

# Knowledge and Practices of General Public in Context to Canine Rabies

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## ABSTRACT

**Objective:** To estimate knowledge and practices of general public in context to canine rabies.

**Study Design:** Retrospective study.

**Place and Duration of Study:** Department of Nephrology, Mayo Hospital, Lahore 1<sup>st</sup> January 2020 to 30<sup>th</sup> June 2020.

**Methodology:** Based on variance in topography and high animal acquaintance, the area was divided into four cardinal points and 50 respondents were taken from each area. A well-structured questionnaire was designed for entering the required information in form of open ended questions regarding their knowledge and general practices. All the responses were categorized and further decoded for extracting related information.

**Results:** There were 127 male and 73 female respondents. The mean age was 29.3±3.5 years with 52% within the age group of 26-35 years. Only 44% respondents were known about clinical symptoms of rabies. Almost half of the respondents had their pets vaccinated while other half did not vaccinate their pet/pets against rabies.

**Conclusion:** More awareness program should be conducted for increasing knowledge of general public against rabies disease.

**Key words:** Knowledge, General public, Canine rabies

## INTRODUCTION

Rabies is a deadly virus, transmitted through the bite of an infected animal. It is considered as one of the most ancient infection.<sup>1,2</sup> Virus which is responsible for its transmission is rhabdovirus and animals like bats, dogs, cats, raccoons and foxes are the carriers of its transmission to humans or mammals, usually through the bite of an animal.<sup>3</sup> It is a fatal disease that typically affects central nervous system (CNS) and in most cases it always leads to death. It is one the most common reason of virus related mortalities in developing as well as in developed countries.<sup>4</sup>

Rabies causes upto 55,000 death annually, worldwide, making it the 11<sup>th</sup> deadliest viral infectious disease. Highest reported cases of mortalities are from subcontinents, followed by Africa.<sup>4</sup> High incidence rate of rabies from developing countries showed ineffective strategies and prevention/control programs in this region of the world.<sup>5-7</sup> Knowledge attitude and practice (KAP) surveys are most widely accepted around the globe for public health/medical related study programs to enhance the awareness and knowledge against specific disease. Consequently, incidence rate and frequency of the disease is seen minimized against different disease condition and severity.<sup>8,9</sup> Likewise, KAP surveys also help in identifying cultural beliefs and behavioral gaps which may pose serious hazards and barriers especially against zoonotic diseases.<sup>10,11</sup> These strategies can prove helpful in public health awareness programs and estimation of diseases control program.<sup>12</sup>

This study is designed to evaluate general public health awareness against rabies. Results of this study will prove helpful in strategic control programs development and retrieval of baseline data in identifying loops in knowledge and practices related with rabies.

## MATERIALS AND METHODS

The retrospective study was carried out at Department of Nephrology, Mayo Hospital, Lahore 1<sup>st</sup> January 2020 to 30<sup>th</sup> June 2020. The area was divided into four cardinal points and 50 respondents were taken from each area. The study regions selection was based on variance in topography and high animal acquaintance. Both of these reasons can be contributing factors in spreading of rabies. Convenient sampling technique was used for gaining knowledge of general public and their practices towards canine rabies. The area mayor/head was approached for consent taking. In each allotted area in accordance with cardinal points the first house in street 1 was considered as starting point and one respondent from each house was questioned/interviewed in context to his/her knowledge and practices about canine rabies. The data collection was then continued until 50 respondents from

50 households were not availed. If any personal denied for participating in the study, then next house was considered without further delay. A well structured questionnaire was designed for entering the required information in form of open ended questions regarding their knowledge and general practices. All the responses were categorized and further decoded for extracting related information. The age of respondents was 15-45 years. Verbal consent was taken from each respondent. Data was entered in SPSS version 25.0 for statistical analysis.

## RESULTS

There were 127 males and 73 female respondents in the present study. The mean age of the respondents was 29.3±3.5 years with 52% within the age group of 26-35 years. The education status of respondents showed that majority were having high secondary education however the variance among three groups was not significant (Table 1).

The questions regarding knowledge about rabies in general public showed that most of the respondent had sufficient knowledge regarding rabies through dog bites and also that it causes morbidity as replied by 78.5 and 72.5 parent's respondents respectively. However, only 44% respondents were known about clinical symptoms of rabies. Respondents had greater knowledge regarding post vaccine efficacy rather than pre vaccine efficacies (Table 2).

The questions regarding general practices from the respondents showed that almost half of the respondents had their pets vaccinated while other half did not vaccinate their pet/pets against rabies. They also did not encourage the practice of going to the clinician in case of suspected dog bites. The practice of pet owners against self-vaccination was very poor and significantly lower (P value <0.05) [Table 3].

Table 1: Distribution of gender, age and education among study respondents (n=200)

| Variable       | No. | %    |
|----------------|-----|------|
| Gender         |     |      |
| Male           | 127 | 63.5 |
| Female         | 73  | 36.5 |
| Age (years)    |     |      |
| 15-25          | 70  | 35   |
| 26-35          | 104 | 52   |
| 36-45          | 26  | 13   |
| Education      |     |      |
| Secondary      | 67  | 33.5 |
| High secondary | 71  | 35.5 |
| Bachelor       | 62  | 31   |

Table 2: Knowledge regarding canine rabies in general public (n=200)

| Knowledge Questions   | Yes |      | No  |      |
|---|-----|------|-----|------|
|   | No. | %    | No. | %    |
| Dog bites causes rabies?  | 157 | 78.5 | 43  | 21.5 |
| Can rabies cause death?   | 145 | 72.5 | 55  | 27.5 |
| Knowledge on clinical signs of rabies?                          | 88  | 44.0 | 112 | 56   |
| Have you got knowledge that rabies can be prevented by vaccine? | 138 | 69.0 | 62  | 31   |
| Have you got knowledge that vaccine can prevent pre bite?       | 93  | 46.5 | 107 | 53.5 |
| Have you got knowledge that vaccine can prevent post bite?      | 125 | 62.5 | 75  | 37.5 |
| Rabies campaigns knowledge in your area?                        | 57  | 28.5 | 143 | 71.5 |

Table 3: General practice regarding canine rabies in general public (n=200)

| Practice Questions   | Yes |      | No  |      |
|--|-----|------|-----|------|
|  | No. | %    | No. | %    |
| Do you have house pet?                                     | 124 | 62.0 | 76  | 38   |
| Is the pet vaccinated against rabies?                      | 99  | 49.5 | 101 | 50.5 |
| Are you vaccinated against rabies?                         | 47  | 23.5 | 153 | 76.5 |
| Is rabid dog killing practiced in area where you reside?   | 105 | 52.5 | 95  | 47.5 |
| Have you visited doctor post suspected dog/bat bite?       | 88  | 44.0 | 112 | 56   |
| Are there anti rabies facilities in clinic near your area? | 110 | 55.0 | 90  | 45   |
| Do you prefer vaccination against rabies?                  | 57  | 28.5 | 143 | 71.5 |

**DISCUSSION**

Rabies is one of the most important public health problem both for developed and developing countries. This deadliest tropical disease remains neglected due to limited public awareness and knowledge.<sup>13</sup> World Health Organization has worked regarded as “Zero Rabies by 2030”. Keeping this in view, many countries started awareness programs and efforts to reduce the hazards of rabies specifically due to dog bite.<sup>4,14</sup>

Majority of the study participants in this study had domestic animal like dog or cat like other parts of the world.<sup>11</sup> Almost 50% the study participants had not vaccinated their pets regularly. These results are somewhat close to other studies.<sup>15-17</sup> This creates an alarming situation for the spread of rabies virus to humans as animals are the primary source of this disease transmission.<sup>15,16</sup> Majority of the study participant were not aware of its outcomes and clinical sign and symptoms of rabies despite of the fact that they were aware of its deadly nature.

In present study, most of the respondents were aware of its transmission mainly because of dog bites. These results are comparable with other regional conducted studies.<sup>11,18</sup> But majority of the group were not aware of the post exposure parophylaxis. Basic knowledge and awareness programs help in minimize disease transmission and to enhance the need of preventive measures. People attitude towards dog bite and wound management because of this will considerably improve if effective awareness programs are made and people are aware of its associated risks. Important information regarding rabies is disseminated through radio, television, newspapers, through personal contact, from medical professionals such as researchers, health care workers.

**CONCLUSION**

There is a significant urge of increasing awareness about rabies vaccination in this region. Mass dog vaccination is the most

appropriate way to control rabies disease spread. More awareness program should be conducted for increasing knowledge of general public against rabies disease.

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