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Research Article

KNOWLEDGE, ATTITUDE AND PRACTICES RELATED TO ANIMAL BITES AMONG THE RESIDENTS OF AN URBANIZED VILLAGE IN SOUTH DELHI

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ABSTRACT

Introduction: Animal bite is defined as bite or claw wound from a pet, farm, or wild animal. Animal bites are major public health issues, not only for the risk of acquiring secondary infections but also for the possibility of contracting rabies. Rabies is a preventable acute and fatal viral infection caused by a single stranded RNA virus. Community awareness on all aspects of rabies is generally lacking. As there are less community-based studies on this health problem in the Delhi, this study was planned to assess knowledge, attitude & practices related to animal bite among the residents of an urbanized village in South Delhi.

Material and methods: It was a cross-sectional study carried out from 1st January to 24th January 2015 in Aliganj, field practice area of Department of Community Medicine of Vardhman Mahavir Medical College & Safdarjung Hospital. A total of 330 adult participants (M:F ratio 0.61:1) were studied. Face to face interview was conducted using semi-structured, pre-tested questionnaire after taking a written informed consent.

Results: Around 75% of the respondents were found to have correct knowledge regarding the consequences of animal bites. Nearly 94.5% of the respondents were found to have consultation with doctors and 3.3% respondents had faith in traditional healers and jhaad phook. 40.3% of the respondents consider the application of indigenous substances on animal wounds like chilies, turmeric, and herbal paste useful.

Keywords: Animal bite, Rabies, Dog bite, Knowledge, Attitude, Practice.

INTRODUCTION

Animal bites are major public health issues, not only for the risk of acquiring secondary infections but also for the possibility of contracting rabies. Rabies is a fatal viral infection caused by a single stranded RNA virus belonging to genus Lyssavirus of the family Rhabdoviridae.[1] Despite the availability the effective vaccine which ensure near hundred percent protection against rabies, India is the second largest contributor to rabies mortality in the world. It is a zoonotic disease and nearly 95% of human rabies deaths are caused due to bite from rabid dogs. However it is preventable by early initiation of post exposure prophylaxis consisting of proper local treatment of wounds, administration of rabies vaccines & rabies immunoglobulin in category 3 exposure.[2]

As per a WHO estimate, globally 50,000 human rabies deaths are reported every year of which, 56% occur in Asia and 44% in Africa. The majority (84%) of these deaths occur in rural areas.[3] Rabies in India has been a disease of low public health priority in the medical sector. This is very unfortunate as almost 50,000 deaths from rabies occur across the globe of which, 20,000 occur in India every year, making it the country with the highest rabies fatalities in Asia and the second highest in the world.[4] Most of the deaths are due to ignorance and lack of access to affordable services. It is estimated that the number of deaths due to rabies may be 10 times more than that of the reported[5]. further; there is no comprehensive treatment possible after clinical occurrence of rabies, which invariably results in mortality. After an animal

bite, post-exposure rabies prophylaxis is the only way to prevent rabies disease[6]. Community awareness on all aspects of rabies is generally lacking viz. first aid, management of animal bites, pre & post exposure prophylaxis etc. There are many myths and false beliefs associated with wound management. These include application of oils, turmeric powder, and red chilies on the wounds inflicted by suspect rabid animals, and not washing the wound properly[7]. Factors like high case fatality, ignorance, lack of access to health care and high cost of treatment on one hand and availability of early and appropriate treatments on the other hand, are to be considered to cut down the mortality due to rabies[8]. In view of the observation that the patients report late, seek partial treatment and harbor many myths and misconceptions, it was thought pertinent to study the knowledge, attitudes and practices regarding various aspects of animal bites so as to develop locally applicable set of Information, Education and Communication (IEC) services to be delivered to the populations so to reduce mortality and morbidity due to animal bites.

As there are less community-based studies on this health problem in Delhi, the current study was planned to assess knowledge, attitude & practices related to animal bite among the residents of an urbanized village in South Delhi.

MATERIALS AND METHODS

Study Design: A community based cross- sectional study.

Study Period: 1st January 2015 to 24th January 2015.

Study Area: A cross-sectional study was carried out in an urbanized village Aliganj, which is the field practice area of Department of Community Medicine, Vardhman Mahavir Medical College & Safdarjung Hospital, New Delhi. There are 1700 households in Aliganj area.

Study Methodology: All adults residing in household were considered eligible for participation in the study. Any person refusing to give consent or any household which was found locked on three consecutive visits was excluded and was replaced by the next contiguous household without disturbing the sampling interval.

Sample Size:

Sample Size was calculated using the data on the practice of wound washing reported as 31.1% from a study conducted by Singh.US et al.9 Taking the confidence interval as 95%, power as 80% with an absolute precision of 5% and prevalence as 31.1% from the above cited study, using the formula z2p q/ l2 for cross-sectional study, the sample size came out to be 330. The Sampling unit was a household.

Systematic Random Sampling was done for the selection of households in Aliganj area.

Total houses in Aliganj = 1700, Sample size = 330, hence sampling interval was calculated as 1700/330=5. So, every 5th house was selected for our study after selection of 1st house randomly.

One member was randomly selected from each of the household selected and was explained about the purpose of the study. After obtaining a written informed consent, Face to face interview was conducted using semi-structured, pre-tested questionnaire and the information on knowledge, attitudes and practices related to animal bites was recorded from each participant.

Information about any history of animal bite that had occurred in any other member of family in past was also inquired.

Ethics statement

The purpose of the study was explained to each individual and they were informed that participation was voluntary and data collected will be kept confidential. The participants who agreed were asked to sign/or provide thumb impression on the consent form.

Statistical Analysis:

Data was entered in Microsoft Excel and after data cleaning; it was analyzed using SPSS version: 21.0. The results obtained were recorded and were presented as tables and appropriate diagrams. For qualitative data analysis chi-square test was used.

RESULT:

A total of 330 households residents were interviewed during the study period. The age of the study participants ranged from 20 to 50 years, 171 (51.8%) were between the age of 20-30 years and the majority of the respondents were female 204 (61.8%). Most of the participants 319 (96.7%) belonged to Hindu religion and nearly 136 (41%) belonged to lower middle class, followed by upper lower class 123 (37.3%). (Table 1)

Knowledge of study population regarding animal bite

Out of 330 study population, 248 (75.2%) heard about rabies. Among the 248 study population, 244 (98.4%)

Table 1: Socio-demographic profile of study population in Aliganj (n=330)

Variable		No. (%)
Age group (in years)	20-30	171 (51.8)
	31-40	104 (31.5)
	40-50	55 (16.7)
Gender	Male	126 (38.2)
	Female	204 (61.8)
Marital status	Married	292 (88.5)
	Unmarried	36 (10.9)
	Widowed	02 (0.6)
Religion	Hinduism	319 (96.7)
	Islam	08 (2.4)
	Christian	03 (0.9)
Socioeconomic Class (as per Revised Kuppuswamy scale, 2014)	Upper	10 (3.0)
	Upper Middle	71 (21.5)
	Lower Middle	136 (41.2)
	Upper Lower	123 (37.3)

Table 2: Distribution of study population according to animals that can spread rabies (N=248)

Animal*	No (%)
Dog	244 (98.4)
Monkey	140 (56.5)
Cat	88 (35.5)
Rat	62 (25)
Bat	33 (13.3)
Cow	7 (2.8)

*multiple responses were provided

Table 3: Distribution of study population according to Attitude towards treatment for animal bite (N=330)

Treatment	Agree No. (%)	Disagree No. (%)	Don't Know No. (%)
Use of Herbal Medication (tumeric/chillies etc.)	133(40.3)	163(49.4)	34(10.3)
Washing wound with soap	73(22.1)	121(36.7)	136(41.2)
Taking Vaccine	294(89.1)	3(0.9)	33(10)
Allowing Stray Animals	38(11.5)	292(88.5)	0(0.0)
Killing biting animal	98(29.7)	206(62.4)	26(7.9)
Isolating victim	80(24.2)	229(69.4)	21(6.4)

Table 4: Distribution of study population according to practices for treatment of animal bite (N=91)

Measures*	No. (%)
Washed with soap and water	18(19.8)
Consulted the doctor	86(94.5)
Applied dettol/ savlon	18(19.8)
Household products(chilly/turmeric powder/kerosene)	33(36.3)
Jhaad phoonk	3(3.3)

Table 5: Association between Sex, religion and educational status of Study population and knowledge about rabies

Variable		Heard of rabies		*P* Value
		Yes Number (%)	No Number (%)	
Sex	Male	104 (31.5)	22 (6.6)	**0.015**
	Female	144 (43.6)	60 (18.2)	
Religion	Hindu	211 (64)	80 (24.2)	**0.006**
	Muslim	6 (1.8)	0 (0.0)	
	Others	31 (9.4)	2 (0.6)	
Educational status	Illiterate	23 (7.0)	15 (4.5)	**0.00**
	Primary & Middle school	92 (27.9)	44 (13.3)	
	High school & Intermediate	85 (25.8)	22 (6.6)	
	Graduate & Above	48 (14.5)	1 (0.3)	

reported that dog can spread rabies, the second most common response was bite from a monkey 140 (56.5%). (Table 2)

Among the 248 study population, 153 (61.8%) were aware that scratch by animal can spread rabies, almost 131 (53%) reported that animal become irritable and bites often while 64(26%) reported that animal barks wildly.

Out of 248 aware study population, majority 226 (91.1%) knew that vaccine is available for prevention of rabies, around 68 (27.6%) knew that consulting a doctor after animal bite is necessary but only 34 (13.7%) subjects knew washing the wound site with soap and water. However, almost 127(51%) had incorrect knowledge that chilies/lime/kerosene should be applied after animal bite.

Out of 330 study population, majority 218 (66.1%) reported that they got information about animal bite from family/friends and only 54(16.3%) study population reported source of information as IEC material.

Attitude of study population towards animal bite

Only 73 (22.1 %) study participants had correct attitude towards the primary treatment of animal bite and 294 (89.1%) told that they will take vaccine for prevention of rabies. (Table 3)

Practices of study population for the animal bite

Of the 330 study population, 91(27.6%) had history of animal bite in their family within last one year. Out of 91 study population, Majority 86 (94.5%) consulted the doctor after animal bite and only 18(19.8%) washed the wound with soap. Of the people who did not seek medical care, the reasons were high cost & long course of treatment and unawareness regarding availability of the treatment. (Table 4)

There was a significant difference between knowledge about Rabies with respect to gender, educational level and religion of the study population.(Table 5)

DISCUSSION

Of all the subjects majority people i.e. 75% knew about rabies in the current study, this finding was comparable to a study conducted by P. Lai et al in urban households of New Delhi which reported it as 68.5%.10 About 244 (73.9%) of the study population in Aliganj knew dog bite as a reason for causing rabies, this was higher than another study which reported awareness level to be 61.1% in study population in urban households of Delhi 10 ; however, it was lower than a study which reported 98.6% of the rural population in Gujarat to be aware of rabies.[9] About 89.1% of the current study population knew that rabies is vaccine preventable, this was higher than the reported levels of 49.2% in a study population of urban households of New Delhi 10 and 86.6% in the study population of Gujrat.[9] This could be probably because of a larger number of stray dogs and greater incidence of animal bites in current study area i.e. Aliganj (and rural areas of Gujarat) as compared to urban areas of New Delhi, another reason could be the vicinity of the study population to 2 tertiary care hospitals. Only 19.8% patients in the current study practiced washing of the wound with soap and water, this was substantially low as compared to 41.3% in the study by P.Lai et al[10] and 39.5% reported in a study by M.K. Sudarshan et al[3]. This could be due to lower awareness level among the urban households in the current study area due to poor educational status and poor access to internet or other means of mass media.

The use of home remedies such as chillies, lime, kerosene etc. in case of animal bite was of the level of 36.3% in Aliganj this was similar to the national data of India i.e. 36.8% as reported by a multicentric study conducted by M.K.Sudarshan et al.[3] Another study by V. Shah et al reported application of indigenous material over wound as 67%.8

Thus, more awareness needs to be generated against the use of these household remedies.

CONCLUSION

Seventy five percent of the people in Aliganj have heard of rabies, as an illness caused by animal bite, scratch, licks or aerosols. Eighty nine percent of population consider vaccination a necessary measure in the prevention of rabies. Only 22.1% think that the wound site should be washed with soap and water. Of those, 40.3% still believe in the incorrect practice of applying herbal and household products such as chillies, turmeric etc as a first aid measure. More than 85% people have obtained their knowledge from family and friends.

The residents of Aliganj are more aware about animal bite and rabies as compared to previous studies carried out in urban households of Delhi. However, the use of home remedies is still prevalent. Thus, there is a need for

generating awareness about rabies and animal bite.

Recommendation

The study findings indicate the need to use the Mass media to spread awareness via posters, pamphlets, television, radio etc. locally specific IEC campaigns. Awareness about first aid & importance of washing the wound site with water and soap is the most important message. Health education through anti-rabies campaigns must be provided especially to children for protecting themselves from rabies. Community people also need to be motivated to bring about positive attitude and awareness about the importance of consulting a qualified medical practitioner and vaccination to prevent rabies in case of an animal bite.

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