWEEN ANIMAL BITE IN LAST 3 MONTHS AND SOCIO_DEMOGRAPHY

VARIABILITY		ANIMAL BITE WITHIN LAST 3 MONTHS			CHI SQUARE VALUE	PVALUE
		NO	YES	TOTAL		
SEX	MALE	140(82.4%)	30(17.6%)	170(100%)	3.035	0.082
	FEMALE	153(89%)	19(11%)	172(100%)		
AGE GROUP	<10	38(88.4%)	5(11.6%)	43(100%)	8.767	0.067
	10-19	36(81.8%)	8(18.2%)	44(100%)		
	20-39	128(89.5%)	15(10.5%)	143(100%)		
	40-59	77(84.6%)	14(15.4%)	91(100%)		
	>60	14(66.7%)	7(33.3%)	21(100%)		
SES	LOWER	74(85.1%)	13(14.9%)	87(100%)	2.733	0.435
	LOWER MIDDLE	151(87.8%)	21(12.2%)	172(100%)		
	UPPER MIDDLE	41(85.4%)	7(14.6%)	48(100%)		
	UPPER	27(77.1%)	8(22.9%)	35(100%)		
HOUSING TYPE	KATCHA	52(82.5%)	11(17.5%)	63(100%)	1.271	0.530
	SEMI					
PUCCA	186(87.3%)	27(12.7%)	213(100%)			
	PUCCA	55(83.3%)	11(16.7%)	66(100%)		
SLEEP OUTSIDE	NO	264(88.3%)	35(11.7%)	299(100%)	13.317	0.000
	YES	29(67.4%)	14(32.6%)	43(100%)		
PET ANIMAL	NO	271(87.4%)	39(12.6%)	310(100%)	8.236	0.004
	YES	22(68.8%)	10(31.2%)	32(100%)		

Table 3: shows the association between animal bite in last three months and socio-demographic pattern. Though the prevalence of animal bite among males is higher than in females, but is not significant. None of the socio-demographic variables were significant with Animal bite. Sleeping outside were significantly associated with animal bite. Similar finding were associated with those who suffered pet animal bite.

RESULTS:

From the above study it was found that dog bite was the commonest animal bite prevailing in the rural areas and stray dog bites are more common (80%). Among the affected individuals 61.2% were found to be men, commonly belonging to age group of >60 years (33.34%). Sleeping outside plays a significant role as a factor for influencing animal bite (32.6%). Most of the affected individuals were unaware of the need for hospitalization (36.7%) which indicates for the need of awareness program to be established. People who undergo hospitalization prefer mostly primary health centre (61.2%) which assures us a proper care given at PHC.

The main advantage of this study is that we directly went to the houses of people and where the survey was conducted. The time of dog bite was taken 3 months back and so this avoids recall bias and also involving the nearby rural area Sangenthi and Pullambadi. The disadvantage is that this study does not involve the site of bite area, cost variability at hospital and reason for preferring the treatment seeking behaviors at various health centers.

CONCLUSION:

Considering the prevalence of different animal bites and treatment seeking behavior indicates there is a lack of awareness regarding all forms of animal bites in the rural community. The existing program of rabies control has reduced the number of rabies deaths, but community awareness about different animal bites, its personal protective measures and treatment seeking has to be strengthened.

RECOMMENDATIONS:

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 since young children are more prone to provoke dogs resulting in a bite, they should be target of anticipatory guidance by parents and teacher , vaccination and licensing of pet dogs must be enforced, precious human lives can be saved by proper reporting and adequate treatment of cases within 24 hours. The need of the hour is effective knowledge, which has to be communicated to public using mass media and other measures like health education.

REFERENCES

1. Eslamifar A, Ramezani A, Razzaghi- Abyaneh M, Fallahian V, Mashayekhi P, Hazrati M et al. Animal Bites in Tehran, Iran. Arch Iranian Med 2008;11(2):200-2.
2. Operational guidelines for rabies prophylaxis and intra- dermal rabies vaccination in Kerala, 2009.Available at http://rabies.org.in/rabies/wp-content /uploads/2009/11 / Operational-Guidelines-for-Rabies-Prophylaxis-and-Intra-Dermal-Rabies- Vaccination-in-Kerala.pdf .Accessed on Oct 23rd, 2012

3. GadekarRambhau D. and DhekaleDilip N. Profile of Animal Bite Cases in Nanded District of Maharashtra State, India. Indian Journal of Fundamental and Applied Life Sciences 2011. 1(3), 188-193.
4. World Health Organization. WHO technical report series 931: WHO expert consultation on rabies; first report. Geneva Switzerland: WHO; 2005. p13
5. 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.
6. APCRI guidelines for rabies prophylaxis. Available at http://rabies.org.in/rabies/wp-content/uploads/ 2009/11/ APCRI-Guidelines-for-Rabies- Prophylaxis.pdf.Accessed on November 22nd, 2012.
7. WHO Expert Consultation on Rabies: first report (2004). Available at http://whqlibdoc. who.int/trs/ WHO _TRS_931_eng.pdf .Accessed on November 22nd, 2012.
8. Ichhpujani. R.L et al: Rabies in humans in India. 4th International Symposium on rabies control in Asia. Symposium proceedings Merieux Foundation & WHO.Ed. Betty Dodet & F. X. Meslin, 2001, Hanoi, Vietnam. John Libbey, Eurotext, London.
9. WHO guide for post exposure prophylaxis. Available at http://www.who.int/rabies/ human/postexp/en/accessed on 21st February 2013.

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