

Research Article

A cross-sectional study of awareness regarding dog bite and its management in rural community of Maharashtra

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ABSTRACT

Background: Rabies is an enzootic and epizootic disease worldwide. In India it is estimated that the number of death due to rabies may be 10 times more than those reported. There are many myths and false beliefs associated with dog bite. 99% of all human deaths due to rabies are occurring in the developing countries. The present study was conducted to study awareness and perception about dog bite cases in the rural area of Maharashtra. Objectives: 1) To determine the knowledge of people about dog bites. 2) To assess the awareness of people pertaining to rabies and anti-rabies vaccination. 3) To study the behavioural practices of people after the dog bites.

Methods: A Cross-sectional study was conducted in the rural field practice area of a medical college, Pune, Maharashtra. Study was conducted with the help of pre-tested, semi-structured questionnaire for the period of one month and people attending RHTC OPD were included in the study. All individuals above the age of 18 years were included in to the study. Informed consent was taken prior to conduct of the study.

Results: Total 144 participants included in the study, 75 (52%) were females and rest were males 48%. Out of these 111 (77%) were aware about dog bite causes disease and among these 52 (46.8%) were aware that dog bite causes rabies. Among the participants, 138 (95.8%) were aware about the vaccine availability and 125 (90.5%) knew vaccine is available in Government Hospital. In the study 88% of dog bite victims received treatment.

Conclusions: There is lack of awareness regarding dog bite and its management among the rural population.

Keywords: Dog bite, Rabies, Anti-rabies vaccine

INTRODUCTION

Human rabies continues to be endemic in India.¹ Annual mortality more than 30000 reported by National Authorities may not be a complete picture because, since 1985, India continues to report the same every year. It is estimated that number of deaths due to rabies are 10 times more than those reported. Every year approximately 1.1 to 1.5 million people are receiving post exposure prophylaxis treatment. Although 2 million bites occur each year in India, more than 95% of these cases are bitten by dogs.² People have very basic knowledge about anti rabies treatment getting 14 injection after dog

bite, as per old concept, but not aware of disease which could occur if they do not manage the dog bites.²

Rabies a disease as old as our civilization continues to be the most feared of all communicable diseases. Despite the availability the state-of-the-art tools which ensure near cent percent protection against rabies, India is the largest contributant to rabies mortality in the world.³ There are myths and misbeliefs about the wound management. These include application of oils, herbs, and red chilies on the wound inflicted by rabid animals. More faith in indigenous medicines that are of unproven efficacy and not washing the wound properly because of fear that it would get infected.⁴

The present study was conducted to study awareness and perception about dog bite among the population in the rural area of Maharashtra.

METHODS

Study area

A cross-sectional study conducted in the rural field practice area of a medical college, Pune, Maharashtra.

Study period

Study was conducted for the period of one month i.e. 1st June to 30th June 2013 and people attending RHTC OPD were included in the study.

Study subjects

All individuals above the age of 18 years were included in to the study. Informed consent was taken prior to conduct of the study. Total 144 subjects were included in the study.

Study conducted with the help of pre-tested, semi-structured questionnaire. The investigators themselves have taken interviews of all study subjects.

RESULTS

Total 144 participants were included in the study. 75 were females (52%) and rest were males (48%).

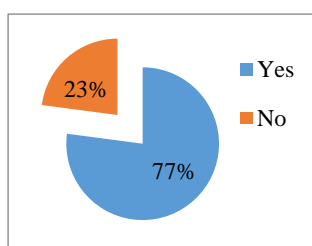


Figure 1: Awareness of disease caused by dog bite.

Out of 144 study participants, 111(77%) were aware that dog bite causes disease while 33(23%) were not aware that dog bite causes disease.

Table 1: Showing the knowledge about the disease caused by dog bite (N=111).

Disease	Frequency (%)
Rabies	52 (46.8%)
Don't know	59 (53.2%)
Total	111 (100%)

Out of 111, who were aware that dog bite causes the disease, 52 (46.8%) were aware that dog bite causes rabies.

Table 2: Showing the knowledge about symptoms of rabies among the study population (n=52).

Symptoms	Frequency (%)
Hydrophobia	16 (14.4%)
Madness	24 (21.6%)
Bleeding	10 (9%)
Fever	2 (1.8%)

This table shows the knowledge about the symptoms of rabies; 24 (21.6%) told about madness followed by hydrophobia 16 (14.4%), bleeding 10 (9%), fever 2 (1.8%).

Table 3: Showing awareness about the management of dog bite case among the study population.

Awareness about taking care of wound	Frequency % (N=144)
Applying lime	24 (16.6%)
Apply soil	4 (2.7%)
Applying antiseptic	60 (41.6%)
Tie the wound	70 (48.6%)
Clean with water	79 (54.8%)
Clean with water & soap	64 (44.4%)

The table shows awareness about the care taking of wound shows cleaning with water 79 (54.8%), cleaning with water and soap 64 (44.4%).

Table 4: Showing awareness about anti-rabies vaccine among the study population.

Awareness about anti-rabies vaccine	
Awareness about vaccine	
Yes	138 (95.8%)
No	6 (4.2%)
Awareness about availability of vaccine (N=138)	
Government	125 (90.5%)
Private	13 (9.4%)
Awareness about number of doses of vaccines to be taken (N=144)	
2	2 (1.3%)
3	14 (9.7%)
5	28 (19.4%)
7	22 (15.2%)
10	13 (9.02%)
14	46 (31.9%)
21	7 (4.8%)
Don't know	12 (8.3%)
Awareness about site of administration of vaccine (N=138)	
Abdomen	91 (65.9%)
Buttock	22 (15.9%)
Shoulder	18 (13.04%)
Thigh	2 (1.4%)
Don't know	5 (3.6%)

138 (95.8%) were aware about the vaccine is available for the dog bite, out of 138, 125 (90.5%) said that the vaccine is available in government hospitals while 13 (9.4%) said in private hospitals. A large number of participants answered 14 injections 46 (31.9%) followed by 7 injections 22 (15.2%), 5 injections 28 (19.4%). Similarly about the site of administration for the vaccine to be given was abdomen 91 (65.9%), buttocks 22 (15.9%), shoulder 18 (13.04%), thigh 2 (1.4%), don't know 5 (3.6%).

Table 5: Table showing practices about the management of the dog bite case among the study population.

	Frequency %
History of dog bite	
Yes	16 (11.11%)
No	128 (88.8%)
Place of treatment (N=16)	
Government	9 (56.3%)
Private	5 (31.2%)
Not taken any treatment	2 (12.5%)
Immediate care taken after dog bite (N=16)	
Wash with water	5 (31.3%)
Applied antiseptics	3 (18.7%)
Dressing done	3 (18.7%)
No care taken	5 (31.3%)

Out of 16 victims of dog bite, 2 had changed their dietary habit by restricting to spicy & oily diet

History of dog bite found in study population is 11% and 56.3% victims have taken treatment at government hospital.

DISCUSSION

Study was conducted for the period of one month i.e. 1st June to 30th June 2013 and people attending RHTC OPD were included in the study. Total 144 participants were included in the study. 75 were Females (52%) and rest were Males (48%).

In the present study, 111(77%) were aware that Dog bite causes disease; whereas out of these 52 (46.8%) were aware that Rabies is caused by dog bite.

WHO collaborative study Ichhpujani RL et al.³ has similar findings i.e. 68.7% have heard about the rabies, 60.7% were aware that dog bite causes Rabies.

In the present study, awareness of wound management after dog bite was studied. It showed that wound to be cleaned with water 79 (54.8%), followed by tie the wound 70 (48.6%), clean with soap and water 64 (44.4%), applying antiseptics 60 (41.6%), application of lime 24 (16.6%). While the study conducted by Ichhpujani et al.³ showed that only 31.9% felt that

washing wound with soap and water, application of lime 6.8%.

Among the participants, 138 (95.8%) were aware about the vaccine availability for the dog bite, out of 138, 125 (90.5%) said that the vaccine is available in Government Hospitals while 13 (9.4%) said in private hospitals. A large number of participants answered 14 injections 46 (31.9%) followed by 7 injections 22 (15.2%), 5 injections 28 (19.4%).

Similarly about the site of administration for the vaccine to be given was abdomen 91 (65.9%), buttocks 22 (15.9%), shoulder 18 (13.04%), thigh 2 (1.4%), don't know 5 (3.6%).

The findings were similar i.e. 86.6% were aware about the anti-rabies vaccine in the study conducted by Singh US, Choudhary SK.²

Study conducted by Singh US, Choudhary SK;² 79% told 14 injections and the site of administration 5.7% over abdomen. In the study conducted by Agarwal et al.⁵ showed that 92% were aware about the injections are available at Government Hospitals.

Eighty eight percent of dog bite victims received treatment in our study. The study conducted by Rumana R et al.,⁶ eighty nine point nine percent of dog bite victims received the treatment.

CONCLUSION

There is lack of awareness and inadequate knowledge related to dog bite and its management: 77% were aware that Dog bite causes disease; whereas out of these 46.8% were aware that Rabies is caused by dog bite. 44.4% participants were aware that dog bite wound should be cleaned with soap and water, 95.8% were aware about the vaccine availability for the dog bite. Eighty eight percent of dog bite victims received treatment.

Recommendations

There are misbeliefs and lack of knowledge related to management of dog bite cases. As rabies is 100% preventable disease health education activity for the rural population to be taken for creating awareness about management of dog bite to prevent deaths occurring due to rabies.

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Ethical approval: The study was approved by the institutional ethics committee

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