

A Study to Assess the Level of Knowledge regarding Prevention and Management of Rabies among Higher Secondary School Children in selected Schools of Pinarayi

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Abstract: Rabies is one of the oldest and deadliest disease known to man and still continues to cause significant human mortality. It is the world's deadliest disease, which has 100% fatality and at the same time 100% preventability. Kerala being the most literate state in the country, with a percentage of 96.2% literates still ignore about the urgency of first aid management of the wound after dog bite and the postexposure prophylaxis and treatment could be one of the causes contributing to the present situation of rise in rabies cases. The study used a non experimental descriptive design and was conducted among 120 samples of AKGM Govt.HSS,Pinarayi, by simple random sampling method. A structured knowledge questionnaire was used as a tool. The findings shows that there is significant association between knowledge level and socio-personal variables such as gender. The study shows that majority 77(64.16%) of samples have poor knowledge, 36(30%) have average knowledge and 7(5.83%) have good knowledge regarding prevention and management of rabies.

Keywords: Rabies, prevention, management

1. Introduction

Rabies is one of the most important and dangerous viral zoonosis caused by rabies virus, which belongs to the genus *Lyssavirus* and family *Rhabdoviridae*. Rabies is primarily a zoonotic disease transmitted by bites and licks of rabid animals. Although a number of wild animals serve as natural reservoirs including dogs, wolves, foxes, cats, lions, mongooses, bats, monkeys. Almost 95% of the human cases of rabies are from Asia and Africa and 99% of all human rabies is transmitted through dog bites. Globally it is estimated that rabies accounts for more than 59,000 deaths every year, and the majority of human rabies deaths occur due to the bite of rabid dogs. Since 1985, India has reported estimated 25,000-30,000 human deaths from rabies annually. Dogs are the major vectors of rabies transmission in Asian countries and they are responsible for over 95% of human death in India.¹

In India rabies is a problem of considerable magnitude. India is one of the countries with the highest population of stray dogs in the world. With these stray dogs being unvaccinated, Indians are at high risk of getting rabies. In India, the burden is unevenly distributed among different states however, the state's death rate is much lower than the national average. In India, the annual estimated number of dog bite is 17.4 million, leading to estimated 18,000-20,000 cases of human rabies per year. The true public health impact of rabies in India is unknown due to lack of accurate data. More than 59,000 people die of rabies in each year and India has the highest number of human rabies death.¹ According to the report of animal husbandry department, Kerala has reported a consistent increase in the incidence of animal bite, mostly by dogs, and subsequent deaths due to rabies over the past 6 years. Kerala being the most literate state in the country, with a percentage of 96.2% literates still ignore about the urgency

of first aid management of the wound after dog bite and the postexposure prophylaxis and treatment could be one of the causes contributing to the present situation of rise in rabies cases.²

In India, the annual estimated number of dog bite is 17.4million, leading to estimated 18,000-20,000 cases of human rabies per year. More than 59,000 people die of rabies in each year and India has the highest number of human rabies deaths ². In 2024, Kerala saw a significant increase in stray dog bite cases, from 2020-2024 , the number of people who died from rabies increased from 5 to 26 and stray dog bite cases numbered 1,60,483 in 2020, which increased to 3,16,793 in 2024 The incidence of rabies death in Kerala has increased from 5-26 from 2020-2024, highlighting the need for greater awareness and effective prevention strategies.¹

According to the report of National rabies control programme (NRCP) fact sheet, in Kerala there was consistent increase in the incidence of animal bite. As per monthly animal bite report of this programme during 2021-2022 has reported a consistent increase in the incidence of animal bite, mostly by dog. The number of dog bite cases from April to February 2022 were about 2,08,923. Most animal bite cases were reported in the Thiruvananthapuram district of Kerala, about 61,687 from April 2021 to March 2022.¹

According to World Health Organization (WHO) report (8 September 2022), India reports the highest number of rabies death in the world. Every year around 18,000 – 20,000 people die which is about 36% of the total deaths in the world. About 99% of rabies cases in humans are from dogs.⁴

A cross- sectional study was conducted on 2018 in Trivandrum, Kerala among the high school children to assess the knowledge regarding rabies. The results show that although all the study participants have heard about rabies,

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only 70 out of 200, that is 35% students knew that dog bite may lead to rabies¹.

A 17 years old boy, Sooraj from Karumadi in Thakazhi Grama panchayath in Alappuzha district of Kerala died of rabies on Friday (May 9, 2025). He died while undergoing treatment at Government Medical College Hospital (MCH), Alappuzha. A 7 years old girl, Niya Faisal, died on May 4, 2025 despite receiving postexposure vaccination, marking the third child to succumb to rabies in Kerala within a month.

Prompt and adequate local treatment along with post-exposure prophylaxis is an effective way by which rabies can be prevented. Thus, a person should learn basic first aid knowledge. It is said to not that in most developing countries like India, a lot of people are still unaware of doing basic life-saving procedures.

The Kerala Government has assured the vaccines are used only after quality tests. An expert committee was appointed to investigate the death in detail. Public awareness is essential to seek medical attention immediately after an animal bite, especially if the animal is suspected to have rabies. Proper wound care, prompt initiation of postexposure prophylaxis and adherence to the treatment protocol can significantly reduce the risk of developing rabies.

The researcher during the clinical posting in emergency department found that dog bite cases are increasing day by day and people exposed to dog bite do not continue their treatment course properly. Hence it emphasises the importance to assess the knowledge of higher secondary school children regarding the prevention and management of rabies.

2. Literature Survey

Review of literature is an important step in the development of a research project. It involves systematic identification, location, scrutiny, and summary of written material that contains information on research problems.

Review of literature related to prevalence of rabies

A study was conducted to assess the profile of dog bite cases attending M.C.D at Alipur, Delhi among 313 dog bite cases who attend the dispensary to receive anti rabies post exposure immunization. The chi-square test was used for analysis. The study showed that in case of dog bites, 69.9% were males. 53.9% of the cases were accounted for by those less than 15 years of age. 82.75% of victims suffered from class 3 exposures. Extremities were involved in the majority 88.17%. Most of the dog bite cases were unprovoked. Children less than 15 years of age were more likely to provoke a dog. Only 31.03% of the victim reported for treatment within 24 hours⁶

A study was conducted to assess the understanding demographics of dog bite victims attending anti rabies ward in Chennai city, India. A total of 256 victims of dog bites from different areas of Chennai were interviewed with a pre-tested structured questionnaire after informed a verbal consent from victims. The results show that out of the victims of dog bites the majority were males 71.87% in the age group of 11 to 20 years 21.49%. 4 While 46% of victims were bitten by stray

dogs, and most of the wounds were founded in the lower portion of the body 59.77%. 51% of the bite victims washed their wounds and 48.44% attended anti rabies ward within 24 hours for post exposure prophylaxis.⁷

Review of literature related to knowledge regarding prevention and management of rabies

A study was conducted to assess the knowledge regarding first aid management of dog bite and preventive measures of rabies among higher secondary school students in Pune. The study was carried out on 200 samples. A self-structured questionnaire was used for data collection. About 3.50% students had poor knowledge, 44.50% students had less knowledge, 40.50% of students had average knowledge, 11.50% of students had good knowledge regarding first aid management of dog bite and preventive measures of rabies.⁸

3. Methods/ Approach

In this study, quantitative research approach is used to assess the level of knowledge regarding prevention and management of rabies. Non experimental descriptive survey research design is used to assess the level of knowledge regarding prevention and management of rabies.

The researchers obtained formal permission from the principal of AKGM Govt. HSS, Pinarayi. The data was collected on 13/06/2025. The study includes 120 students of plus two at AKGM Govt. HSS, Pinarayi. Sample was selected based on the inclusion criteria using the simple random sampling method. Lottery method was adopted for selecting the sample. The investigators introduced themselves to the subjects and explained the objectives of the study to each subject. Consent was obtained and then structured knowledge questionnaire was provided to assess the knowledge regarding prevention and management of rabies. An awareness class regarding prevention and management of rabies was given and a pamphlet regarding prevention and management of rabies was displayed on the notice board. The data collection process was concluded by thanking the subject for their participation.

Description of the tool:

Section A: Socio personal variables - age, gender, education of parents, presence of pets, vaccination status of pets, place of living, history of dog bite-self/ family, history of postexposure prophylaxis, previous exposure to awareness class.

Section B: Knowledge regarding prevention and management of rabies.

4. Results

Descriptive and inferential statistics were used for analysis.

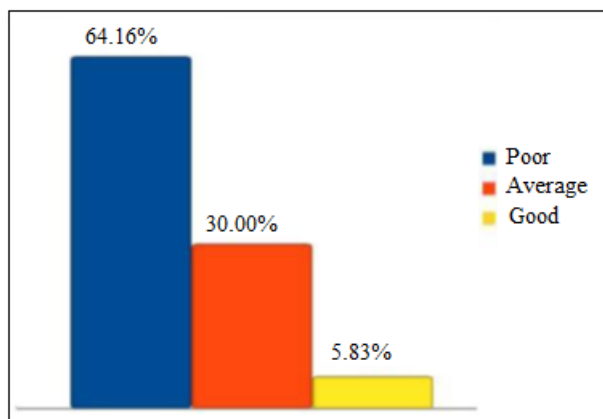


Figure 1: Bar diagram showing the distribution of sample according to the level of knowledge regarding prevention and management of rabies

Fig 1 shows that majority 77 (64.16%) of samples have poor knowledge, 36 (30%) have average knowledge and 7 (5.83%) have good knowledge regarding prevention and management of rabies.

5. Discussion

The study shows among 120 samples majority 77(64.16%) of samples have poor knowledge, 36(30%) have average knowledge and 7(5.83%) have good knowledge regarding prevention and management of rabies. The study findings are consistent with the other study were 3.50% students had poor knowledge, 44.50% students had less knowledge, 40.50% of students had average knowledge, 11.50% of students had good knowledge regarding first aid management of dog bite and preventive measures of rabies.⁸

6. Conclusion

The study concluded that higher secondary school children had varying levels of knowledge regarding the prevention and management of rabies. The findings highlight the need to strengthen awareness about rabies transmission, immediate wound care, post-exposure prophylaxis, and timely medical treatment among school children. Regular health education programmes and school-based awareness activities can help improve their knowledge and promote appropriate preventive practices. Thus, empowering children with accurate knowledge about rabies can contribute to the prevention of rabies and reduction of rabies-related morbidity and mortality.

7. Future Scope

Suggestions:

- Similar type of study can be done in a larger sample.
- Similar type of study can be conducted in different settings.

Limitations

- The study period was short duration.
- Structured questionnaire was used to collect data then inflow of information was limited.
- The study is limited to a sample size of 120.
- The study was conducted only in selected higher secondary schools of Pinarayi.

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