

**ASSESSMENT OF THE LEVEL OF KNOWLEDGE, ATTITUDE AND PRACTICES  
REGARDING PREVENTION OF DOG BITE AMONG THE URBAN POPULATION OF  
JODHPUR CITY**

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Article Received on 01/08/2022

Article Revised on 22/08/2022

Article Accepted on 12/09/2022

**ABSTARCT**

**Introduction:** Rabies remains an important public health problem worldwide due to endemic dog rabies in developing countries. Rabies occurs in more than 150 countries and territories. Although a number of carnivorous and bat species serve as natural reservoir, rabies in dogs is the source of 99 per cent of human infection. **Objective:** To assess the level of knowledge, attitude and practices regarding prevention of dog bite among the urban population of Jodhpur city, Rajasthan. **Methods:** A cross-sectional study was done among urban population of Jodhpur city of Rajasthan. Data was collected by using pre-designed questionnaire from 330 participants. Data was compiled as a MS-Excel spreadsheet and data analysis was done with the help of Microsoft Excel (version 2010). Descriptive statistics and chi square test were applied. KAP score were calculated and  $P < 0.05$  was considered statistically significant. **Results:** About 70% of participants had heard about rabies. Among them only 57.57% knew it is a fatal disease, 35.15% of participants said that washing the wound with soap and water is necessary after dog bite. 76.06% of respondents said that it is important to observe the dog after dog bite. KAP score was significantly associated with age, sex, education. **Conclusion:** Most of the participants had good knowledge regarding major reservoir of rabies as dog. Lack of understanding of wound management after dog bite was seen among the participants in this study. KAP score was significantly associated with age, sex and education.

**KEYWORDS:** Rabies, KAP score, dog bite Rabies remains an important public health problem worldwide due to endemic dog rabies in developing countries.<sup>[1]</sup>

**DEFINITION**

Rabies, also known as *hydrophobia* is an acute, highly fatal viral disease of the central nervous system, caused by Lyssavirus type 1. It is primarily a zoonotic disease of warm blooded animals, particularly carnivorous such as dogs, cats, jackals and wolves. It is transmitted to man usually by bites or licks of rabid animals.<sup>[2]</sup> Classical hydrophobia is clinically characterized by a long and variable incubation period, a short period of illness due to encephalomyelitis ending in death, despite intensive care. It is the only communicable disease of man that is always fatal.<sup>[2]</sup>

**Geographic Distribution**

Rabies is an enzootic and epizootic disease of worldwide importance. Some countries have achieved "rabies free" status by vigorous campaigns of elimination, while in others the disease has never been introduced. Geographic boundaries seem to play an important role here. Water appears to be the most effective natural barrier to rabies. Australia, China (Taiwan), Cyprus, Iceland, Ireland, Japan, Malta, New Zealand, the U.K. and the islands of Western Pacific are all free of the disease. The Liberian

peninsula and Finland, Norway and Sweden are also rabies free.<sup>[3]</sup> In India, Union Territory of Lakshadweep and Andaman and Nicobar islands are free of the disease.<sup>[4]</sup> A "Rabies-free" area has been defined as one in which no case of indigenously acquired rabies has occurred in man or any animal species for 2 years.<sup>[5]</sup> According to WHO reports, in many countries rabies is spreading inspite of great advances in research and field control methods. Rabies occurs in more than 150 countries and territories. Although a number of carnivorous and bat species serve as natural reservoir, rabies in dogs is the ~source of 99 per cent of human infection, and possess a potential threat to more than 3.3 billion people.

In a number of countries, human deaths from rabies are likely to be grossly underreported, particularly in the youngest age groups. Vast majority of the estimated 55,000 deaths caused by rabies each year occur in rural areas of Africa and Asia. In India alone, 20,000 deaths (that is, about 2 per lac population at risk) are estimated to occur annually; in Africa, the corresponding figure is 24,000 (about 4 per lac population at risk).<sup>[6]</sup>

Although all age groups are susceptible, rabies is most common in children aged less than 15 years; on an average, 40 per cent of post-exposure immunization are given to children aged 5- 14 years, and the majority of those immunized are male. In the north-western part of the United Republic of Tanzania, the incidence of rabies was upto 5 times higher in children aged less than 15 years than in adults.<sup>[6]</sup> At the global level, more than 15 million people receive rabies prophylaxis annually, the majority of whom live in China and India. It is estimated that in the absence of post-exposure prophylaxis, about 327,000 persons would die from rabies in Africa and Asia each year.<sup>[6]</sup>

### Rationale

To assess the level of knowledge, attitude and practices of people regarding dog bite and whether rabies knowledge is associated with proper control practices by the people or not because rabies is still a major public health issue. The big problem in India is a lack of awareness about rabies, and more importantly, lack of knowledge around its prevention and treatment. Because if rabies is not treated, the disease is fatal. It is a preventable viral disease if treated soon after exposure, which is why it is very important to know what an exposure to rabies may be in addition to understanding the disease and how it is transmitted.

### AIM AND OBJECTIVE

To assess the level of knowledge, attitude and practices regarding prevention of dog bite among the urban population of Jodhpur city, Rajasthan.

### MATERIAL AND METHOD

Rabies is a vaccine-preventable, zoonotic, viral disease. Once clinical symptoms appear, rabies is virtually 100% fatal. In up to 99% of cases, domestic dogs are responsible for rabies virus transmission to humans. Yet, rabies can affect both domestic and wild animals. It is spread to people and animals through bites or scratches, usually through saliva.

### Sample Size & Sampling Technique

The sample size for this study was calculated using the previous value of population proportion (p) i.e. prevalence from previous studies.

- $p = 72\% = 0.72$
- $1-p = 1-0.72 = 0.28$
- Total margin of error = 5%
- Confidence level = 95%
- The formula used for calculation:  $n = \frac{z^2 \times p(1-p)}{e^2}$
- $n = (1.96 \times 1.96 \times 0.72 \times 0.28) / 0.05 \times 0.05$
- $n = 309.78 \approx 310$

The sample size is further increased by 5% to account for contingencies such as non-response or recording error.

$$n + 5\% = 310 + 16 = 326 \approx 330$$

Total 330 participants were selected randomly from the urban population of Jodhpur city. The sampling technique used was Simple Random Sampling.

### Data Analysis

Data collected by the Structured Questionnaire was compiled as a MS-Excel spreadsheet and data analysis would also be done with the help of Microsoft Excel (version 2010).

### Study Setting

This study was conducted among the urban population of Jodhpur city, Rajasthan.

### Study Design

This study would be a community based cross-sectional study.

### Data Collection Tools

Data was collected by using a structured 'Interview Schedule'. The questionnaire was designed by me under the guidance of informed advisor, Dr Anusuya Gehlot.

### There are Four Sections in the Interview Schedule

- Personal Information
- Knowledge
- Attitude
- Practices

### Data Collection Technique

The participants were interviewed personally in Hindi and Marwari Language.

### Study Duration

6 Months

### Inclusion Criteria

In this study, respondents of 18 years and above 18 years of age were interviewed.

### RESULT

As shown in Table 01, the association between independent (socio-demographic) variables and dependent (KAP scores) variables was assessed using Chi-square test. There was a good association between KAP scores and Age ( $\chi^2 = 30.1396$ ,  $p < 0.05$ ). Good association was seen between Gender and KAP scores ( $\chi^2 = 35.5175$ ,  $p < 0.05$ ). There was a significant association between Education level and KAP scores ( $\chi^2 = 46.4168$ ,  $p < 0.05$ ). The null hypothesis is strongly rejected in this study as p value is  $< 0.00001$  which is very much less than level of significance ( $p = 0.05$ ). Therefore there is a significant association between Socio-demographic profiles and KAP scores of rabies.

**Table 01: Relationship between KAP scores of rabies and socio demographic profiles.**

Variables	Good	Poor	$\chi^2$	P value
<b>GENDER</b>				
Male (216)	137	79	35.5175	<0.00001
Female (114)	33	81		
<b>EDUCATION</b>				
Illiterate (33)	6	27	46.4168	<0.00001
Pre-school (64)	48	16		
Middle school (29)	11	18		
High school (6)	4	2		
Intermediate or post high school diploma (76)	44	32		
Graduate or postgraduate (119)	88	31		
Profession or Honours (3)	2	1		
<b>AGE</b>				
18-30 (68)	38	30	30.1396	<0.00001
31-45 (142)	53	89		
46-60 (101)	20	81		
≥61 (19)	2	17		

## DISCUSSION

Total 330 participants were included in this study out of which In this study 216 were Male participants and 114 were Females participants. In this study 20.60% of the participants were of age group 18-30 years, 43.03% were of 31-45 years, 30.60% were of age group 46-60 years and 5.75% were of above 61 years of age.

The total number of participants in this study is similar to another study conducted in Kancheepuram district of Tamil Nadu, India with its similar participant size of 350.<sup>[7]</sup>

In this study 70% participants were aware of the term 'Rabies' which is similar to the results of another study done in Tamil Nadu in which 76% of the participants had heard of the term rabies.<sup>[7]</sup>

In this study 57.57% of participants were knowing that rabies is a fatal disease which is similar to the results of a study done in Tamil Nadu in which 63.5% of the participants were knowing that rabies is a fatal disease.<sup>[7]</sup>

In this study socio-demographic profiles is significantly associated with KAP scores of rabies which is similar to the results of a study conducted in Berhampur, Odisha in which also the KAP scores are significantly associated with socio-demographic profiles.<sup>[8]</sup>

In this study 80% of the participants reported that rabies is transmitted by dogs which is similar to the results of a study done in Tamil Nadu in which 60.9% of the participants reported that rabies is transmitted by dogs.<sup>[7]</sup> In this study 35.15% of the participants said that they will wash the wound with soap and water after dog bite which is similar to the results of the study done in Tamil Nadu in which 36.2% of the participants were knowing that washing the wound with soap and water is important

after dog bite.<sup>[7]</sup> In this study 77% of the participants said that they will go to doctor after dog bite which is in contrast to the results of a study conducted in urban slum area of Wanawadi of Pune in which 24% of the participants said that they will visit a doctor after dog bite.<sup>[9]</sup>

In this study 67.02% of the participants were aware that rabies vaccine is available in government hospital which is in contrast to the results of a study done in Tamil Nadu in which only 18.3% of the participants were aware that rabies vaccine is available in government hospital.<sup>[7]</sup>

In this study 56.06% of the participants said that they will inform the authorities if bitten by dog which is in contrast to the results of a study done in Tamil Nadu in which only 2.6% of the participants said that they will inform the authorities if bitten by dog.<sup>[7]</sup>

In this study 49.39% of participants said that rabies is caused by microorganisms which is in contrast to the results of a study done in rural Tamil Nadu in which 6.9% of the participants said that rabies is caused by microorganisms.<sup>[10]</sup>

In this study 10.9% of the participants said that they will observe the dog for 10 days after dog bite which is in contrast to the results of a study done in Tamil Nadu in which 67% of the participants said that they will observe the dog after dog bite.<sup>[7]</sup>

## CONCLUSION

In this study, there was good knowledge among the participants regarding awareness of the term rabies. Most of the participants had good knowledge regarding major reservoir of rabies as dog. Participants had a fair knowledge about the cause of rabies. Knowledge regarding fatality of rabies was also fair among the

participants. There was poor knowledge among the participants regarding site of vaccination after dog bite. Knowledge regarding most dangerous sites of bite was also poor among the participants. Lack of understanding of wound management after dog bite was also seen among the participants in this study.

### Recommendations

- The knowledge, attitude and practice about animal bite and its prevention could be further enhanced through proper health education through electronic media in local language and by the use of IEC materials.
- Regular interventions targeted at controlling stray dogs and vaccination of dogs should be employed to control the disease.

### Limitation of study

- This study was conducted in a very limited population of Jodhpur city which limit the generalization of the findings.
- The design of this study was cross-sectional which provided the information at one point of time. This type of design was unable to attribute whether the exposure will precede any outcome or not, in general this type of design was unable to attribute causality.

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