Original Research Article

DOI: http://dx.doi.org/10.18203/2394-6040.ijcmph20172865

An association of knowledge and misconceptions with health seeking behaviour for dog bite: a cross-sectional study in Ahmedabad

Arjunkumar Hardas Jakasania*, Farzana Mustufabhai Mansuri, Grishma Trambaklal Dixit

Department of Community Medicine, B.J. Medical College, Ahmedabad, Gujarat, India

Received: 22 May 2017 Revised: 10 June 2017 Accepted: 14 June 2017

*Correspondence:

Dr. Arjunkumar Hardas Jakasania, E-mail: aarrjjuunn999@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Rabies is a deadly zoonotic disease and most often transmitted to humans through a dog bite. It is 100% fatal yet 100% preventable with timely and appropriate Post Exposure treatment. There are myths associated with a dog bite and rabies and which might affect the health seeking behaviour. The objectives of the study were to assess the knowledge and misconceptions regarding dog-bite and rabies in primary school teachers and to know the association of misconceptions with health seeking behaviour for dog-bite in the study group.

Methods: A cross-sectional study was conducted among 196 teachers of municipality and self-finance primary schools in Ahmedabad city. A pre-tested and pre-designed questionnaire was used to collect data of knowledge & attitude regarding dog-bite/rabies.

Results: Out of 196 teachers, 118 teachers will not take ARV injection after bite of a normal looking dog. Many of them have a misconception about ARV injection. 128 teachers will discontinue ARV after a dog bite if any symptoms of Rabies will not develop within 10 days after starting ARV. There is an association found between knowledge regarding rabies and treatment seeking behaviour which was found statistically significant.

Conclusions: There is a serious gap in knowledge regarding Rabies in primary school teachers and misconceptions regarding rabies are rampant in most of them. The misconceptions regarding rabies and dog bite found to be affecting the treatment seeking behaviour after dog bite which leads to low compliance to ARV.

Keywords: Dog bite, Knowledge, ARV, Misconceptions, Rabies

INTRODUCTION

Rabies is a disease Caused by an RNA virus belonging to the Lyssavirus genus which is capable of infecting all mammals. Rabies is a disease of mammals, including dogs, wolves, foxes, cats, lions, mongooses, bats, monkeys and humans. Transmission of rabies to humans is through exposure to saliva from infected animals from bites, scratches, or licks on broken skin and mucous membranes. The diagnosis of rabies is difficult because of the long incubation period (20–60 days on average, with rare reports of 5–6 days and up to 7 years) and the lack of specificity of early prodromal symptoms and neurologic symptoms.¹ Rabies is 100% fatal disease but can be prevented by proper first aid measures and a post-exposure prophylactic vaccine which is freely available in a government hospital.² Each year almost 505000 people die from the disease, with India carrying the greatest burden of annually more than 20,000 deaths.³ it is widely believed that this figure may be an underestimate. Because in India rabies is not a notifiable

disease and most deaths occur in rural areas where surveillance is poor.4 more than 17 million animal bites occur and out of them more than 95% are due to dogs which of them more than 60% are stray dogs.⁵ Throughout the world, it has been found that children are more at risk of getting bitten by dogs.⁶ This is commonly explained by children possessing lower awareness, lesser knowledge in safe behaviour around dogs, higher vulnerability due to lower physical strength and smaller size. Also, Children are more involved in the outdoor activity and lead to more contact with dogs and it is easier to bite on the face on children which fall into WHO category 3 bite which leads to Rabies and then death. Previous studies have shown that misconceptions are widely present in the community regarding Rabies & for ARV. 8,9 management and misconceptions and myths regarding dogbite and Rabies might affect the treatment seeking behaviour. Primary school teachers play an important role as a link between children, parents and health care facility. Their knowledge about any disease has an impact on the health of children. Thus, with this background the present study was conducted in primary school teacher of Ahmedabad city to know the misconception present and whether it affects health-seeking behaviour or not.

Aims and objectives

- To know the knowledge and misconceptions regarding Dog-bite and Rabies in primary school teachers.
- To know the association of misconceptions with health seeking behaviour in dog-bite in the study group.

METHODS

A cross-sectional study was conducted among the teachers of Municipality and self-finance primary schools in Ahmedabad city. Study was conducted from June to December 2016. We have selected total 16 (12 municipalities and 4 self-finance) schools of Ahmedabad city. Permission from the highest authority of the school was taken from the each school to conduct the study. Out of these schools, 196 teachers were selected randomly and written consent from each teacher was taken. A pretested & pre-designed questionnaire was used to collect data of knowledge & attitude regarding dog-bite/rabies.

Statistical analysis

The collected data were entered, compiled and analysed using Microsoft Office Excel.

RESULTS

Table 1 shows that majority of teachers are female (80.10%) with age group of 40-50 years (37.82%) and belongs to self-finance schools (64.28%). 78 (39.796%) out of 196 teachers will not take ARV injections after bite

of a normal looking dog. they think it is not hazardous. Other 86 (43.88%) out of 196 teachers have a misconception about ARV that it is given around umbilicus with 14 injections. There is also misconception about continuation of ARV if symptoms don't persist. 128 (65.31%) out of 196 teachers will not complete the course of ARV if any symptoms of Rabies will not develop within 10 days after starting ARV.

Table 1: Socio-demographic profile of study participants.

Characteristics		Frequency	Percentage (%)
Sex	Male	39	19.89
	Female	157	80.10
	20-30	32	16.32
Age (in years)	30-40	38	19.38
	40-50	73	37.82
	50-60	53	27.04
Type of school	Municipality teachers	70	35.71
	Self-finance teachers	126	64.28

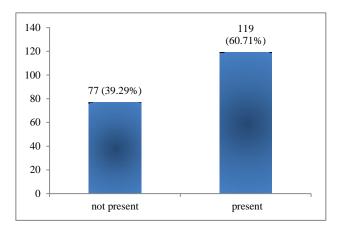


Figure 1: Distribution of misconception-'rabies is curable disease' (N=196).

Figure 1 shows that 119 (60.71%) out of 196 teachers have the misconception that rabies is a curable disease.

Figure 2 shows that 140 (71.43%) participants responded that incubation period of rabies virus are within 24 hours while rest of the participants has a knowledge regarding long incubation period of rabies.

Table 2 shows that 39.28% study participants have knowledge regarding fatality of rabies while 60.20% of study participants have responded that they will not take ARV After a bite of a normal looking dog. The association between knowledge regarding fatality of rabies and ARV seeking behaviour after bite of normal looking dog was found statistically significant ($X^2 = 93.475$, degree of freedom =1, p<0.05).

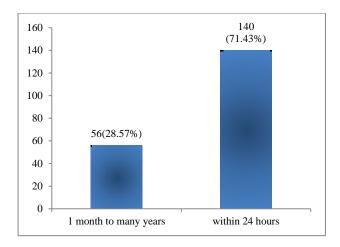


Figure 2: Knowledge regarding an incubation period of rabies (N=196).

Table 3 shows that 28.57% study participants have knowledge regarding long incubation period while 65.31% of study participants has responded that they will not continue ARV if there is no any symptoms of rabies within some days after starting of ARV. The association between knowledge regarding long incubation period of rabies and continuation of ARV if there are no symptoms after starting of ARV was found statistically significant.

Table 4 shows that 56.12% study participants have a misconception regarding ARV injection that it is given on abdomen around umbilicus with 14 injections while 60.20% of study participants have responded that they will not take ARV after bite of normal looking. The association between misconception regarding ARV injection and continuation of ARV after the normal looking dog was found statistically significant (X² =44.86, degree of freedom =1, p<0.05).

Table 2: Association between knowledge regarding fatality of rabies and vaccination.

		ARV after bite of normal looking dog			
		Yes	No	Total (%)	
Knowledge regarding fatality of Rabies	Yes	63	14	77(39.28)	
	No	15	104	119(60.71)	
	Total (%)	78(39.80)	118(60.20)	196	

 $(X^2 = 93.475, degree of freedom = 1, p < 0.05)$

Table 3: Association between knowledge regarding long incubation period and full course of ARV.

	Continuation of ARV if there is no any symptom of rabies within some days after starting ARV			
		Will continue	Will not continue	Total (%)
77 1 1 1 1	Having	44	12	56 (28.57)
Knowledge regarding long incubation period of rabies.	Not having	24	116	140 (71.42)
incubation period of rables.	Total (%)	68 (34.69)	128 (65.31)	196

 $(X^2 = 66.618, degree of freedom = 1, p < 0.05)$

Table 4: Association between misconception about site of ARV and vaccination after dog bite.

		ARV after bite of normal looking dog		
		Will take	Will not take	Total (%)
Misconception-ARV is given on abdomen with 14 injections.	Present	21	89	110 (56.12)
	Not	57	29	86 (43.88)
	present			
	Total (%)	78 (39.80)	118 (60.20)	196

DISCUSSION

Rabies is considered one of the world's most neglected diseases in developing countries with a disproportionate burden amongst the rural poor and children. It is caused by biting of mammal animals most commonly dogs. Dog bite cases are in increasing trend but some misconceptions are still present related to a dog bite. There are so many awareness activities done at the community level but some gap in knowledge still persist. Our study shows that almost 61% of the participants has the misconception that rabies is a curable disease, similar

findings were observed in a study done by Vinay et al on awareness regarding rabies and its prevention shows that 47.25% of the surveyed people consider rabies nonfatal. In our study, it was revealed that 65% of the participants believe that it is not necessary to complete the course of ARV if there are no any symptoms once it is started. This is comparable to a study carried out by Agarwal et al, about community-based study on knowledge, attitude and practice following a dog bite, which shows that only 40% respondents want to take anti-rabies vaccination. In our study about half of the participant have a misconception that Arv injection is

given on abdomen around the umbilicus. This finding is similar to the study done by Kulkarni et al, perception of women self-help group (SHG) members regarding rabies and its prevention in urban Mysore in which they found similar misconception in around 72% of their study population.³

In our study, 72% of study participants respond that incubation period for rabies is less than 24 hours. These findings are comparable with the study done by Kabeta knowledge, attitudes and practices of animal bite victims attending an anti-rabies health center in Jimma Town, Ethiopia where 92.7% participants respond that incubation for rabies is less than 40 days. 12

CONCLUSION

The result of study reflects a serious gap in knowledge regarding Rabies in primary school teachers and misconceptions regarding rabies are rampant in most of them. There is statistical significance found between misconception and health seeking behaviour. Misconceptions lead to worsening of the situation by not contacting health care facility and failure to complete a full course of ARV after dog-bite.

Limitations

The present study was conducted in primary school teachers which are not a representative sample of the entire community, so the result of the study couldn't be generalized. Only selected variable was included in the study

ACKNOWLEDGEMENTS

Authors would like to thank primary school teachers for sparing their precious time for the study and principles of the school to permit us for the study.

Funding: No funding sources Conflict of interest: None declared

Ethical approval: The study was approved by the

Institutional Ethics Committee

REFERENCES

- Vyas S, Gupta K, Bhatt G, Tiwari H. Animal Bite Management Practices: Study at Three Municipal Corporation Hospitals of Ahmedabad. National J Community Med. 2010;1(2):75-8.
- Ganasva A, Bariya B, Modi M, Shringarpure K. Perceptions and treatment seeking behaviour of dog bite patients attending regional tertiary care hospital

- of central Gujarat, India. J Res Med Dental Sci. 2015;3(1):60-4.
- 3. Kulkarni P, Renuka M, Kumar SD, Siddalingappa H, Ashok NC, Rama HV. Perception of Women Self Help Group (SHG) Members Regarding Rabies and its Prevention in Urban Mysore. International J Health Sci Res. 2013;3(4):11-6.
- Gogtay NJ, Nagpal A, Mallad A, Patel K, Stimpson SJ, Belur A, et al. Demographics of animal bite victims & management practices in a tertiary care institute in Mumbai, Maharashtra, India. Indian J Med Res. 2014;139:459-62.
- Sudarshan MK, Madhusudanab SN, Mahendra BJ, Raod NSN, Narayana ADH, Rahmane SA, et al. Assessing the burden of human rabies in India: results of a national multi-center epidemiological survey. Indian J Infect Dis. 2007;11:29-35.
- Abubakar SA, Bakari AG. Incidence of dog bite injuries and clinical rabies in a tertiary health care institution: A 10-year retrospective study. Ann Afr Med. 2012;11:108-11.
- 7. Bulletin of World health organisation. India's ongoing war against rabies. Available at: http://www.who.int/bulletin/volumes/87/12/09-021209/en/ Accessed on 3 April 2017.
- 8. Shah V, Bala DV, Thakker J. Epidemiological determinants of animal bite cases attending the antirabies clinic at V. S. General Hospital, Ahmedabad. Healthline. 2012;3(1):66-8.
- 9. Gupta AK. World Rabies Day activities in Delhi. Global Alliance for Rabies Control 2012. Available At; https://rabiesalliance.org/%20media/news/wrdactivities-in-delhi. Accessed on 3 April 2017.
- Vinay M., Sheetal MP, Mahendra BJ. Awareness regarding Rabies and its prevention among first-year Medical College Students of Mandya Institutue of Medical Sciences Mandya. APCRI J. 2012;13(2):13-5.
- 11. Agarwal N, Reddaiah VP. Knowledge, Attitude and Practice Following Dog Bite: A Community-Based Epidemiological Study. Health Population Perspectives Issues. 2003;26(4):154-61.
- 12. Kabeta T, Deresa B, Tigre W, Ward MP, Mor SM. Knowledge, Attitudes and Practices of Animal Bite Victims Attending an Anti-rabies Health Center in Jimma Town, Ethiopia. PLoS Negl Trop Dis. 2015;9(6):e0003867.

Cite this article as: Jakasania AH, Mansuri FM, Dixit GT. An association of knowledge and misconceptions with health seeking behaviour for dog bite: a cross-sectional study in Ahmedabad. Int J Community Med Public Health 2017;4:2592-5.