



Taboos related to Dog bite in Urban Bengaluru — A Cross-sectional study

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ABSTRACT

Introduction

India is known for its different social and artistic backgrounds with a wide range of myths and misconceptions related to conditions. One similar belief is about certain food taboos and diet restrictions following a dog bite, which is extensively prevalent. Dogs are the main source of rabies, contributing up to 99% of all rabies transmissions to humans.

Materials and Methods

A community-based cross-sectional study was carried out in the urban field practice area of Bangalore Medical College & Research Institute (BMC&RI), Bengaluru, Karnataka, among 200 adults. A pre-tested, semi-structured questionnaire containing details on socio-demographic variables and taboos related to dog bites was obtained from the participants following their consent.

Results

84(42%) of the study subjects were told that certain kinds of limitations should be followed after a dog bite. 57.8% of people who got bit followed a certain form of food constraint and 66(78.6%) of them told that non-veg food can be eluded after the bite incident. Nearly 82(41%) of them got such information from their family members/ relatives. 72(46.75%) were aware of the first aid of washing wounds with soap and water following the bite 166(83%) and said that anti-rabies vaccination should be given after the dog bite.

Conclusion

The public still believes in traditional and alternative medicine therapists, which leads to an interruption in receiving the much-wanted lifesaving vaccination. More exploration is required all over the nation to uncover the actual problem and make strategies accordingly.

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INTRODUCTION

Rabies or hydrophobia is an acute, highly fatal viral illness of the central nervous system, produced by Lyssavirus type 1. It is an infection of warm-blooded faunas, primarily carnivorous such as dogs, cats and wolves. It is transmitted to man classically through bites or licks of rabid faunas. Although most carnivorous and bat species contribute as natural reservoirs, rabies by dogs is the reason for 99% of human occurrence. [1] India is a diverse nation with cultural and societal backgrounds, and has a wide range of fallacies and mythologies associated with many diseases. In particular, there are huge set of misunderstandings and myths about dog bites and rabies that are unsupported by science but yet inspire a tremendous deal of faith in people. Several efforts have been made to change these misbeliefs, yet frequently they fail due to the obstinate behaviour of people. Dog bite is a condition where certain constraints have been viewed seriously. These restrictions differ from area to area, extending from eluding baths to food limitations. Many studies in India have taken out a list of restrictions followed by the sufferers which comprises not eating non-vegetarian foods, among vegetarians they restrict the consumption of ginger and garlic, oily foods, greens, vegetables, rice, milk, salt etc., [2, 3, 4] Taboos especially related to restrictions on foods are followed in India by communities depending on their cultural and religious beliefs. Taboo are referred to as excluding an action based on the faith that such conduct is either too holy and blessed or too hazardous and ill-fated for normal individuals to commence. [2]. For example, certain sects of people strictly follow a vegetarian diet and some vegetarians even avoid items like garlic and onions. Muslims strictly avoid pork and Hindus refrain from consuming beef etc. and these food habits have had religious sanctions from the early days. [3] In India, several such inappropriate practices of dog bite management continue. These also include the application of turmeric, salt, ghee, chilies, hydrogen- peroxide, and cow dung to the wound and faith that washing the wound truly causes hydrophobia. People believe that activities like dietary changes can prevent rabies/increase the effectiveness of vaccination, and eventually stop seeking appropriate treatment [4]. According to the

Association for Prevention and Control of Rabies in India, there is no requirement for any diet restrictions post-dog bite and post-exposure treatment period. [7] With this background, the goal of this study was to identify existing taboos practised about dog bites in the urban field practice area of Bangalore Medical College & Research Institute, Bengaluru, and Karnataka, India.

Methodology

This community-based cross-sectional study was conducted in the urban field practice area of Bangalore Medical College and Research Institute. There are 3 sectors in the urban field practice area of BMCRI with a population of 31162 (Ward-118). The sample size was calculated considering the study conducted in the urban area of Kancheepuram, Tamil Nadu (Chinnaian S2 et al) [4] where 84.4% of people practiced taboos/restrictions following a dog bite with absolute precision of 5% and a 95% confidence interval. Considering a 5% nonresponse rate, the final sample size calculated was 200. All the adults aged 18 years and older and those willing to give informed consent were included in this study. A simple random sampling method was used to select the required number of study subjects. Samples of 200 adults were selected. There are 3 sectors in the urban field practice area of BMCRI with a population of 31162 (Ward-118), therefore sample was selected equally from each sector (67) to ensure equal chance. Once we enter a street in the sector, a random number generator is used to select the first house. From there every house is visited, enquired about the presence of adults in the house and data is collected until the desired sample is reached from the area. If the house is locked or doesn't have 18 years and above adults, the next house is visited; if the house contains 2 or more adults, one was selected through a lottery method in the study. A pre-tested semi-structured questionnaire was administered to the study subjects after obtaining their consent. The questionnaire comprised details on socio-demographic variables and taboos related to dog bites such as food restrictions and substances applied on wounds were obtained from the participants. The family structure was categorized as nuclear, joint, or three-generation

(grandparents, parents, and children). Modified Kuppuswamy's scale was used to assess the socioeconomic status. The data was collected and entered in MS Excel and analysed using SPSS version 29.0. Socio-demographic data was presented using descriptive statistics which included mean, median, standard deviation and percentage wherever applicable. The chi-square test was used to find out any association between the studied variables.

Results

This study on taboos related to dog bites in an urban area of Bengaluru displays very thought-provoking results. **Table 1** shows the demographic details of the study subjects. 84(42%) of the subjects said that certain kinds of limitations should be followed after a dog bite, among which 66(78.6%) said that non-veg items should be eluded [**Table 2**].

Table 1: Demographic profile of the study group

Sl.NO	Demographic variables	Frequency (N=200)	Percentage
1	Age (in years)		
	18-29	67	33.5%
	30-39	86	43%
	40-49	31	15.5%
	50-59	07	3.5%
	60-69	05	2.5%
2	Sex		
	Male	134	67%
	Female	66	33%
3	Education status		
	Illiterate	47	23.5%
	Primary school	19	9.5%
	Middle school	32	16%
	High-school	82	41%
	Graduate	19	9.5%
	Post graduate	1	0.5%
4	Occupation		
	Professional	10	5%
	Clerk/ shop keeper	7	3.5%
	Skilled	35	17.5%
	Semi- skilled	13	6.5%
	Unskilled	48	24%
	Unemployed	87	43.5%
5	SOCIO-ECONOMIC STATUS		
	Lower middle	51	25.5%
	Upper lower	40	20%
	Upper middle	109	54.5%
6	Family type		
	Nuclear	124	62%

7	Joint	47	23.5%
	Extended	29	14.5%
	Dog ownership		
	Yes	33	16.5%
	No	167	83.5%

Table 2: Misconceptions about food restrictions related to dog bite

Sl.NO	Taboos related to dog bite	Frequency (N=200)	Percentage (%)
1	Restrictions required following dog bite		
	Yes	84	42%
	No	72	36%
	Don't know	44	22%
2	Food to be avoided (n=84)		
	Non-veg	66	78.6%
	Oily foods	10	11.9%
	Spicy foods	8	9.5%
3	Person providing advice Regarding food restrictions(N=200)		
	Nobody	116	58.0
	Family member/ relative/ Friends	82	41%
	Medical	2	1%

Nearly 82(41%) of 200 participants said that they got guidance from family members/relatives. Up to 76(38%) of people said that some substances can be applied to the wound after the dog bite, among which 26(34.2%) said that Turmeric powder can be

applied after the dog bite. 72(46.75%) responders were aware of the first aid after a dog bite which is washing wounds with soap and water following the bite. 166(83%) said anti-rabies vaccination should be given after the dog bite [Table 3].

Table 3: Misconceptions about wound management related to dog bite

Sl.NO	Taboos related to dog bite	Frequency (N=200)	Percentage (%)
1	Should we apply any Substance on the wound?		
	Yes	76	38.0%
	No	101	50.5%
2	Name of the substance to Be applied(n=76)		
	Medicated	14	18.5%
	Latex	12	15.8%
	Limestone powder	25	32.9%
3	Should we do First aid following Dog bite? (N=200)		
	Yes	154	77%
	No	24	12%
	Don't Know	12	6%
4	First aid to be followed (n=154)		
	Wash wound with soap and water	72	46.75%
	Wash wound with water	42	27.27%
5	Treatment of Dog bite (N=200)		
	Don't know	20	10%
	Traditional healing	14	7%
	Vaccination	166	83%

Discussion

Rabies is one of the most significant deadly zoonotic diseases in India. Most of the deaths caused by dog bites/ rabies are due to neglect and lack of knowledge about the significance of prime management of dog bites and rabies. Although several awareness undertakings were carried out in the community there are still certain misconceptions that persist. In this study, on account of age, more than half of them belonged to the age group of 18 to 40 years. About 134(67%) of the study groups were males and 66(33%) were females. The majority of the participants 82(41%) studied up to the high school level and 47(23.5%) were illiterates. About 33(16.5%) of the households had pet dogs. In this study, up to 166(83%) are aware of the anti-rabies vaccination given for dog bites, due to many awareness events carried out in the community, which is in contrast to the study done by Arjunkumar H et al [3] where 55.10% of participants replied that they won't take ARV if they don't get any indications resulting from a dog bite and only 27.55% told that they will visit health centre

later 10 days of a dog bite. This study reveals that taboos following dog bites are more but typically associated with limitations of food items only. About 84(42%) of the study participants stated that it is essential to follow certain kinds of food constraints. It was shocking to find that about 66(78.6%) said non-vegetarian items should be excluded. This is similar to the study done by Chinnaian et al [4] in which 81 % of individuals bitten by dogs followed specific forms of food restrictions. In a study done by Gujalwar et al [5], about 58.85 % of cases had food taboos. Up to 43.08 % of sufferers fall to upper lower socioeconomic status. Concerning misconception of wound care, 10.38 % used lime, 3.08 % used turmeric, and over 23.85 % washed their wound with soap and water, which is similar to our study of up to 40(54.5%) belonging to upper lower socioeconomic status and regarding wound care 20(45.50%) told that they would wash wound with soap and water. These dissimilarities concerning the usage of native applications as first aid may be due to the

diverse cultural upbringing, education level and diverse myths and insights of the community. From this study, we detected the fallacies and inappropriate practices carried out in the study community, which might allow

them to breach the barrier for the management of rabies. Thus, awareness and education concerning dog bites are crucial in controlling and preventing rabies. [6]

Outcome variable	Variables	OR (95% CI)	p-value
Univariate analysis			
Restrictions required following dog bite	Age	34.22(32.63,35.81)	0.003
	Gender	1.67(1.60,1.74)	0.044
	Education	3.04(2.85,3.24)	0.034
	Socio-economic status	3.41(3.31,3.52)	0.005
	Dog ownership	0.17(0.12,0.23)	0.017

Table 4: Univariate logistic regression analysis of variables affecting knowledge on canine rabies

CONCLUSION

The public still believes in traditional and alternative medicine therapists, which leads to an interruption in receiving the much-wanted lifesaving vaccination. India is home to diverse cultures, customs, and beliefs; more exploration is required in this area all over the

nation to discover the actual problem and strategies interference consequently. Awareness programs are needed to generate public awareness and political commitment for rabies control.

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