



A STUDY ON KNOWLEDGE ATTITUDE AND PRACTICE REGARDING ANIMAL BITE AMONG GENERAL AND SLUM POPULATION IN KOLKATA

Medicine

Dr. Niraj Kumar Singh

DNB (Post MBBS) 3rd Year, Social and Preventive Medicine, College of Medicine & JNM Hospital, Kalyani, Nadia, West Bengal.

Dr. Ayan Ghosh

Assist Professor, Dept. of Community Medicine, College of Medicine & JNM Hospital, Kalyani, Nadia, West Bengal.

Dr. Debrashi Jana* IPGMR and SSKM Hospital, Kolkata, West Bengal.*Corresponding Author

ABSTRACT

INTRODUCTION: India is the second largest contributor to Rabies mortality in the world. According to a recent report of World Health Organization (WHO), approximately 55,000 human deaths are reported every year worldwide due to rabies, with an overwhelming majority of 32,000 cases reported in Asia of which 20,000 occur in India.

AIMS: The general awareness about the rabies in general population, awareness of people about anti rabies vaccines and health services utilization.

MATERIAL AND METHOD: The study was an observational, questionnaire-based study. For the purpose of this thesis, a descriptive correlative analytical survey was used, in which a qualitative approach was undertaken to determine the answers of mentioned research questions. The study was slum to the general people. The expected duration of the study was approximately six months between 1st January 2019 to 30th Dec 2019.

RESULT AND DISCUSSION: We found that 77(51.3%) patients answered that on being bitten from an infected animal, both people and animals can get rabies, 46(30.7%) patients answered that on several sorts of contact with an infected animal (e.g. bite, lick, scratch) people and animals can get rabies and 27(18.0%) patients don't know how can people and animals get rabies. It was found that 113(75.3%) patients had answered that the person who is infected with rabies gets crazy/mad/dangerous, 10(6.7%) patients had answered that the person who is infected with rabies of some can get better/get treatment/do not die and 27(18.0%) patients had answered they don't know about the outcome of the treatment. It was found that 60(40.0%) patients had answered rabies treatable, 63(42.0%) patients had answered no and 27(18.0%) patients had answered do not know. We found that 145(96.7%) patients preferred to take Anti-rabies vaccine. 75(50.0%) patients answered yes, these vaccines available free of cost in govt. hospitals, 82.0% of the study populations were found to have heard about rabies; Most of them had good knowledge regarding first-aid measures. Our findings indicate that the urban community has good knowledge about rabies but unfortunately, they are unaware about rabies fatality. Hence, there is need to create awareness regarding wound management and post-exposure immunization.

CONCLUSION: The knowledge, attitude and practices with respect to prevention and treatment of rabies were found adequate amongst the urban population. Thus, community based health education may be increased in these areas to create awareness regarding rabies.

KEYWORDS

Knowledge, attitude, rabies, general population, animal bite

INTRODUCTION

Rabies is such a disease, which is nearly 100% preventable, but once rabies develop, it would definitely lead to highly painful death, even in this era of medical marvel. India is the second largest contributor to Rabies mortality in the world. According to a recent report of World Health Organization (WHO), approximately 55,000 human deaths are reported every year worldwide due to rabies, with an overwhelming majority of 32,000 cases reported in Asia of which 20,000 occur in India^{1,3}. Most of them are from poor or low-income socioeconomic status. Rabies is an enzootic and epizootic disease of worldwide importance. In India, rabies is a zoonotic problem of considerable magnitude. It occurs in all states in India with exception of Lakshadweep, Andaman & Nicobar Islands³. Annual mortality of more than 30,000 reported by national authorities may not be a complete picture considering the fact that the figure reported remained static since 1985. It is estimated that number of deaths due to rabies may be much higher than those reported. Every year approximately 1.1 to 1.5, million people in India receive post-exposure prophylactic treatment. More than 95% of 2 million animal bites that are reported each year in India is because of dog-bite, of which about 60% are strays and 40% are pets. A person is bitten every 2 seconds, and someone dies from rabies every 30 minutes⁴.

Treatment after exposure, known as post-exposure prophylaxis (PEP) is highly successful in preventing the disease, if administered within six days of infection. It has three main components, namely wound treatment (1/3), ant rabies vaccine (1/3), ant rabies serum + ARV (1/3) and it should be timely and appropriately given³. Washing the wound with soap and tap water for approximately 5 minutes can reduce rabies incidences by up to 65%¹.

In Turkey, 247 human rabies cases were reported between 1980 and 2006. The epidemiology of human rabies post-exposure prophylaxis (PEP) in Turkey was described as one, 43,915 cases (218.7/1, 00,000 population) in 2006 as recorded by the Turkish Ministry of Health. The

number of PEP cases reported in Sanliurfa in 2006 was 1331 (105.0/1, 00,000 population). Sanliurfa, where this study was conducted, is located in the south-eastern Anatolia region of Turkey, one of the least developed regions of the country. In this region, the (total fertility rate is 4.19 and the mean number of children born to women aged 15–49 years is 6.61); education level is extremely low (63.2% of women and 39.3% of men are illiterate); and both access to healthcare and service utilization are limited. Most of the developed countries are now free of rabies because of pet immunisation & human prophylaxis. In developing countries, 90 percent or more of rabies cases in humans are caused by dog bites. In the United States, rabies in dogs has been largely eliminated because of animal vaccination and control measure. Wild bats now pose the greatest risk of rabies to humans, although rabies in raccoons, skunks, and foxes pose the greatest risk to domestic animals.³

Monitoring and surveillance of the disease should be a central element of every rabies programme. Declaring a disease notifiable is crucial to establish functional reporting. Education on dog behaviour and bite prevention for both children and adults is an essential extension of a rabies vaccination programme and can decrease both the incidence of human rabies and the financial burden of treating dog bites. Increasing awareness of rabies prevention and control in communities includes education and information on responsible pet ownership, how to prevent dog bites, and immediate care measures after a bite.

AIMS

1. To know the general awareness about the rabies in general population
2. To identify the level of general awareness and knowledge of wound management among the cases of dog or animal bite
3. To ascertain the first aid measures adopted by people after dog or animal bite
4. To study the awareness of people about anti rabies vaccines and health services utilization.

MATERIAL AND METHOD

STUDY METHODOLOGY

This section deals with the research methods that were used in this study to survey the knowledge, attitudes and practices of the slum people in India regarding rabies prevention and care. The study was slum to the general people. The expected duration of the study was approximately six months between 1st January 2019 to 30th Dec 2019.

Study Design:

The study was an observational, questionnaire-based study. For the purpose of this thesis, a descriptive co relational analytical survey was used, in which a qualitative approach was undertaken to determine the answers of mentioned research questions.

INCLUSION CRITERION:

- Person aged above 18 year and more who are willing to be included in this study

EXCLUSION CRITERION:

- Age less than 18 years
- Illiterate person
- Not willing to participate

If it is presumed⁵ that the knowledge level about Rabies prophylaxis, prevention and practices is about 60% and is represented by 'P' then the persons lacking the knowledge would be $100-60=40\%$ [represented by 'Q']

The questionnaire for this study are prevalidated^{6,7} and based on the WHO and National Guidelines for rabies prophylaxis and prevention and drafted in English Bengali & Hindi language.

RESULTS AND DISCUSSION

Krishnamoorthy Y et al⁸ (2018) found that among 386 participants, 244 (63.2%) were in the age group 31-60 years, 259 (67.1%) were females, 103 (26.7%) had no formal-education. About 68% were found to have adequate knowledge regarding rabies but only 49.5% were aware of local wound-management and 237 (61.4%) showed a positive attitude towards vaccination following scratches/lick over abraded skin. Noureen Reet al⁹ (2018) found that adult population age between 18-50yrs old. Total 150 responder interviewed, 117 (78%) of them were males and 32 (21%) females. 38% of the age of responders were between 15 to 29 years, (57)38.0% 30 to 45 years and (76)50.7% and above 45 years old were (17)11.3%. Tandon S et al¹⁰ (2017) found that the majority age group was 18 to 29 (55%) years and 157 (76%) males and 48 (24%) were females.

We found that 4(2.7%) patients had ≤ 20 years of age, 43(28.7%) patients had 21-30 years of age, 36(24.0%) patients had 31-40 years of age, 29(19.3%) patients had 41-50 years of age, 29(19.3%) patients had 51-60 years of age and 9(6.0%) patients had >60 years of age. 85(56.7%) patients had female and 65(43.3%) patients had male. Proportion of female was significantly higher than male. We found that 25(16.7%) patients had illiterate, 43(28.7%) patients had primary, 26(17.3%) patients had secondary, 44(29.3%) patients had graduate and 12(8.0%) patients had postgraduate. The value of z is 0.1272. The value of p is .89656. The result is not significant at $p < .05$.

It was found that 81(54.0%) patients had upper class, 26(17.3%) patients had middle class, 16(10.7%) patients had upper middle class, 17(11.3%) patients had lower middle class and 10(6.7%) patients had lower class.

Proportion of upper class patients was significantly higher than others. Sambo M et al¹¹ (2014) found that $>95\%$ had heard about rabies, and $>80\%$ knew that rabies is transmitted through dog bites. People who (1) had greater education, (2) originated from areas with a history of rabies interventions, (3) had experienced exposure by a suspect rabid animal, (4) were male and (5) owned dogs were more likely to have greater knowledge about the disease.

Davlin SL et al¹² (2014) found that the majority of households had heard of rabies (94%); however, specific knowledge of rabies was limited. Tandon S et al¹⁰ (2017) found that 77.8 and 77 percent had heard of rabies and believed it to be fatal respectively. Noureen Reet al⁹ (2018) found that most of the responders showed that they had heard about rabies. 63.3% people had good level of knowledge on rabies. Ghosh S et al¹³ (2016) found that the majority of the respondents have

heard about rabies (73%) and there was a high level of awareness that dog bite is the main cause of rabies (86%), and that rabies can be prevented by vaccination (85%).

We found that 123(82.0%) patients had ever heard of rabies and the value of z is 11.0851. The value of p is $< .00001$. The result is significant at $p < .05$. 54(36.0%) patients had known rabies is a disease, 59(39.3%) patients don't know about rabies and 37(24.7%) patients had known rabies is mad dog/madness/aggressiveness.

Herbert M et al¹⁴ (2012) found that 74.1% of the participants had heard about rabies, and 54.1% knew that rabies is a fatal disease. Gender, age and educational status were significantly associated with rabies awareness. It was found that 112(74.7%) patients had answered yes of people get rabies and 123(82.0%) patients answered yes of dogs get rabies. These proportions were statistically significant.

Digafe RT et al¹⁵ (2015) found that the need for immediate treatment after exposure was mentioned by less than half (47.4 %) of the respondents and only 38.8 % of the respondents considered modern medicine as appropriate treatment after exposure to rabid animals.

We found that 77(51.3%) patients answered that bite from an infected animal people and animals can get rabies, 46(30.7%) patients answered that several sorts of contact with an infected animal (e.g. bite, lick, scratch) people and animals can get rabies and 27(18.0%) patients had don't know how can people and animals get rabies. The value of z is 3.639. The value of p is .00028. The result is significant at $p < .05$. 123(82.0%) patients answered that if it has altered /strange behavior means dog has rabies and 27(18.0%) patients don't know and this (82.0%) was statistically significant.

Hossain M et al¹⁶ (2016) found that almost 100% of the respondents of different categories seek treatment of rabies from the hospital. Majority of them know about the fatality of rabies and believed that rabies could be prevented by vaccination program. Noureen Reet al⁹ (2018) found that attitude towards anti rabies are not good in the community 54.7% people was aware about vaccination We found that 145(96.7%) patients preferred to take Anti-rabies vaccine and 5(3.3%) preferred to take Tetanus vaccine. The result is significant at $p < .05$.

Ghosh S et al¹³ (2016) found that none of the victims have received rabies immunoglobulin (RIG). It was found that 75(50.0%) patients answered yes, these vaccines available free of cost in govt. hospitals, 17(11.3%) patients had no and 58(38.7%) patients don't know. The value of z is 1.9757. The value of p is .0477. The result is significant at $p < .05$.

CONCLUSION

Education of rabies about possible sources of infection, mode of transmission and measures to be taken after exposure is very important in the study area.

82.0% of the study populations were found to have heard about rabies; Most of them had good knowledge regarding first-aid measures.

Our findings indicate that the urban community has good knowledge about rabies but unfortunately, they are unaware about rabies fatality. Hence, there is need to create awareness regarding wound management and post-exposure immunization.

The knowledge, attitude and practices with respect to prevention and treatment of rabies were found adequate amongst the urban population. Thus, community based health education may be increased in these areas to create awareness regarding rabies.

Table: Distribution of Have you ever heard of rabies?, What is rabies?, Can people get rabies?, Can dogs get rabies?, How can people and animals get rabies?, How can you tell that a dog has rabies? and What happens with a person who gets infected with rabies?

		Frequency	Percent
Have you ever heard of rabies?	No	27	18.0%
	Yes	123	82.0%
	Total	150	100.0%
What is rabies?	A disease	54	36.0%
	Don't Know	59	39.3%

	Mad dog/madness/ aggressiveness	37	24.7%
	Total	150	100.0%
Can people get rabies?	No	38	25.3%
	Yes	112	74.7%
	Total	150	100.0%
Can dogs get rabies?	No	27	18.0%
	Yes	123	82.0%
	Total	150	100.0%
How can people and animals get rabies?	Bite from an infected animal	77	51.3%
	Several sorts of contact with an infected animal (e.g. bite, lick, scratch)	46	30.7%
	Don't Know	27	18.0%
	Total	150	100.0%
How can you tell that a dog has rabies?	It has altered /strange behavior	123	82.0%
	Don't know	27	18.0%
	Total	150	100.0%
What happens with a person who gets infected with rabies?	The person gets crazy/mad/dangerous	113	75.3%
	Some can get better/get treatment/do not die	10	6.7%
	Don't know	27	18.0%
	Total	150	100.0%

REFERENCES

- "Rabies Fact Sheet N°99". World Health Organization. July 2013. Archived from the original on 1 April 2014. Retrieved 28 February 2014.
- "Rabies - Symptoms and causes". Mayo Clinic. Retrieved 9 April 2018.
- "Rabies, Australian bat lyssavirus and other lyssaviruses". The Department of Health. December 2013. Archived from the original on 4 March 2014. Retrieved 1 March 2014.
- Smallman-Raynor, Andrew Cliff, Peter Haggett, Matthew (2004). World atlas of epidemic diseases. London: Arnold. p. 51.
- "Rabies-Free Countries and Political Units". CDC. Archived from the original on 5 March 2014. Retrieved 8 May 2019.
- "Neglected Tropical Diseases". cdc.gov. 6 June 2011. Archived from the original on 4 December 2014. Retrieved 28 November 2014.
- Giesen, A; Gniel, D; Malerczyk, C (March 2015). "30 Years of rabies vaccination with Rabipur: a summary of clinical data and global experience". *Expert Review of Vaccines* (Review). 14 (3): 351–67.
- Krishnamoorthy Y, Vijayageetha M, Sarkar S. Awareness about rabies among general population and treatment seeking behaviour following dog-bite in rural Puducherry: a community based cross-sectional study. *International Journal Of Community Medicine And Public Health*. 2018 May 22;5(6):2557-63.
- Noureen R. Knowledge, Attitude and Practice regarding Rabies in Rural area of Lahore. July 2018
- Tandon S, Kotwal SK, Malik MA, Singh M, Kumar D, Shafiq M, Kumar M. A Community Based Survey on Rabies Control and Prevention using KAP in Jammu, India. *Journal of Animal Research*. 2017 Dec 1;7(6):1019-28.
- Sambo M, Lembo T, Cleaveland S, Ferguson HM, Sikana L, Simon C, Urassa H, Hampson K. Knowledge, attitudes and practices (KAP) about rabies prevention and control: a community survey in Tanzania. *PLoS neglected tropical diseases*. 2014 Dec 4;8(12):e3310.
- Davlin SL, Lapiz SM, Miranda ME, Murray KO. Knowledge, attitudes, and practices regarding rabies in Filipinos following implementation of the Bohol Rabies Prevention and Elimination Programme. *Epidemiology & Infection*. 2014 Jul;142(7):1476-85.
- Ghosh S, Chowdhury S, Haider N, Bhowmik RK, Rana MS, Prue Marna AS, Hossain MB, Debnath NC, Ahmed BN. Awareness of rabies and response to dog bites in a Bangladesh community. *Veterinary medicine and science*. 2016 Aug;2(3):161-9.
- Herbert M, Basha R, Thangaraj S. Community perception regarding rabies prevention and stray dog control in urban slums in India. *Journal of infection and public health*. 2012 Dec 1;5(6):374-80.
- Digafe RT, Kifelew LG, Mechesso AF. Knowledge, attitudes and practices towards rabies: questionnaire survey in rural household heads of Gondar Zuria District, Ethiopia. *BMC research notes*. 2015 Dec;8(1):400.
- Hossain M, Bhuiyan MJ. Baseline Surveillance on Rabies in Sylhet and Rangpur division in Bangladesh. *Int J Biotech & Bioeng*. 2016;2:1-39.