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Study to assess the knowledge and attitude about dog bite and the disease rabies among dog catchers of Bangalore city- A cross sectional study

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ABSTRACT

Background: Rabies, a deadly viral zoonotic disease caused by animal bite contributes to around 30,000 deaths in India annually. Veterinarians, dog-handlers, dog-catchers are some of the high risk professions for contracting the rabies disease. Hence proper knowledge about dog bite and the disease plays a significant role in prevention of rabies. **Objective:** to assess the knowledge and attitude about Dog bite and the knowledge about the Rabies among dog catchers. **Methods:** A cross sectional study was carried out in the month of April 2016 wherein 30 dog catchers employed in the NGO's of Bangalore city were included in the study. Data was collected using pre-structured questionnaire by interview method. **Results:** Awareness about Rabies was 100%. Most of the study subjects were in the age group of 21-25 years accounting for 33.3% (10). Almost 73.3% of them believed rabies was due to bite of animal and 16.7% due to scratch where 10% believed due to both. 86.7% (26) of the study subjects believed that rabies can be caused by dog bite only whereas remaining 13.3% (4) of the study subjects stated that it can be due to bite of all warm blooded mammals. Among the 30 study subjects, 20 (66.7%) had knowledge that rabies is preventable. **Conclusion:** There is a need to create awareness that rabies is a preventable disease by pre-exposure prophylaxis and importance of various modalities used in its prevention following dog bite.

Key Words: Rabies, Dog catchers, veterinarians, High risk profession.

INTRODUCTION

Rabies is viral Zoonoses, usually occurs following a transdermal bite or scratch by an infected animal.[1]About 98% of the human rabies cases occur in developing countries that possess large number of dogs, mostly stray.[2] It is 100% fatal disease characterized by clinical signs such as sudden behavioral changes, hyper salivation, paralysis, hydro and photophobia, restlessness, aggressiveness and biting inanimate objects.[3]

Globally, human mortality from endemic canine rabies was estimated to be 55,000 deaths per year and 56% of the estimated deaths occur in Asia and 44% in Africa.[4] India itself contributes for about 20,000 deaths annually.[5]

According to WHO, Rabies is one of the neglected tropical diseases that predominantly affects poor and vulnerable populations who live in remote rural locations. Rabies deaths are rarely reported and children between the ages of 5–14 years are frequent victims.[6] Human rabies is preventable through canine vaccination to eliminate rabies at its source or by administering anti-rabies vaccines and immunoglobulin following bites, scratches or saliva exposure from suspected rabid mammals.[7]

Some of the professions such as Veterinarians, Veterinary technicians, Animal control officers, Wildlife rehabilitators, Zoo employees, certain laboratory workers, and others who have regular contact with potentially rabid animal species have high risk of developing rabies.[8] A Dog catcher is an official or employee who rounds up and impounds stray dogs in a community.[9]Awareness about rabies, health education about the risk of handling animals, precautions and importance of immunization among these high risk professionals is considered as an important strategy to prevent rabies. Hence this study was conducted to assess the knowledge and attitude about dog bite and the disease rabies among dog catchers working in the non-governmental organizations of Bengaluru city involved in the control of stray dog population.

METHODOLOGY

A cross sectional study was conducted for a period of one month. Study subjects were dog catchers selected from NGO's of Bangalore city which are working towards animal birth control program for the control of stray dog population under BBMP limits. The main function of study subjects was to catch stray dogs for sterilization surgery

and immunization. Of the 4 NGO's functioning 2 were selected by simple random method. All the study subjects who gave consent to the study and who were present on the day of data collection were recruited for the study. Sample size was 30. Data was collected by interview method by using semi-structured questionnaire in their local language. Ethical approval was taken by the institutional ethical committee.

Data was entered in excel sheet and analyzed. Results were expressed using descriptive statistics in terms of percentages and proportions.

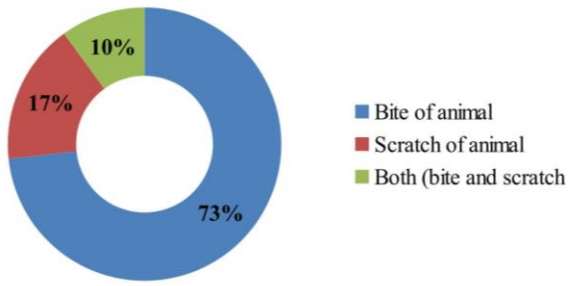
RESULTS

Majority of the study subjects were in the age group of 21-25 years (33.3%) followed by those aged between 16-20 years (23.3%). All the study subjects involved in the study were aware about the disease rabies (100%).

Table-1: Age wise distribution of study participants

Age in years	Number (%)
16-20	7 (23.3)
21-25	10 (33.3)
26-30	3 (10)
31-35	4 (13.3)
36-40	5 (16.7)
41-45	1 (3.4)

Figure 1.Distribution of subjects according to mode of transmission of Rabies



About 22(73.3%) of the study subjects believed that rabies is caused by bite of the animal followed by 5 (16.7%) by scratch and 3(10%) stated rabies can be caused by both bite and scratch of the animal.

Majority of the study subjects (86.7%) felt that rabies is caused only by dog except few (13.3%) stating it can be caused by any of the warm blooded mammals.

Almost 76.7% (23) of the study subjects were exposed to dog bite. Of the 23 study subjects who had dog bite, 56.5% (13) approached private health facility for post exposure prophylaxis.About 80% (24) of the study subjects had taken pre-exposure prophylaxis.

Around 66.7% (20) of the study subjects stated that rabies is preventable disease. Regarding knowledge about disease prevention almost 50% (15) of study subjects felt that combination of various methods such as wound toilet, taking vaccines and immunoglobin and vaccination and control of stray dogs help in disease prevention.

Table-2: Distribution of study subjects according to strategies of prevention of rabies

Strategy of prevention	Number (%)
Wound toilet (soap and water)	10 (33.3)
Vaccination and Immunoglobulin	3 (10)
Vaccination and control of stray dogs	2 (6.7)
Combination of all the above strategies	15 (50)

DISCUSSION

Domestic dogs are considered to be the main vectors of rabies which is a deadly zoonotic disease. The prevalence of disease is high among developing countries including India due to high stray dog population. Dog catchers are among the high risk professionals to contract this disease. In our study we found that almost 86.7% of the dog catchers stated that rabies is caused by dog bite which is almost similar to a study done on knowledge, attitudes and practices regarding rabies risk in community members and healthcare professionals by Fenelon N etal.[10]

In this study awareness of rabies was found to be 100% which was almost similar to a study done on knowledge, attitude and practices of animal bite victims attending an anti-rabies health centre in Jimma town by Kabeta T etal.[11] But in a study done by Kapoor P on knowledge regarding rabies among attendees of anti-rabies clinic in Jaipur found that only 22.5% of the respondents had good knowledge.[14]

In the present study almost all the study subjects who suffered dog bite received post exposure prophylaxis but however in a study done by kilic B etal found that post exposure prophylaxis coverage was only 68%.[12] In an another study done by Qi L et al on post exposure prophylaxis of human rabies in Chongqing, China found that only 12.2% of the study subjects received medical treatment at hospital.[15]

In our study, almost 80% of the study subjects received pre-exposure prophylaxis and a similar finding was found in a study done by Kessels J A et al, a review article on pre-exposure prophylaxis advocated that pre exposure prophylaxis should be given for high risk populations.[13]

Conclusion:

Most of the study subjects had received pre exposure prophylaxis and were aware of rabies. Many were unaware that it is a preventable disease. Hence there is a need to create awareness among them that rabies is preventable and importance of various modalities used in itstreatment such as pre exposure prophylaxis, post exposure prophylaxis by wound toileting, anti-rabies vaccine and immunoglobulin

administration is of utmost importance by conducting health education programs.

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