

# A preliminary survey of knowledge, attitudes and practices regarding rabies in Chhattisgarh, India

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## Abstract

A survey was conducted to know the knowledge level and attitude on rabies and dog bite management among the human population. A total 47 dead dogs and two dead cattle were selected by the PFA (People from animal organization) and immediately sent the body to the State Veterinary Diagnostic laboratory, District Raipur, Chhattisgarh, India during the year 2023. It was noted that most of the dogs were rabies positive (87.7 %) and animals were not vaccinated against rabies. Due to that the human populations are always at high risk of that zoonotic disease; the organization of vaccination campaign and awareness programme helps to save the life of human as well as animal population. Pre and post exposure vaccination is also important for maintaining quality of life and increase the mean life expectancy of the population as a whole.

**Key words:** Rabies, Zoonosis, Vaccination

## Introduction

Rabies is a fatal zoonotic disease caused by lyssavirus which is transmitted by bite of animal and spread to people and animal via saliva through bite or direct contact with mucosa. Incubation period of rabies is 2 to 3 month but may vary from 1 week to 1 year. The initial symptom of rabies are high fever, pain and burning sensation at the site of bite then virus reach to the central nervous system, progressive and fatal inflammation of the brain and spinal cord develop. Clinically, it has two forms: 1. Furious rabies – characterized by hyperactivity and hallucinations. 2. Paralytic rabies – characterized by paralysis and coma (WHO). According to WHO due to rabies approximately 59000 deaths occur worldwide every year in human population. Out of this data one third death rate occur in India and

mostly children between 5 to 14 years older were frequent victim. Prevention of rabies disease vaccination of dog and puppies is the most effective strategy because its stop the transmission of the virus. Through regular awareness campaigns for dog owners, mandatory anti-rabies vaccination, licenses to keep pets or semi-owned dogs, and measures to restrict the number of stray dogs being bred should all be implemented (S Balakrishnan 2018). By increasing and broadening the scope of laboratory infrastructure in India can contribute greatly to the elimination of human rabies by 2030 and improve public health infrastructure, infectious disease management, and public health (Ahwini *et al.*, 2024).

The PFA (People from animal organization) conducted a multi-center survey in the plain region of Chhattisgarh during 15.03.2023 to 10.01.2024.

This paper reports the salient features of the survey focusing on the spread of rabies in dogs from both rural and urban areas. As this survey is the first of its kind conducted, it has revealed some hard facts and figures, which we believe should convince State health authorities to establish comprehensive rabies control program. The data in this survey will also form the basis from which evolve strategies to reduce the number of animal as well as human rabies deaths, and eventually plan for its elimination from India.

### Material and Methods

Total 47 dead dogs (Table 1.) and two dead Cattles were identified with the help of PFA (People from animal organization) from the Raipur district of Chhattisgarh state and the dead body were sent to the State diagnostic lab Raipur Chhattisgarh. The brain samples were collected aseptically from the dog and cattle by giving a small incision in occipital region of brain followed the collection of fluid part, small tissue and other parts of brain. The samples were stored aseptically in small container with 50 % glycerol. Samples were dispatched with tetra packaging to Karnataka Veterinary, Animal and Fisheries Sciences University, Bidar (KVAFSU-CVA) Rabies Diagnostic Laboratory Department of Veterinary Microbiology Veterinary College, Bangalore. LFA (Lateral flow assay) and DFA (direct fluorescent antibody) test performed by using test protocol of OIE Manual of diagnostic Tests and vaccines for terrestrial animal 2019; SOP No. RDL 027, DOI 02.09.2019.

**Table 1. Details of the samples collected from the plain area of Chhattisgarh**

S. No	Place	Date	Positive / Negative	Species
1	Mandirhasaud Raipur	10.01.2024	Negative	Dog
2	Daldal Seoni Raipur	10.01.2024	Positive	Dog
3	Mominpara Raipur	10.01.2024	Positive	Dog

4	Mahaveer Nagar Raipur	10.01.2024	Positive	Dog
5	Parvati Nagar Raipur	10.01.2024	Negative	Dog
6	Awantivihar Raipur	03.01.2024	Positive	Dog
7	Ghadhi Chowk DKS Hospital Raipur	03.01.2024	Positive	Dog
8	Gudhiyari Raipur	03.01.2024	Negative	Dog
9	Tikarapara Raipur	03.01.2024	Positive	Dog
10	Bhanpuri Raipur	03.01.2024	Positive	Dog
11	Sarda Vihar colony Korba	6.12.2023	Negative	Cattle
12	Ward Kesrbadi32 Korba	6.12.2023	Positive	Cattle
13	Kota Colony, Raipur	6.12.2023	Positive	Dog
14	Gudhiari, Raipur	6.12.2023	Positive	Dog
15	SEC 27, Naya Raipur	6.12.2023	Positive	Dog
16	Nardaha, Raipur	6.12.2023	Positive	Dog
17	Chandkhuri, Raipur	6.12.2023	Positive	Dog
18	Budhapara Raipur	13.10.2023	Positive	Dog
19	Tatyapara Raipur	13.10.2023	Positive	Dog
20	Sejbahar Raipur	16.10.2023	Positive	Dog
21	Shri Ram Nagar Sankar nagar Raipur	29.10.2023	Positive	Dog
22	Devpuri Raipur	29.10.2023	Positive	Dog
23	Jagdapur	16.08.2023	Positive	Dog
24	Chandkhuri, Raipur	14.08.2023	Positive	Dog
25	Chandkhuri, Raipur	14.08.2023	Positive	Dog
26	Chourasiya colony, mathpurena Bhathagaon, Raipur	16.08.2023	Positive	Dog

27	Laxmi nagar Raipur	16.08.2023	Positive	Dog
28	Gautam Villa New Santoshi Nagar Raipur	16.08.2023	Negative	Dog
29	Ashok Nagar Raipur	07.08.2023	Positive	Dog
30	Shyam Nagar Raipur	27.07.2023	Positive	Dog
31	Kachana Raipur	27.07.2023	Positive	Dog
32	D.D.U.Nagar	27.07.2023	Positive	Dog
33	Shailendar Nagar Raipur	13.07.2023	Positive	Dog
34	Telibadha Raipur	13.07.2023	Positive	Dog
35	Awanti Vihar Raipur	13.07.2023	Positive	Dog
36	Gowardhan Nagar	26.06.2023	Positive	Dog
37	Taigor Nagar Raipur	23.06.2023	Positive	Dog
38	Zora,Raipur	14.06.2023	Positive	Dog
39	D.D.U.Nagar Raipur	14.06.2023	Positive	Dog
40	D.D.U.Nagar Raipur	02.06.2023	Negative	Dog
41	Ward No. 11 Shankar Nagar Raipur	02.05.2023	Positive	Dog
42	Gol Bajar Near Police station Raipur	02.05.2023	Positive	Dog
43	New Shanti Nagar Raipur	02.05.2023	Positive	Dog
44	Awanti Vihar Raipur	02.05.2023	Positive	Dog
45	Chandkhuri, Raipur	13.04.2023	Positive	Dog
46	Kabir Nagar Raipur	06.04.2023	Positive	Dog
47	Daldal Siwani Raipur	06.04.2023	Positive	Dog
48	Raipur	11.03.2023	Positive	Dog
49	Raipur	15.03.2023	Positive	Dog

## Result and discussion

Rabies is a significant health burden in India. (2) Dog mediated transmissions are the most common cause of animal and human rabies. However, rabies is a preventable disease. A large number of clinical studies have been conducted worldwide to highlight this key aspect. (5 ,7,8 ,9,10) Global statistics have shown that 90% of human deaths due to rabies occur in children. Deaths in children occur because they like playing with dogs and lack awareness about transmission of rabies by dogs. Children also try to hide dog bites and scratches for fear they might be reprimanded by their parents. To achieve the Rabies ZERO by 2030 target, the Ministry of Health and Family Welfare, Government of India has implemented the National Rabies Control Programme. One of the important aspects stressed in this programme was the education of children to prevent dog bites and encouraging parents to praise a child who tells them about a dog bite or scratches. The guidelines also asked people to avoid treating the wounds with indigenous products like turmeric, soil etc. Importance of immediate medical care after a dog bite was advocated throughout the National Rabies Control Programme. (11)

## Conclusion

It was concluded that people know about rabies transmission and how to prevent/cure pre and post exposure of rabies. People who are coming to direct contact of animal must be strengthened the pre-exposure awareness to prevent the rabies i.e. increase the vaccination of their dogs regularly. After post exposure prophylaxis, wound washing for 10-15 minutes, application of antiseptics, administration of tetanus toxoid, immediate active immunization by consulting the physician, mass immunization programme organized under 5 km area and castration of stray dog to prevent the spread of this zoonotic disease.

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