

Prevalence of Rabies Among Hospital-Admitted Rabies Suspected Dogs in and around Chennai

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Abstract

The present study is aimed to identify the prevalence of rabies cases in and around Chennai from January 2024 to December 2024 among the hospital admitted rabies suspected dogs. Data were collected from rabies suspected dog cases which were admitted in under observation for rabies (UOR) ward of Madras Veterinary College, Chennai, Tamilnadu. Cases were confirmed in post-mortem based on FAT and modified William's stain method. The prevalence of rabies for one year was 77.8%. The prevalence in male dog was 75.8% while in female dog was 69.6%. Breed-wise prevalence of non-descript and others (German shepherd, Doberman, Spitz, Kombai, Chippiparai) was 79 and 1 percent, respectively. Positive prevalence of susceptible age group was 68.18, 66.6, 61.5, 50, 45 and 40% in > one year age group, 3-6 months age group, 6-9 months age group, 0-3 months age group and 9-12 months age group respectively. The positive prevalence of unvaccinated dogs and booster-given dogs were 77.2 and 54.5% respectively.

Keywords: Rabies, FAT, prevalence, Chennai.

Rabies is a fatal and zoonotic disease of mammals and is endemic in India (Hampson *et al.*, 2015). Most of the human cases of rabies occur on the globe due to dog bites of more than 95% (Ghosh, 2006). Mortality due to rabies in Asia is mainly due to free-roaming dogs (Shah *et al.*, 2012). In India, rabies is endemic due to its poor dog population management, lack of vaccination awareness, pre-post bite exposure vaccine awareness and poor education knowledge on rabies (Sudarshan *et al.*, 2006). This article describes the prevalence of rabies among hospital-admitted rabies suspected dogs in and around Chennai at Tamilnadu in India.

Rabies-suspected dogs were admitted in under observation of rabies ward of Madras Veterinary College, Chennai Tamilnadu from January 2024 to December 2024 were included for the study. The dogs were kept in UOR for 10 days and dead dogs were sent to post-mortem examination for the confirmation of rabies. The results of the Fluorescent Antibody Test and Williams modified Van Gieson's stain for Negri bodies used as a criterion for the confirmation of rabies in the dogs admitted. The present study was to identify the rabies cases in and around Chennai from January 2024 to December 2024.

Number of dogs admitted in UOR ward from January 2024 to December 2024 was 104 while 81 (77.88%) of these dogs were confirmed to be positive for rabies.

Various breed admitted in the UOR ward that were found to be positive for rabies were non-descript dogs (64/81; 79.01%), spitz (8/8; 100%), German shepherd (6/6; 100%), dalmatian and dobermann (3/3; 100% each), Kombai (2/2; 100%), and Chippiparai (1/1; 100%). In this study, the highest level of positive prevalence of rabies was recorded in non-descript breeds (Table 1) followed by pedigree dogs agreed with the findings of Thiptara *et al.* (2011), Karshima *et al.* (2013) and Yale *et al.* (2013). This may be due to the increased local population with a lack of vaccination knowledge and irregular vaccination was predisposed the nondescript breed to higher positivity than the other breeds.

Male dogs (74.6%) had high prevalence than female dogs (67.6%) (Table 2) which coincides with the findings of Gunaseelan *et al.*, 2004; Thiptara *et al.*, 2011; Kujul *et al.*, 2012; Karshima *et al.*, 2013 and Yale *et al.*, 2013 may be due to dominant territorial activity and fighting among male dogs.

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Table 1: Breed-wise Positive prevalence of rabies-infected dogs

Breeds	Total number of dogs-admitted	Positive	Positive prevalence (Percentage)
ND	81	64	79.01
Dalmatian	3	3	100
GSD	6	6	100
Chippiparai	1	1	100
Kombi	2	2	100
Dobermann	3	3	100
Spitz	8	8	100

Table 2: Sex-wise -Positive prevalence of Rabies

Sex	Total Number of dogs admitted	Positive	Positive prevalence (% age)
Male	67	50	74.6
Female	37	25	67.6

Prevalence of rabies was higher in the above 1 year age group (66.6%) followed by 3-6 months age group (61.5%), 6-9 months age group (50%), 0-3 months age group (45%), 9-12 months age group (40%) (Table 3). Thiptara *et al.* (2011) reported that the age group of above one year was more susceptible than the other age group. This may be due to greater activity during the breeding season and irregular vaccination and unawareness of rabies to the owner may play a role in the transmission of rabies during fighting in the breeding season (Yale *et al.*, 2013). Three - six months of age group showed positivity (Karshima *et al.*, 2013) might be due to a lack of maternal immunity highly susceptible of puppies when exposed.

Table 3: Age-wise Positive prevalence of Rabies

Age	Total number	Positive	Positive prevalence (Percentage)
0-3 mon	20	9	45
3-6mon	13	8	61.5
6-9 mon	6	3	50
9-12mon	5	2	40
Above 1YR	60	40	66.7

May month (92.8%) had highest prevalence of rabies followed by February (90.9%) (Table 4).

Table 4: Month-wise positive prevalence of rabies

Months	No. of cases admitted	No. of positive cases	Positive prevalence
January	12	8	66.6
February	11	10	90.9
March	10	6	60
April	14	13	92.85
May	7	6	85.71
June	9	5	55.5
July	8	7	87.5
August	4	3	75
September	7	6	85.71
October	6	4	66.6
November	11	9	81.8
December	5	1	20

The highest positive prevalence of rabies was noticed in April (92.85%) and February (90.9%) (Table 4). This is similar to the reports of Ezeokoli and Umoh (1987) who reported that higher rabies positive cases in April due to increased breeding activity. It can also be due to increased chances of contact, higher mobility and interaction between dogs as stated by Gunseelan *et al.*

(2004), Ehizibolo *et al.* (2009), Thiptara *et al.* (2011) and Yale *et al.* (2013).

Unvaccinated dogs showed a higher positive prevalence (77.1%) than primary vaccinated dogs (52.4%) (Table 5). This may be due to unawareness and irregular vaccination of dogs by the owner as reported by Yale *et al.* (2013).

Table 5: Vaccination status of the Rabies infected dogs

Vaccination status	Total number of animals	Positive	Positive Prevalence (Percentage)
Unvaccinated	83	64	77.1
Primary vaccination	21	11	52.4

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