A STUDY ABOUT PERCEPTION OF PEOPLE REGARDING ANIMAL BITE IN URBAN AREA OF DEHRADUN

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ABSTRACT

Animal bite is neglected problem in India. Many animal bite cases turn out to be rabies, which is a disease of worldwide importance. Out of the estimated 55,000 deaths worldwide due to rabies, 20,000 deaths occur in India alone (2 per lac population at risk). At present Indian and State Government resources are mainly focussing on the Anti-Rabies Therapy. Thus the people at large have no or little knowledge from community about the various aspects of rabies and its treatment.

OBJECTIVES

The present study is an effort to understand the level of knowledge, their beliefs and perception about the animal bite. To study the people's preparedness in case of animal bite.

METHODS

Cross sectional study conducted in field practice area of Urban Health Centre, Bhandari Bagh, Dehradun, from April 2013 to June 2013. The total population study area (Bhandari Bagh) is 12,000 and that is in 2400 families. This is spread out in 12 colonies/Mohallas; 10% of the total families, i.e. 240 were taken by systematic random sampling method. Interview of available adult member of the family was taken using semi-structured pre-tested questionnaire. The information on Knowledge, Attitude and Practices (KAP) related to animal bite was collected.

RESULTS

A 45.5% people perception was that the person becomes insane after animal bite; 83.9% people knew that animal bite is the mode of transmission; 77.52% respondents believed that the dogs transmit the rabies, but knowledge regarding other animals transmitting rabies was limited; 55% people said they should consult doctor after animal bite and 18.33% of persons knew about usage of Anti Rabies Vaccine (ARV).

DISCUSSION

Old beliefs (9.58% believe in witchcraft, 15.1% believe there is spread of poison after animal bite) and practices (Applying turmeric and chillies 57.9%) exist in the community. Knowledge about animals transmitting rabies other than dog was also yet inadequate. So policy needs to focus to impart knowledge by the health workers and doctors to change their belief and practices.

KEYWORDS

Rabies, ARV, KAP, IEC, IPC.

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INTRODUCTION

Animal bite is neglected problem in India. Many animal bite cases turn out to be rabies, which is a disease of worldwide importance. Although many countries have eliminated this disease due to geographical barriers and strong policy implementations, but India seems far away from achieving this. Australia, China (Taiwan), Cyprus, Iceland, Ireland, Japan, Malta, New Zealand, UK and the islands of western pacific are all free of the disease.[1] Out of the estimated 55,000 deaths worldwide due to rabies, 20,000 deaths occur in India alone.[2] (2 per lac population at risk). It has been seen that the information regarding Anti-Rabies Therapy is adequate, but the people have no clear knowledge about the various aspects of rabies and wound management as seen in different studies.

One of the studies show that 82% people believed in applying cowdung, while 60% felt that leaves can be applied at the wound following dog bite.[3]

OBJECTIVES

1. The present study is an effort to understand the level of knowledge, their beliefs and perception about the animal bite.
2. To study the peoples preparedness in case of animal bite.

MATERIAL AND METHODS

This is a cross-sectional study conducted in field practice area of Urban Health Training Centre, Bhandari Bagh, Dehradun, from April 2013 to June 2013. The total population of study area (Bhandari Bagh) is 12,000 and number of total families 2400. It included 12 colonies/Mohallas; 10% of the total families, i.e. 240 were taken by systematic random sampling method. Interview of available adult member of the family was taken using semi-structured pre-tested questionnaire. The information on knowledge, attitude and practices related to dog bite was collected.

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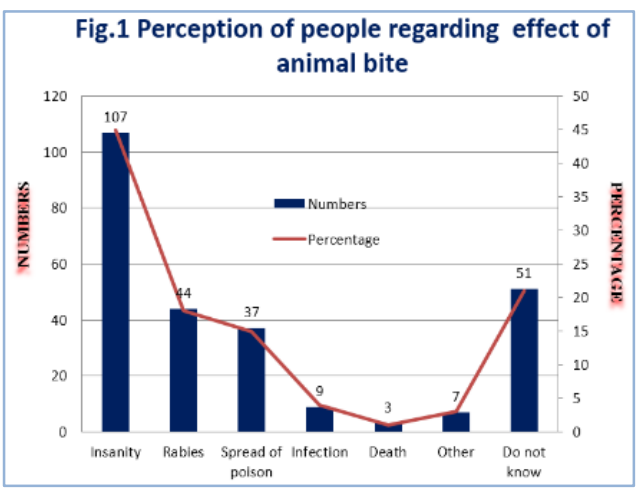
If the family is not cooperative or for some reason the interview could not be conducted, the member of adjacent family was interviewed.

N=240 & Multiple Response =258		
Variables	**Numbers**	**Percentage**
Insanity	107	45.58
Rabies	44	18.33
Spread of poison	37	15.41
Infection	9	3.75
Death	3	1.25
Other	7	2.91
Don't know	51	21.25

Table 1: Perception of People regarding Effect of Animal Bite



Variables	**Male N (%)**	**Female N (%)**	**Total**
Animal bite	146(83.9%)	55(83.3%)	201(83.9%)
Sneezing	18(10.3%)	8(12.2%)	26(10.9%)
Don't Know	7(4.1%)	2(3.0%)	9(3.9%)
Others	3(1.7%)	1(1.5%)	4(1.8%)
Total	**174 (100.0%)**	**66 (100.0%)**	**240 (100.0%)**

Table 2: Knowledge regarding Mode of Transmission of Rabies

χ^2=0.280, df=3, P>0.05

N=240 & Multiple Response=433		
Animal Transmitting Rabies	**Number**	**Percentage**
Dog	186	77.52
Monkey	92	38.33
Cat	57	23.75
Mouse	15	6.25
Fox	9	3.75
Horse	4	1.66
Others*	14	5.83
Animal not transmitting Rabies		
Snake	11	4.58
Lizard	4	1.66
Others**	6	2.5
Don't Know	35	14.58

Table 3: Knowledge regarding Animals Transmitting Rabies

Others * animals included in group transmitting rabies are rabbit, cow, pig, bat, lion, bear, goat.

Others ** in group of animal not transmitting rabies include scorpion, environmental pollution, mosquito and other insects,

Literacy Status	**Doctors N (%)**	**Anti-Rabies Vaccines (ARV) N (%)**	**Tetanus Toxoid (TT) N (%)**	**Witchcraft N (%)**	**Witchcraft & Consult Doctor N (%)**	**Witchcraft & ARV N (%)**	**Others N (%)**	**Don't Know N (%)**
Illiterate	24(18.2%)	7(15.9%)	0(0.0%)	10(43.5%)	9(42.9%	2(22.2%)	0(0.0%)	2(40.0%)
Up to Primary	48(36.4%)	8(18.2%)	0(0.0%)	10(43.5%)	7(33.3%)	4(44.4%)	1(20.0)	1(20.0%)
Up to Middle	26(19.7%)	10(22.7%)	0(0.0%)	2(8.7%)	4(19.0%)	1(11.1%)	2(40.0%)	1(20.0%)
High School	20(15.2%)	11(25.0%)	1(50.0%)	1(4.3%)	0(0.0%)	1(11.1%)	0(0.0%)	0(0.0%)
Intermediate	12(9.1%)	6(13.6%)	1(50.0%)	0(0.0%)	1(4.8%)	1(11.1%)	1(20.0%)	1(20.0%)
Professional Diploma	1(0.8%)	1(2.3%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)
Degree	1(0.8%)	1(2.3%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	1(20.0%)	0(0.0%)
Total	**132**	**44**	**2**	**23**	**20**	**9**	**5**	**5**
Percentage	**55%**	**18.33%**	**0.83%**	**9.58%**	**8.33%**	**3.75%**	**2.08%**	**2.08%**

Table 4: Perception about Management of Animal Bite

X^2 = 56.160, df=42, P<0.05
Remove Test

Variables	Sex		
	Male N (%)	Female N (%)	Total N (%)
Only water	9(5.2%)	1(1.5%)	10(4.2%)
Wash with soap & water	21(12.1%)	5(7.6%)	26(10.8%)
Medication	10(5.7%)	6(9.1%)	16(6.7%)
Both water soap & medication	8(4.6%)	4(6.1%)	12(5.0%)
Chilli & turmeric	97(55.7%)	42(63.6%)	139(57.9%)
Both chilli-turmeric & wash the wound with soap & water	16(9.2%)	5(7.6%)	21(8.8%)
Others	13 (7.5%)	3(4.5%)	16(6.7%)
Total	**174**	**66**	**240**

Table 5: Knowledge regarding Management at Wound Site

χ^2= 4.707, df=6, P>0.05

RESULTS

In Table No. 1 maximum number 45.5% of people said that person bitten by animal will go insane; 18.3% said animal bite will cause rabies and 15.4% said there will be spread of poison; 21.2% did not knew what will happen after animal bite. Others were 2.91% and these included hydrophobia, restlessness, unconsciousness, nervous breakdown, bark like dog, thirst.

In Table No. 2 out of the total males (174) about 83.9% said that rabies was transmitted by animal bite, 10.3% by sneezing, 4.1% does not know the exact mode of transmission. Among the total females (66) about 83.3% said that rabies were transmitted by animal bite, 12.2% by sneezing and 3% does not know the exact mode of transmission. Thus animal bite is the commonest mode of transmission 83.9%, sneezing 10.9% and 3.9% does not know the exact mode of transmission.

In Table No. 3, the knowledge of people regarding animals transmitting rabies is 77.52% by dog followed by monkey 38.33% and cat 23.75%. Others* included in this group are rabbit, cow, pig, bat, lion, bear, goat.

There were few respondents who said that rabies is transmitted by some modes, which are not responsible for transmission of rabies. Snake 4.58%, Lizard 1.66% and others** 2.5% which included scorpion, environmental pollution, mosquito and other insects; 14.58% of individuals had no knowledge regarding transmission of rabies.

In Table No. 4, people's perception regarding management of animal bite with witchcraft is higher in lower education status. Witchcraft in illiterate and up to primary was 43.5% each, witchcraft and consult doctor was 42.9% among illiterate and 33.3% up to primary. Witchcraft and ARV in illiterate is 22.2% and up to primary was 44.1%. Management of animal bite by consulting doctor or by ARV was seen among all education group, although higher percentage was seen in lower education groups.

In Table No. 5, both male 55.7% and female 63.6% still believed in applying chilli and turmeric at the wound site. A 10.8% were having adequate knowledge of washing the wound with water and soap, though males 12.1% had higher knowledge compared to females 7.6%. Total usage of water only or with soap and medication was 20% and even further lower in females 15.2%. A 6.7% said that they should apply medicine at site of bite. Others included applying oil, salt, dressing, leave wound untreated, Dettol which in all was 6.7%.

DISCUSSION

In our study, maximum number (45%) of people said that person bitten by animal will go insane; 18% said animal bite will cause rabies and 15% said that there will be spread of poison; 21% did not know what will happen after animal bite.

However, in Agarvval N, et al.[4] study when asked why the patient will die post animal bite, the major reasons were given as the spread of poison in the body (41%), insanity (33%) and absence of treatment (7.6%).

In our study, 83.9%% people knew that the transmission was due to animal bite, which is more than the study done by Lai, et al.[5] In their study, 61.1% transmission is by animal bite. In our study transmission by sneezing is 10.9%, which is similar to 12% as in Lai et al. study. In another study by Eshetu Yimer, et al.[6] 73.4% of the households replied that rabies can be transmitted through bite, scratch and lick to open wounds. In another study by Prakash M, et al.[7] all study participants had knowledge as regards transmission of rabies by dog bite, compared to only 23% having knowledge about its transmission by scratches and licks of a rabid dog.

In this study out of the total males (174) about 83.9% said that rabies was transmitted by animal bite, 10.3% by sneezing, 4.1% does not know the exact mode of transmission. Among the total females (66) about 83.3% said that rabies were transmitted by animal bite, 12.2% by sneezing and 3% does not know the exact mode of transmission and this relation between mode of transmission and sex is found to be statistically insignificant, whereas in a study by Lai P, et al.[5] out of total males (98) 56.1% said that rabies was transmitted through animal bite, 9.2% by sneezing and 34.7% did not know about the transmission. Out of total females (28) 78.6% told animal bite, 10.7% sneezing and 10.7% did not know about mode of transmission and this relation was significant.

In our study, 77.7% respondents said that dog is the animal transmitting rabies followed by monkeys 38.33%, cat 23.75%. In a study by Sekhon AS, et al.[8] transmission by dog was 95% followed by cat 1.3%, mongoose 1.7% and monkeys 1.8%. In a study done by Prakash et al.[6] in response to the question on transmission of rabies by bite of animals other than dog, 17% responded for cat and 12% monkey. In a study by Eshetu Yimer, et al.[5] a significant proportion of the interviewed households 2,323 (97.2%), (P <0.05) indicated that they have the knowledge that dogs, cats and other animals can transmit rabies to humans.

The transmission by monkey, cat and mouse and fox was known only to 38.3%, 23.7%, 6.2%, 2.5% respondents

respectively, which are considerably low and 14.58% were still unaware about animal transmitting rabies; 8.74% have misconception about snake, scorpion, lizard, insects and environmental pollution as cause of rabies transmission, which are not responsible for transmitting rabies.

In our study, 55% of people agreed to consult doctor and 18.33% will take Anti-Rabies Vaccine (ARV); 21.66% people were open to witchcraft, although 8.33% of these also will consult doctor and 3.75% will also go for ARV. Agarvval N, et al.[4] study also showed that after a dog bite, 53% preferred to visit a health facility. A quarter of the respondents believed that rabies could be treated by injections (15.2%), medicines (5.3%) and by local healers (0.8%). In another study done by Singh US, et al.[9] 86.6% of individuals were aware about anti-rabies vaccine and 24.4% knew that pet dogs need vaccine against rabies; 31.1% would like to apply first aid measure and 36.4% will visit to doctor and rest either do nothing or adopt some religious practices to prevent the development of rabies; 86.6% of individuals were aware about anti-rabies vaccine and 24.4% knew that pet dogs need vaccine against rabies.

In our study, management of animal bite was compared among various educational status groups. People's perception regarding management of animal bite with witchcraft is higher in lower educational status Witchcraft in illiterate and up to primary was 43.5% each, witchcraft and consult doctor was 42.9% among illiterate and 33.3% up to primary. Witchcraft and ARV in illiterate is 22.2% and up to primary was 44.4%. Management of animal bite by consulting doctor or by ARV was seen among all education groups, although higher percentage was seen in lower education groups. No such comparable study could be found.

In our study, 57% respondents suggested applying chilli and turmeric at the site of bite; 10.8% were having adequate knowledge of washing the wound with water and soap, 6.7% answered applying medicine at the site of wound. As per Sekhon AS, et al.[7] common practices prevalent in the management of wounds were washing with soap and water (21.02%) with only water (9.53%), application of chillies (14.18%), Dettol and antiseptic (5.45%), cowdung (0.46%) and carbon (0.89%). Agarvval N, et al.[3] study also showed that after a dog bite 42.4% relied on household treatments like putting chilly on wound, preferably procured from the house of the dog owner. In a study conducted by Kakrani VA, et al.[9] 82% believed that cowdung, while 60% felt that leaves can be applied at the wound following dog bite. As per study by Shah Venu et al.[10] only 277 (24.9%) had done the wound washing after the bite. Half of the cases (52.6%) had applied indigenous materials on the wound, 24.9% washed with water, 13.2% applied antiseptic cream, 6.7% did not took any first AID and only 2.6% had consulted doctor.

In the present study among both male (55.7%) and female (63.6%) still believed in applying chilli and turmeric at the wound site. In a study by Lai P, et al.[4] among 98 males (8.1%) still believed in home remedy and among 28 females (28.5%) and out of total (126) respondents 12.7% believed in home remedy, which is less than our study in which application of chilli and turmeric is 57.9%; 10.8% were having adequate knowledge of washing the wound with water and soap, though males (12.1%) had higher knowledge compared to females (7.6%). In a study by Lai P, et al.[4] out of total 98 males, 53.5% said that the wound should be washed with soap and water, whereas out of 28 females 53.5% said washing the wound with soap and water. In another study by Sekhon AS, et al.[7] 21.02% said that wound should be washed with soap and water. In our study, 6.7% said that they should apply medicine at site of bite. Others which were 6.7% included applying oil, salt, dressing, leave wound untreated, Dettol.

CONCLUSION

Our study indicated that the knowledge about the animal bites and its effects was reasonably known. As far as animal transmitting rabies, there is still inappropriate knowledge. Large number of people knew that rabies can be prevented by consulting doctor and the usage of Anti Rabies Vaccine, but still old beliefs and practices exist in the community as majority of people believe in applying red chillies, turmeric, salt, etc. to the bite wound. Thus there is immediate need for the policy changes including field workers trainings as they are the key persons who can provide proper knowledge through Information Education and Communication (IEC) materials or Interpersonal Communication (IPC) for appropriate management of animal bite.

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