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**DETERMINANTS OF THE AWARENESS OF
RABIES AND ADOPTION OF CONTROL
MEASURES AMONG THE DOG OWNERS OF
THRISSUR DISTRICT**

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**Thesis submitted in partial fulfilment of the
requirement for the degree of**



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DECLARATION

I hereby declare that the thesis, entitled “**DETERMINANTS OF THE AWARENESS OF RABIES AND ADOPTION OF CONTROL MEASURES AMONG THE DOG OWNERS OF THRISSUR DISTRICT**” is a bonafide record of research work done by me during the course of research and that this thesis has not previously formed the basis for the award to me of any degree, diploma, associateship, fellowship or other similar title, of any other University or Society.

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CERTIFICATE

Certified that this thesis entitled “**DETERMINANTS OF THE AWARENESS OF RABIES AND ADOPTION OF CONTROL MEASURES AMONG THE DOG OWNERS OF THRISSUR DISTRICT**” is a record of research work done independently by **Soja Augustin**, under my guidance and supervision and that it has not previously formed the basis for the award of any degree, fellowship or associateship to her.

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*Dedicated to Beloved
Father and Mother*

A tribute to master genius Louis Pasteur

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ABBREVIATIONS

ABC	-	Animal Birth Control
ARV	-	Anti Rabies Vaccination
AHD	-	Animal Husbandry Department
LSG	-	Local Self Government

Introduction

1. INTRODUCTION

Rabies is a viral neurological disease affecting all mammals including human beings, and is invariably fatal once the clinical signs have developed. In human beings it is called hydrophobia. Though it can be prevented by vaccination, people continue to die from this distressing disease. In India rabies is a zoonotic problem of considerable magnitude. Despite the tremendous progress in the field of preventive medicine and vaccinology, rabies is widely prevalent causing extensive morbidity and mortality. According to a latest WHO estimate about 50,000 human deaths due to rabies are reported every year worldwide, out of which 30,000 are from India alone (Bhalla *et al.* 2005). Every year approximately 1.1 to 1.5 million people receive prophylactic treatment (Singh and Choudhary 2005). Children are the most common victims of dog bite. That apart, livestock also face a serious threat engendering heavy economic loss and the sufferers primarily being the poor livestock owners. Though it can strike virtually all mammals, dog is the principal reservoir in India. Over 95 percent of human deaths due to rabies are caused by dog bites.

In the recent years there has been a spurt in the stray dog population of the state. Changing food habits, unscientific waste management, public's increased awareness of animal rights as well as legal restrictions on the killing of stray dogs have all ensured a congenial environment for the proliferation of stray dogs.

Kasempimolporn *et al.* (2008) reported that stray or community dogs and to a lesser extent, unvaccinated dogs are responsible for sustaining endemic rabies in Thailand. The elimination of rabies in dogs is the most cost effective intervention to eradicate the rabies threat. Chinese authorities enacted a policy of permanently removing stray dogs from the streets of Beijing to reduce the risk of disease and injury. Further, the same authors opined that rabies control advances lag far behind technical advances, as developing countries have ineffectively applied models from industrialized countries.

Measures to reduce community dog and cat population can include neutering, spaying for pregnancy control and thereby instituting Animal Birth Control (ABC) programme. Also, local bodies viz., corporations, municipalities and panchayats in cooperation with veterinarians of Animal Husbandry Department (AHD), voluntary organizations and other local animal right groups can make genuine attempts to capture and give treatment / nursing care and house strays in specially designed shelters, from where one can even adopt. Other means of reducing stray animal population can even include depopulation measures such as euthanasia if and when permitted by law.

In view of the ever increasing stray dog population and incidences of dog bites, civic bodies are now forced to undertake on a war footing depopulation measures as well as mass vaccination drives. For instance, Thiruvananthapuram Corporation in association with AHD had embarked on a prestigious Rs 55 lakh project called “Suraksha”. The crux of this programme is an integrated rabies and ABC programme focusing on vaccination and sterilization of stray and pet dogs to make Thiruvananthapuram city rabies free by 2012. The civic body hopes to bring down the population of stray dogs from an estimated 25,000 to manageable levels with assistance from the Animal Welfare Board of India and the state AHD. Designed to substitute the catch and kill strategy which has invited strong protests from animal rights activists, the ABC programme involves a surgical laparoscopic method to sterilize stray dogs.

In Kerala, the AHD plays a decisive role in the prevention and control of animal diseases through a multipronged programme under the Animal Disease Surveillance Scheme. Rabies eradication programme in Kerala undertaken by the AHD envisages to provide Anti Rabies Vaccine (ARV) to dogs on 50 per cent subsidy basis. Anti rabies cell will be set up in all veterinary hospitals as a part of rabies eradication programme. Sterilization drive, vaccinating pet and street dogs are some of the programmes planned. In 2006, nearly 1.5 lakh preexposure anti rabies vaccinations were done in the state.

Scope of the study

To promote efforts in sustainable epidemic rabies control, the public health authorities including veterinarians and local self government institutions need to play a significant role in strengthening communities, knowledge and attitude wise. People should be educated on rabies and its mode of transmission in their own community. A more responsible attitude of people towards their dogs, cats etc., can truly result in a successful rabies control measure. There are sufficient indications that most pet owners are not aware of responsibility ownership. They and the public are not that much knowledgeable of the spread and control measures. Hence, there is a need to increase the awareness of the general population on the importance of immunizing their pet dogs and cats. Even animal bite victims sometimes do not bother to undergo vaccination. Thus, considering the public health importance of rabies, the present study is undertaken and it will throw light on general awareness, adoption of control measures, attitude towards humane dog rearing and such other issues requiring educational intervention. Data generated will be of immense use to organizations and institutions involved in rabies eradication programmes. However, the specific objectives of the study were,

1. To study the general awareness of rabies and its control
2. To study the scientific practices adopted in controlling rabies and
3. To study the determinants of extension educational importance.

Limitations

Paucity of time, resources and even earlier research were serious limitations.

Review of Literature

2. REVIEW OF LITERATURE

Review of literature is presented under the following heads

- 2.1 General awareness
- 2.2 Scientific practices adopted in controlling rabies
- 2.3 Attitude towards humane dog rearing
- 2.4 Sociopersonal characteristics

2.1 GENERAL AWARENESS

Maetz (1979) studied the animal bites in Alabama. He reported that the level of knowledge and concern regarding rabies diminished in a community that has not experienced the disease for a long time.

New *et al.* (1997) assessed the knowledge of veterinarians and their clients of Tennessee regarding heartworm preventives and vaccinations in dogs. The results showed that the expectations of veterinarians and clients regarding heartworm preventives were similar. Of clients purchasing heartworm preventives, 38% did not know that the medication was effective against intestinal nematodes. Most clients knew that annual vaccinations included distemper virus, parvo virus and rabies virus, but about half of them did not know that other antigens were in the vaccines.

Bugg *et al.* (1999) studied the awareness of gastrointestinal parasites of urban dogs in Perth. Majority of the dog owners were aware of potential risk to human health from canine helminthes. However only one third were aware of the mode of transmission to humans.

Leppanen *et al.* (1999) conducted a survey among the members of Finnish veterinarians association to study veterinarian's knowledge of canine inherited

diseases. The result revealed that veterinarian's knowledge was quite poor. Majority of veterinarians have obtained little information on both the inherited diseases and control programs. The study also revealed that dog owners got significantly less information about the canine inherited diseases.

Singh *et al.* (2000) in their study on community perceptions of jaundice in East Delhi reported that 77%, 39%, 18% and 17% people knew about the correct symptoms, dangers, causes and prevention of jaundice respectively.

Trevejo (2000) in his study on rabies pre-exposure vaccination among veterinarians and at risk staff of California reported that, the vaccination rate was greater among respondents (85.1%) than among their staff members (17.5%).

Prasad *et al.* (2001) in their survey among the health care providers of Haryana reported that 59% of HCP's was confident in managing dog bites and 93.1% knew about tissue culture vaccine.

Presutti (2001) reported in his study on prevention and treatment of dog bites that almost one half of all dogs' bites involved an animal owned by the victim's family or neighbors. Further all dog bites carried a risk of infection, but immediate copious irrigation could significantly decrease that risk. He suggested that family physicians should educate parents and children to prevent dog bites. Families acquiring a pet should consider their home environment and be told that a dog younger than four months was preferred.

Bentham *et al.* (2002) studied the knowledge and use of preventive measures related to dengue in northern Thailand. Of the 1650 persons, 67% had knowledge of dengue. Fever (81%) and rash (77%) were the most frequently mentioned symptoms.

Gibbons *et al.* (2002) made study on knowledge of bat rabies and human exposure among the cavers of USA. They found that despite long standing guidelines for cavers to receive pre-exposure for rabies only 20% have done so. Increasing the caver's awareness about the recommendation may increase compliance.

Goodwin *et al.* (2002) on a survey of knowledge, attitudes and practices of dog and cat owners of Ontario with respect to vaccinating their pets against rabies reported that greater than 90 percent of the respondents were aware that skunk, raccoon and fox were common carriers of the rabies virus. When asked about mandatory vaccination, 65% of the respondents were aware of this legislation.

Rasania *et al.* (2002) conducted a survey on awareness and practices regarding malaria in Delhi. Majority of the respondents knew that mosquito bred in water (62.9%), and mosquito breeding can be prevented (56.6%).

Sekhon *et al.* (2002) in their study to identify the misconceptions and myths in the management of animal bite cases in Patiala observed that, majority (95%) of cases were of dog bite. The number of unprovoked bites exceeded that of provoked bites.

Hairi *et al.* (2003) conducted a cross sectional survey on knowledge, attitude and practice of dengue among the rural communities in Kuala Lumpur. It was found that knowledge of the community was good. There was significant association between knowledge of dengue and attitude towards Aedes control.

Kongkaew *et al.* (2004) in their study on vaccination coverage and epidemiological parameters of the owned dog population in Thailand reported that almost all households were aware of rabies and dog rabies vaccination as a control method. Seventy six percent believed that rabies occurs only in summer. They also showed that there was little awareness about cat rabies amongst households.

Mitschler *et al.* (2004) studied the knowledge and prevention of tick bite borreliosis in Alsace. The existence of borreliosis is known to 74 % of the people, 63 % claimed that they were worried by the disease and 43 % knew that the first manifestation is redness spreading over the skin.

Mork and Prestrud (2004) studied about arctic rabies. They summarized the current knowledge and the typical characteristics of arctic rabies including its distribution and epidemiology. The epidemiology of rabies seems to have certain characteristics in arctic regions, but main questions such as maintenance and spread of the disease remains largely unknown.

Adeyemi *et al.* (2005) revealed that low antirabies vaccination tendency have built up susceptible dog populations and favors large scale epizootic or focal outbreaks with an increased awareness of rabies risk to veterinarians and their assistants, owners and their family members as well as the general public.

Bhalla *et al.* (2005) in their study on knowledge and practice among general practitioners of Jamnagar city regarding dog bite reported that knowledge and practice regarding animal bites were comparatively better among M.B.B.S doctors than B.A.M.S doctors. But it could be observed that there was an apparent lack of awareness among doctors regarding the appropriate management of animal bite wound and vaccine administration.

Johnson *et al.* (2005) in their study suggested that there is a constant need to raise awareness among clinicians to consider diagnosis of rabies where a history of dog bite and foreign travel, especially to Asia and Africa is presented.

Jun (2005) found that regular vaccination cannot stop the development of the disease. He said that information campaigns about rabies should be

strengthened and mass education on the treatment of dog bites and antirabies vaccination should be instituted to make the public aware.

Meslin (2005) reported that the travelers who were walking and jogging, where the dogs roam wild, carries a moderate risk of getting rabies whereas most travelers staying in tourist resorts were at very low risk.

Schopler *et al.* (2005) on a survey of wild life rehabilitators of North Carolina reported that among rehabilitators, there were some inconsistencies in their knowledge base regarding rabies. Twenty five percent reported that they did not know at what age animals were capable of transmitting rabies virus.

Singh and Choudhary (2005) studied the knowledge, attitude, behavior and practice on dog bites in a rural community of Gujarat. The result was that 86% of individuals were aware about anti rabies vaccine and 24% knew that pet dogs need vaccine against rabies.

Ichhpujani *et al.* (2006) conducted a multicentric study about rabies in a general community. They reported that 68.7 % of people had heard about rabies and in 60.7% of cases, the community associated rabies with dog bites only. It could be observed that knowledge of appropriate wound management was found to be inadequate.

Kale *et al.* (2006) studied dog bites in children. Thirtynine per cent of dog bites were by stray dogs. Therefore young children should never be left unsupervised. Rabies awareness campaigns must be launched and pet enumeration, licensing and vaccination should be made compulsory.

Koenraadt *et al.* (2006) on a survey of knowledge and practices of dengue and their impact on *Aedes aegypti* populations in Thailand reported that 77% of

the respondents cited *Aedes* mosquitoes as the main vector of dengue, and 67% knew that dengue vectors bite during the day.

Opaleye *et al.* (2006) in their knowledge attitude and practice study on dog bites reported that, out of 679 respondents, 389 knew that the etiology of rabies is an infectious agent. But only 56.4% of the respondents knew that wild animals were involved in the transmission of disease.

Ross *et al.* (2006) studied the awareness of rabies among German health advisors. They reported that although the health advisors were well aware of travel associated rabies risks, evident flaws exist regarding the correct assessment of specific situations in pre and post exposure.

Singh *et al.* (2006) in their study on knowledge attitude and practices related to kala-azar in Bihar reported that 97.4% of the respondents were aware of the disease. The infectious nature of the disease was known to 39.9%. Majority believed that kala azar spreads through mosquito bites.

Davis *et al.* (2007b) reported that visitors to Asian countries are unaware of the rabies risk posed by dog bites. They had not sought appropriate medical attention for such bites.

Kaewpitoon *et al.* (2007) studied the knowledge, attitude and practice related to liverfluke infection in north east Thailand. They reported that 55.11% percent of the population had a good level of knowledge concerning the mode of transmission and 79.72 % of the population had a good level of knowledge with regards to defecation and consumption.

Matibag *et al.* (2007) reported that pet owners of Srilanka had a high level of awareness (90%) that dogs are the most common reservoirs, that the disease is fatal (79%) and that rabies can be prevented by vaccination (88%).

Akinola *et al.* (2008) studied the knowledge, attitude and compliance of poultry workers with preventive measures for avian influenza in Nigeria. Nearly all the respondents (92.9%) had heard about avian influenza infection. Only 61.4% of respondents correctly defined avian influenza as a viral infection that occurs in all species of birds. Knowledge of the transmission of disease varied: 72.9% knew that the disease could be transmitted from bird to bird, and 55% knew it could be transmitted from bird to human.

Menezes (2008) opined that public health educational programmes are needed to create awareness both in medical community and in the public regarding the dangers of inadequately managed animal bites.

Wasay *et al.* (2008) conducted one survey in Karachi. He reported that 25% of the general practitioners had correct knowledge about pre-exposure and 13% had correct knowledge about both pre and post exposure tetanus immunization.

2.2 SCIENTIFIC PRACTICES ADOPTED IN CONTROLLING RABIES

David (1974) reported that in Maryland 41.2% of the animal owners failed to respond to the question about the required ten day isolation period regarding rabies .

Gregory (1985) opined that the control of rabies can be achieved by restriction of movement, muzzling and destruction of stray dogs. His study showed that in Canada during 1984 approximately 900 owned dogs were vaccinated by locally trained people.

Robertson *et al.* (1991a) studied the adoption of health and management practices of dog by dog owners in Perth. They reported that most dogs (91%) had

been vaccinated at some time; only 67% had been vaccinated in the preceding twelve months. They concluded that there were areas of veterinary services such as annual booster vaccinations and heartworm therapy which required further emphasis and promotion.

Robertson *et al.* (1991b) found that cats were the second most popular pet after dogs. Twenty eight percent of all households in Perth owned a cat. The majority of cats (81.2%) had been vaccinated at some stage in their life, with four percent of owners being unsure of their cat's vaccination history.

Robinson *et al.* (1996) evaluated canine rabies vaccination campaign and characterization of owned dog populations in Philippines. Survey results indicated that 73% of eligible dogs were vaccinated and 82% of the vaccinated dogs were marked with a collar or paint.

Hensley (1998) in his study on potential rabies exposures in Virginia reported that 65% of the owned cats were unvaccinated at the time of study, while only 28% of the dogs were unvaccinated.

Parviz *et al.* (1998) studied about the post exposure treatment of rabies in Pakistan. Thirty one per cent of the patients had cleaned the wound with soap, iodine tincture or alcohol recommended by WHO. Thirteen per cent of the victims had themselves cleaned the wound. Four per cent of the cases consulted general practitioners for cleaning the wound. Thirty four per cent treated themselves before seeking professional help. Twelve percent of the patients applied red chillies to the wound as a first aid measure.

Patrick and O'Rourke (1998) examined the characteristics of dog and cat bite incidence in Texas. Majority of the dog bites (55.7%) occurred either at the owners' property or while the dog was leashed.

Cox *et al.* (1999) interviewed a sample of pet owners about the public preferences regarding rabies prevention policies in UK. The result of questionnaire revealed that total quarantine of the dogs was the most preferred policy action by pet owners. However, a large proportion of the sample preferred vaccination based policies also.

Perera *et al.* (2000) studied about the feasibility of canine vaccination in Srilanka. There were 4322 dogs in the households. Of these 63% were given parenteral vaccination.

Kitala *et al.* (2001) in their study on dog ecology and rabies control in Kenya reported that, only 29% of the dogs at three months of age were vaccinated against rabies. Sixty nine percent of dogs were not restricted and roamed freely.

Bentham *et al.* (2002) studied the knowledge and use of preventive measures related to dengue in northern Thailand. Persons with knowledge of dengue reported a significantly higher use of preventive measures than those without knowledge of dengue.

Pandey *et al.* (2002) assessed the risk of possible exposure to rabies among tourists and foreign residents in Nepal. Among patients who had animal bites, 56% of foreign residents and 21% of tourists had been preimmunized against rabies.

Sekhon *et al.* (2002) reported that 21.02% of the respondents of Patiala district preferred the practice of washing the bite with soap and water. Ten per cent of the people preferred the wound to be washed with water only.

Kayali *et al.* (2003) in their study on coverage of pilot parenteral vaccination campaign against canine rabies in N'Djamena, Chad reported that

vaccination coverage in the three populations of owned dogs was 88%. Participation of dog owners in the free campaign was high.

Agarwal and Reddajah (2004) conducted a community based study in India on epidemiology of dog bites. Most knew that injections were available to prevent rabies. Only half said that they would visit a hospital for treatment.

Hankins and Rosekrans (2004) told that rabies preventive measures were the responsibility of dog owners. Maintaining immunization for domestic pets not only protects the pets but also provide some protection for pet owners and wild animals.

Ibarra and Valenzuela (2004) studied canine ecology and socioeconomic factors associated with dogs in Mexican city. They reported that dogs of 3-11 months old had three times higher risk for not vaccinating compared to dogs greater than one year old.

Fevre *et al.* (2005) studied about the epidemiology of animal bite injuries in Uganda and projections of the burden of rabies. The results had shown that 93 of 403 people told that the rabid animal had been reported to the veterinary officer. In addition 334 of 406 patients received tetanus toxoid and 336 of 435 patients were given antibiotics.

Shetty *et al.* (2005) in their study on profile of animal bite cases in Pune said that, out of the 236 dog bite cases, 30% of bites were inflicted by pet dogs of which only 38.02% were immunized and the wound was washed with soap and water in only 3.6% of the cases.

Singh and Choudhary (2005) reported in their study that 31.1% persons endorsed application of first aid measures such as washing and antiseptic

bandaging. Thirty six per cent told that they would consult a doctor. Thirteen percent told that they would do nothing if they were bitten by a dog.

Cleaveland *et al.* (2006) opined that vaccination of domestic dog reservoirs has been adopted as the main approach for protecting endangered wild life.

Ichpujani *et al.* (2006) reported that 31.9% of the people felt that washing the wound with soap and water was the best option. People were not aware of the number of injections needed for treatment of animal bites.

Kilic *et al.* (2006) reported in their study on rabies post exposure prophylaxis that, in Turkey only 70% of the dogs had an owner and only 17% of the animals had a rabies vaccination certificate.

Opaleye *et al.* (2006) studied about the rabies and antirabies immunization in south western Nigeria. Sixty five per cent of the dog owners had never taken their dogs to the veterinary clinic and 49% of dog owners had not taken vaccination for pets.

Reece and Chawla (2006) studied the control of dog rabies in Jaipur by the sterilization and vaccination of neighborhood dogs. They reported that between November 1994 and December 2002, a total of 22442 dogs were vaccinated against rabies and 19129 sterilization operations were performed.

Singh *et al.* (2006) from their study on kala azar related attitudes and practices of Bihar reported that 53.7% of the respondents believed that DDT spray can control the disease. Only 23.9% of the households had at least one usable bed net.

Weng *et al.* (2006) studied the educational intervention on dog sterilization and retention in Taiwan. Out of 126 dog owners only 22 had their dogs sterilized.

Davis *et al.* (2007a) found out from the preliminary observations on the characteristics of the owned dog population of Thungsong that 30% of the owned dogs were allowed to roam and 8.5% of the dogs were neutered.

Matibag *et al.* (2007) conducted a survey of rabies in a community in Srilanka. They told that 96% of the individuals would seek treatment from a doctor or hospital after being bitten by a dog. Although 76% of the respondents said that their pet dogs were vaccinated, only one half were able to present a vaccination certificate.

Poss and Bader (2007) made a study of companion animals reared in Texas. They reported that, 24% of the respondents allowed their dogs to roam freely on the streets. Only 11% of the respondent's dogs are sterilized and 62% of the households chained dogs outdoors.

Sharma *et al.* (2007) studied the profile of management of animal bite cases among the rural population in Pune. Immediate care like washing of wound with soap and water was practiced only by 23.5% of the respondents. Majority of them did not report immediately to the Primary Health Centre for treatment.

Akinola *et al.* (2008) studied the knowledge, attitude and compliance of poultry workers with preventive measures for avian influenza in Nigeria. The multiple regression analysis showed that high knowledge score were significantly associated with compliance with preventive measures against avian influenza infection.

Menezes (2008) in a survey in 2004 stated that only 39.5% of the victims washed the wound with soap and water and 46.9% of the people received rabies vaccination.

Pancharoen *et al.* (2008) on a survey in Thailand reported that 89.3% of the people had taken post exposure treatment, 5.5% people had taken preexposure vaccination and 5.2% had taken booster regimens when the source of exposure turned to be petting the animal.

Suzuki *et al.* (2008) studied the rabies vaccination coverage and profiles of the owned dog population in Bolivia. Dogs aged 1-11 months were at the higher risk of not being vaccinated. They also reported that two thirds of the study dogs were allowed to roam freely throughout the day.

2.3 ATTITUDE TOWARDS HUMANE DOG REARING

Katz and Stotland (1959) developed the idea that people hold and express particular attitudes because they derive psychological benefit from doing so, and the type of benefit varies among the individuals.

Selby *et al.* (1979) made a survey of attitude towards responsible pet ownership in Columbia. The results showed that owners agreed strongly on family planning for pets, but a majority of male owners stated that they would not have their dogs neutered.

Ripley (1989) studied about the animal rights and wrongs. He revealed that the humane societies play the vital role of protectors and advocates for all animals. He believed that animals have inalienable rights, to exist free from suffering caused by humans.

Paull and Serpell (1993) studied about childhood pet keeping and humane attitudes in young childhood of UK based university students. Higher levels of childhood pet keeping were related to more positive attitudes towards pet animals and greater concerns about the welfare of non pet animals and humans.

Ascione and Weber (1996) in their study assessed the maintenance of the effect of a year-long school-based humane education program on fourth grade children's attitude towards animals. They found that the experimental group humane attitudes mean was greater than the control group mean at the initial post testing and at the year two follow up.

Noonan *et al.* (1996) surveyed a sample of veterinarians and dog breeders of Queensland to assess their attitudes towards tail docking in dogs. Eighty four percent of the breeders were in favor of docking, whereas 83% of the veterinarians opposed to the practice. Seventy six percent of the veterinarians, and only 18% of the breeders believed that docking caused significant to severe pain.

Bjerke *et al.* (1998) studied the attitudes towards animals among Norwegian adolescents. They said that the respondents who owned a pet had higher humanistic, moralistic and lower utilitarian sub scale roles than had non owners. Urban respondents had higher moralistic and rural respondents had higher dominionistic sub scale scores.

Ozen *et al.* (2004) examined the attitudes of veterinary practitioners in Turkey towards animal's right to life. According to the five point Likert scale, the average value scored by participants for the items of views about animal's right to life was found as 3.25. Type of practice, perceived responsibility, keeping a pet and membership in a society had a statistically significant influence on attitude towards animal's right to life.

Davey (2006) studied Chinese university students' attitude towards the ethical treatment and welfare of animals. His results showed that Chinese society displays positive attitude and behaviors toward animal welfare initiatives.

Fielding (2007) assessed the knowledge on welfare of dogs and prevalence of dog care practices in Bahamas. The results indicated that many dogs received limited care to food and water and to a lesser extent shelter. All the respondents had an inadequate knowledge of the law relating to dog care.

2.4 SOCIO PERSONAL CHARACTERISTICS

2.4.1. Age

Berzon (1978) made an analysis of animal bite epidemic in Baltimore, Maryland. He reported that the bite rate for the most susceptible age group (5-14 years) was 19 per 1000 population.

Hensley (1998) reported that children under the age of eighteen were significantly more likely to be involved in a potential exposure than adults.

Singh *et al.* (2000) on their survey on community perceptions of jaundice in Delhi reported that age of the respondents had no significant bearing on the correctness of responses.

Bentham *et al.* (2002) in their study on knowledge and use of preventive measures related to dengue in Thailand showed that age of the respondents was significantly associated with the knowledge of dengue.

Khokhar *et al.* (2003) studied the profile of dog bite cases at Alipur, Delhi. They said that 53.9% of the cases who accounted for rabies were those

less than 15 years of age. They also told that children less than 15 years of age were more likely to provoke a dog.

Dubnov *et al.* (2006) studied about the change in rabies post exposure treatment guidelines after decision analysis in Israel. They concluded that the association between young age and likelihood of contact with animals along with the locations in which the soldiers serve, as well as the absence of adequate veterinary services to enable quarantine all serve to increase the likelihood of exposures in soldiers regarding treatment.

Koenraadt *et al.* (2006) in their study on dengue knowledge, practices and impact in Thailand reported that age of the respondents was significantly associated with the knowledge of dengue.

Sriaroon *et al.* (2006) studied the animal attacks and rabies exposures in Thai children. They reported that majority of the animal bites were in children and was correlated with the age of children.

Pancharoen *et al.* (2008) studied rabies exposures in Thai children. They found that children were a population group at high risk of rabies exposure and rabies. Approximately one third of Thai children were bitten by dogs at least once by the age of 15.

2.4.2 Education

Singh *et al.* (2000) conducted a survey on community perceptions of jaundice in Delhi. They reported that literate respondents were significantly more aware of jaundice, its symptoms, causes, dangers and prevention.

Eze (2002) reported that in Nigeria there was a significant association between the literacy status and the dog management practices such as castration, use of veterinary services, regular dog bathing and confinement.

Rasania *et al.* (2002) studied the awareness and practices regarding malaria in Delhi. About 57% of the respondents were aware of the cause of malaria as parasite or mosquito and awareness increased with the literacy status.

Sekhon and Choudhary (2002) studied about the misconceptions and myths in the management of animal bite cases. They told that out of 4585 patients, 59.2% were literate.

Singh *et al.* (2005) in a study on knowledge, attitude, behavior and practice study on dog bites in Gujarat reported that 86.6% individuals were aware about antirabies vaccine. Mostly they were educated and the difference between the literate and illiterate was highly significant.

Abbate *et al.* (2006) in their study on knowledge, attitude and practices of avian influenza among the poultry workers of Italy reported that knowledge of avian influenza was greater in persons with more education and those who worked for a longer time.

Koenraad *et al.* (2006) in a survey on dengue knowledge and practices and their impact on *Aedes aegypti* populations in Thailand reported that people with more formal education knew more about dengue than persons with less schooling.

Akinola *et al.* (2008) in a study on knowledge, attitudes and compliance of poultry workers with preventive measures for avian influenza in Nigeria reported that knowledge was greater in workers with more education.

2.4.4. Income

Robertson *et al.* (1991a) studied about the use of health management practices adopted by the dog owners of Perth. Their findings were that owners of the dogs belonging to the lower socioeconomic groups were least likely to have visited a veterinarian and more likely to have an unvaccinated dog.

Robertson *et al.* (1991b) studied about the use of health management practices adopted by the cat owners of Perth. They told that more cats belonging to the upper social strata were vaccinated and similarly these people were more likely to visit a veterinarian.

Kasempimolporn *et al.* (2008) found that in lower class households dogs of Thailand were commonly confined at night to guard their owner's home but were free to roam and scavenge during the day.

2.4.5 Communication

Robertson *et al.* (1991a) reported that when pet owners of Perth were questioned on where they were most likely to read, see or hear information on the health and management of dogs, 21% received information from their veterinarian, 15% from the television, 15% from books, 15% from leaflets and brochures, 13% from newspapers, 8% from magazines and 2% from the radio while 11% obtained no information.

Hanlon *et al.* (1999) studied about the prevention and education regarding rabies in human beings. They reported that there was need for general and specific educational material. A resource manual for determining exposure to rabies was desired for use in state and local agencies. Mass media resources such as television and radio should be used more often to disseminate proper rabies education messages.

Abbate *et al.* (2006) reported that greater knowledge of avian influenza was observed in those who received information from health professionals and employers in Italy.

2.4.6 Indigenous beliefs

Kositprapa *et al.* (1998) reported that in Thailand dog vaccination and control measures have been hampered by cultural factors which encourage the feeding of strays and resist killing of dogs.

Sekhon *et al.* (2002) studied the misconceptions and myths in the management of animal bite cases of Patiala. Majority (95%) of cases were of dog bite. Common practices prevalent in the management of wounds were washing with soap and water (21.02%), with water only (9.53%), application of chillies (14.18%), dettol and antiseptic (5.45%), cowdung (5.45%), and carbon (0.85%).

Wilde *et al.* (2003) updated rabies for travel medicine advisors. They said that visitors to countries where canine rabies is endemic must assume that most local dogs have not been vaccinated. In some countries control of dog population was impossible to implement because of the cultural and religious beliefs and because some animal welfare organizations have hindered human efforts to control the canine population.

Methodology

3. METHODOLOGY

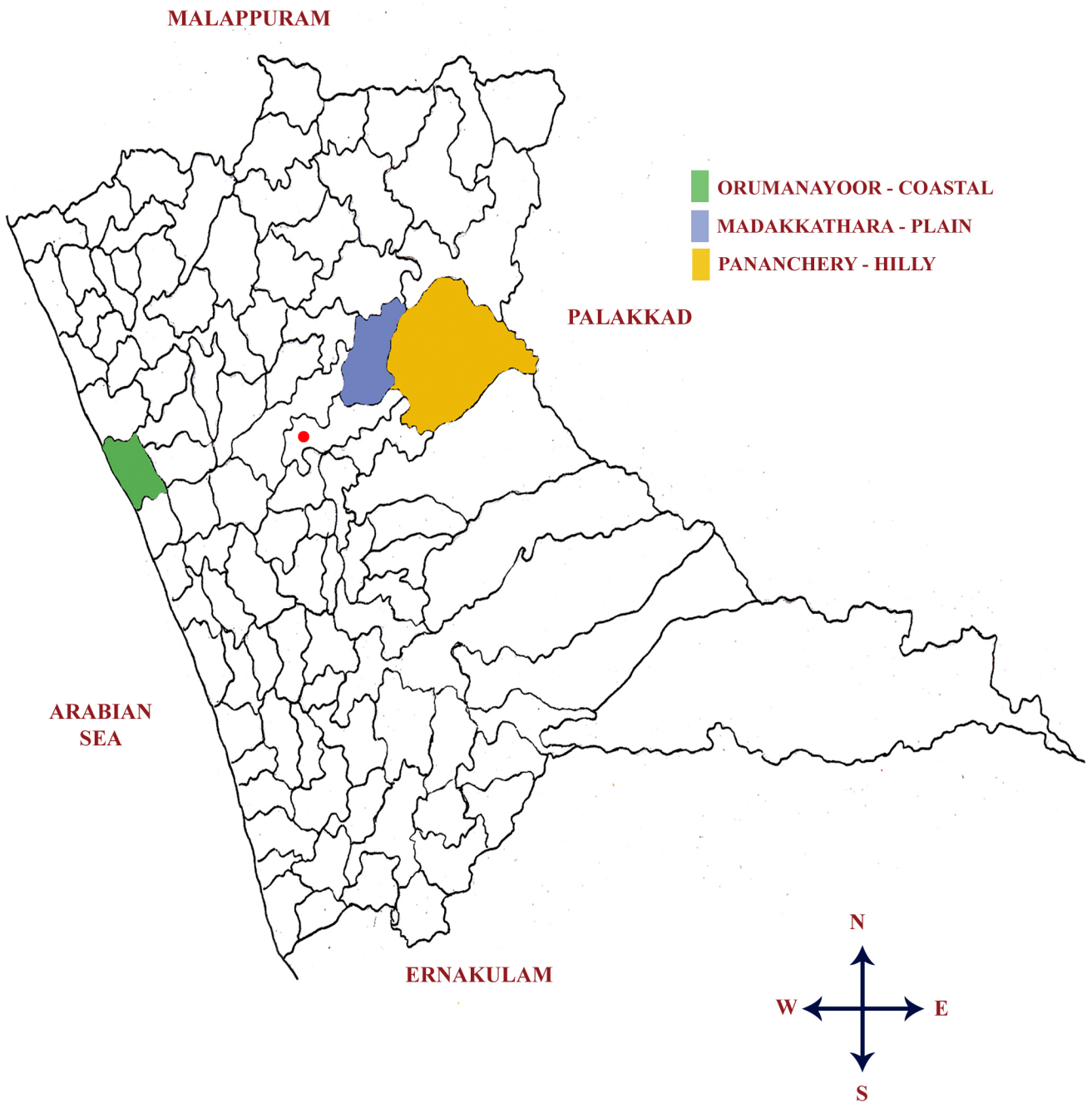
The methodology of the study is presented under the following headings

- 3.1 Area of study and selection of the study sample
- 3.2 Selection of variables
- 3.3 Operationalisation and measurement of variables
- 3.4 Statistical analysis

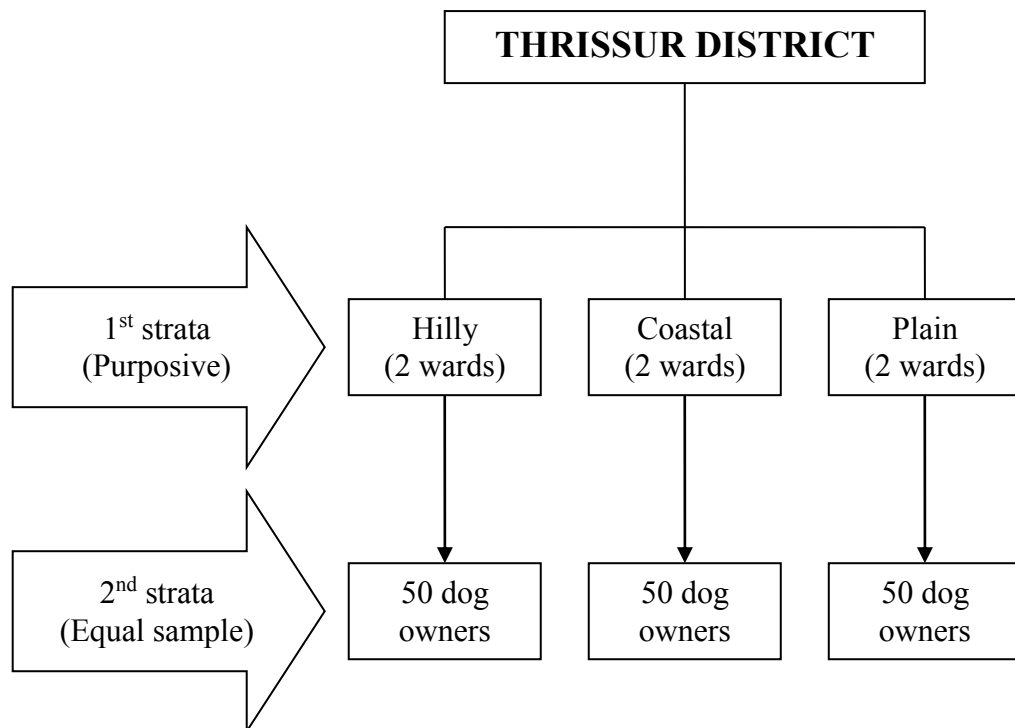
3.1 AREA OF STUDY AND SELECTION OF THE STUDY SAMPLE

Thrissur district is one of the central districts of Kerala which has the characteristic feature of having distinct hilly, coastal and plain regions. Two panchayat wards each from these geographical regions were purposively selected, vis-a-vis. the list of dog owners in these wards with the help of local key informants. Thereafter 25 dog owners from each of these wards were randomly chosen for interview. Thus a stratified random sampling procedure was adopted for the study sample which comprised of 150 dog owners in all. The respondents of the study were either the husband or wife whoever was present at the time of interview. Descriptive research design was employed for the study.

**Fig. 1. THRISSUR DISTRICT
MAP SHOWING PANCHAYATHS
SELECTED FOR THE STUDY**



● COLLEGE OF VETERINARY & ANIMAL SCIENCES, MANNUTHY THRISSUR

Fig. 2 Sampling Procedure

3.2 SELECTION OF VARIABLES

MEASURING TOOL

3.2.1 Independent variables***I. Socio personal variables***

Schedule developed

1. Age
2. Sex
3. Educational status
4. Religion
5. Age profile of children
6. Number of children
7. Occupation
8. Income

II. Communication exposure

Schedule developed

1. Media exposure
 - a) Print media / Electronic media
2. Interpersonal channels
 - a) Localite / Cosmopolite
3. Seminars / workshops attended

III. Attitude and beliefs

- | | |
|--|-------------------------------|
| 1. Attitude towards humane dog rearing | Scale developed |
| 2. Indigenous beliefs | Schedule- Open ended question |

3.2.2. Dependent variables

- | | |
|---|--------------------------|
| 1. General awareness of rabies and its control | Arbitrary knowledge test |
| 2. Scientific practices adopted in controlling rabies | Schedule developed |

3.3 OPERATIONALISATION AND MEASUREMENT OF VARIABLES

3.3.1 Independent variables

3.3.1.1 Socio personal variables

3.3.1.1.1 Age

Age meant the chronological age of the respondent at the time of interview.

The respondents were categorized as follows.

Sl no	Category
1	Young (<35 years)
2	Middle (35-50 years)
3	Old (> 50 years)

3.3.1.1.2 Sex

It meant the gender of the respondent .

3.3.1.1.3 Education

It meant the respondents' level of formal education. The respondents were categorized as follows.

Sl No	Category	Score
1.	Primary	1
2.	High school	2
3.	Predegree/Plus two	3
4.	Degree	4
5.	Post graduate	5

3.3.1.1.4. Religion

It meant the system of faith followed by the respondent.

Sl No	Category
1.	Hindu
2.	Christian
3.	Muslim

3.3.1.1.5. Age profile of children

It referred to the chronological age of respondents' children at the time of interview.

3.3.1.1.6. Number of children in the family

It meant the number of children below 18 years.

3.3.1.1.7 Occupation

It meant the major source of income. The occupations were categorized as follows.

Sl No	Category
1.	Agriculture
2.	Business
3.	Govt. service
4.	Coolie
5.	Petty jobs

3.3.1.1.8 Income

It referred to the monthly earning of the respondent.

3.3.2 Communication

3.3.2.1. *Media exposure*

Print media / Electronic media

Media exposure meant the degree of the respondents' exposure to print media such as newspaper, magazines, posters, leaflets and electronic media such as radio and television.

Preference for communication sources

It referred to the respondents' choice of communication sources such as print and electronic media.

Each respondent was asked to rank seven common communication sources by giving first rank to the most preferred and last rank to the least preferred one.

The rank obtained for each source from each respondent was converted into scores based on the following method.

Rank	Score
I	7
II	6
III	5
IV	4
V	3
VI	2
VII	1

A total score of each source, over all the respondents' was worked out and depending on this source wise total score, the sources studied were ranked from one to seven.

Further, since the total score of a source can range from 150 to 1050, three class intervals were fixed as follows

Class intervals	Preference
150-450	Low
451-750	Medium
751-1050	High

3.3.2.2. Inter personal channels

a) Localite- It referred to the tendency of the respondent to be in contact with localite channels viz. neighbours and friends for information.

b) Cosmopolite- It referred to the tendency of the respondent to be in contact with cosmopolite channels viz. veterinary doctor, medical doctor, compounder, paramedical employee and midwife.

3.3.2.3 Seminars/workshops attended- It referred to the tendency of the respondent to attend seminar or workshop about rabies.

3.3.3 Attitude and beliefs

3.3.3.1 Attitude towards humane dog rearing

A scale was constructed following Likert's method of summated ratings to measure dog owners' attitude towards humane dog rearing. Fifty four statements were initially prepared and edited as per the criteria prescribed by Edwards and Kilpatrick (1948). Edited statements were administered to seventy one pet owners. The responses were recorded on a five point continuum as strongly agree, agree, undecided, disagree and strongly disagree with weightages four,three,two,one and

zero respectively for favorable statements. For unfavorable statements, the scoring system was reversed. The total score for each respondent was obtained by adding the total scores of individual items. Thereafter twenty five respondents with the highest total score (high group) and twenty five respondents with the lowest total score (low group) were selected as criterion groups in terms of which to evaluate the individual statements. Then 't' values of the statements were calculated and eight statements with the largest 't' values were chosen for the final scale. The final scale items are given in Table 1.

Table 1. Final scale items to measure attitude of dog owners towards humane dog rearing

Sl. No.	Statements	Highly agree	Agree	Undecided	Disagree	Highly disagree
1	I believe, dogs are very faithful animals.					
2	I believe, every living being has equal right to live on this earth.					
3	I prefer my dog to be vaccinated against rabies at proper time.					
4	I think basic training of dogs is essential.					
5	Masters of dog shall see that they are given their share of love, care and affection.					
6	I believe that sick dog should be given proper medication.					
7	I prefer vaccinating dogs as I believe 'Prevention is better than cure'.					
8	Routine health check up of dogs is as important as ours.					

Reliability of the scale

The reliability of the scale was found out by split half method. The scale was administered to thirty dog owners and responses were obtained. Later the odd-even scale items were separated and the correlation value r was computed. Since the split half test was applied, correction of r value was done employing Spearman Brown prophecy formula.

$$r = \frac{2r'}{1+r'}$$

r = reliability coefficient

r' = correlation coefficient

The reliability coefficient was found to be 0.81, which indicated that the scale was internally consistent.

Validity of the scale

The validity of the scale was assured by selecting the scale items after due consultation with experts and referring to relevant literature.

Administration of the scale

The scale was administered to all the respondents. The respondents were required to record their positive or negative affect on the five point continuum namely, strongly agree, agree, undecided, disagree and strongly disagree. Based on the total scores obtained, the respondents were categorized following Dalenius Hodges cumulative root F method into three groups namely favorable, neutral and unfavorable.

3.3.3.2 Indigenous beliefs

It meant the individually held traditional beliefs pertaining to rabies. It may be a rational or irrational belief. It is reported in the schedule as reported by the respondent.

3.3.4 General awareness of rabies and its control

It meant the respondents' awareness knowledge of rabies and its control. An arbitrary awareness knowledge test was developed to measure the general awareness of rabies and its control. The general awareness knowledge test comprised of the three major domains, viz. etiology and spread of rabies, symptoms of rabies and control measures of rabies.

There were all together 37 items under the three domains. All items were objective type questions either multiple choice or true or false. True answer carried a score of one. By adding the scores of individual items, the total score of the respondent was arrived at. The domain wise total score was also worked out. This was calculated region wise as well as generally. By working out mean and standard deviation the respondents were categorized into three groups viz low, medium and high.

The validity of the awareness items was ensured by selecting items after due consultation with subject matter specialists and referring to relevant literature.

3.3.5 Scientific practices adopted in controlling rabies

The adoption of practices in controlling rabies was studied in terms of practice adoption and symbolic adoption.

3.3.5.1 Practice adoption in this study indicated those practices adopted some time or the other by the dog owners. It consisted of eight practices and was assigned a score of one for adoption and zero for non adoption. Accordingly, the total score of each respondent is calculated. By working out mean and standard deviation, the respondents were categorized into three levels of adopters viz low, medium and high.

3.3.5.2 Symbolic adoption referred to the practices in which the dog owners are willing to adopt in the future. It consisted of eight practices and was assigned a

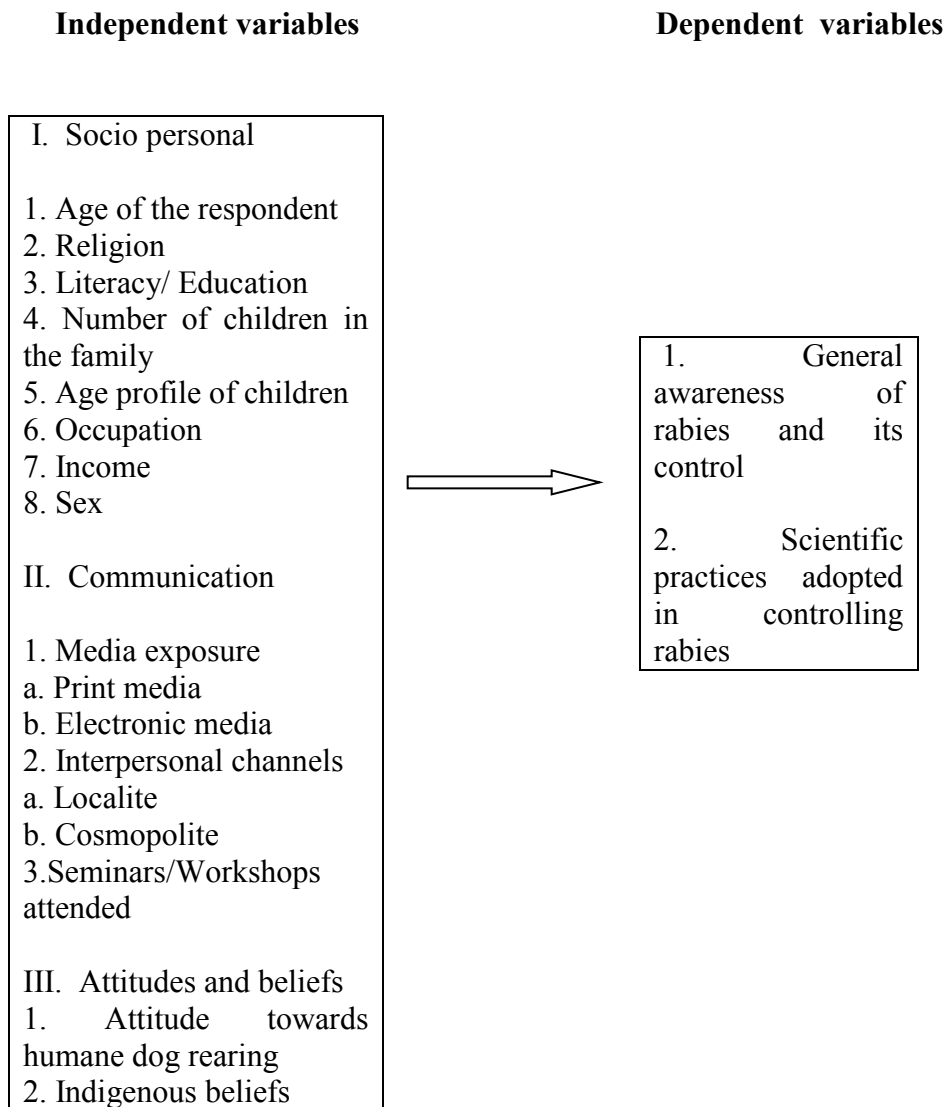
score of one for adoption and zero for non adoption. Accordingly, the total score of each respondent is calculated. By working out mean and standard deviation, the respondents were categorized into three levels of adopters viz low, medium and high.

3.4 STATISTICAL ANALYSIS

The data were analyzed using the following statistical techniques

1. Frequency
2. Percentage
3. Mean
4. Standard deviation
5. t-value
6. Correlation
7. Multiple regression
8. Analysis of variance

Fig. 3 Conceptual model of the study



4. RESULTS

The results of the study are presented under the following headings:

4.1 Independent variables

4.2 Dependent variables

4.3 Relationship between independent and dependent variables

4.4 Correlation between dependent variables

4.5 Analysis of variance

4.1 INDEPENDENT VARIABLES

4.1.1 Age

Table 2. Distribution of dog owners based on age

n=150

Sl. No.	Category	Hilly (n=50)		Coastal (n=50)		Plain (n=50)		Overall	
		f	%	f	%	f	%	f	%
1	<35 years (Young)	1	2	4	8	4	8	9	6
2	35-50 years (Middle age)	15	30	21	42	21	42	57	38
3	>50 years (Old age)	34	68	25	50	25	50	84	56

It is evident from the table 2 that 68 per cent of the respondents in the hilly region were old. Thirty per cent of the respondents were of middle age and two per cent were young. In the coastal region and plain region 50 per cent each were old. Similarly in both coastal and plain regions, those of middle age were 42 per cent and young 8 per cent.

In general majority (56%) of the respondents were old, followed by those of middle age (38%) and young (6%).

Results

4.1.2 Sex

Table 3. Distribution of dog owners based on sex

n=150

Sl. No.	Category	Hilly		Coastal		Plain		Overall	
		f	%	f	%	f	%	f	%
1.	Male	36	72	42	84	44	88	122	81.33
2.	Female	14	28	8	16	6	12	28	18.67

Data in table 3 showed that in the hilly region 72 per cent of the respondents were males and 28 per cent females. In the coastal region, males were 84 per cent and females 16 per cent. In the plain region 88 per cent of the respondents were males and 12 per cent females.

In general 81.33 per cent of the respondents were males and 18.67 per cent were females.

4.1.3 Educational Status

Table 4. Distribution of dog owners based on educational status

n=150

Sl. No.	Category	Hilly		Coastal		Plain		Overall	
		f	%	f	%	f	%	f	%
1.	Primary	34	68	21	42	15	30	70	46.67
2.	High School	14	28	18	36	23	46	55	36.77
3.	Pre Degree	1	2	4	8	6	12	11	7.33
4.	Degree	1	2	5	10	6	12	12	8
5.	Post Graduate	-	-	2	4	-	-	2	1.33

In general, 46.67 per cent of the respondents had primary education, 36.67 per cent had high school education, 7.33 per cent had predegree education, 8 per cent had degree level education and 1.33 per cent had post graduate level education.

Table 4 indicated that in the hilly region 68 per cent of the respondents had primary education, twenty eight per cent had high school education, two per cent had predegree education and two percent had degree education.

In the coastal region, 42 per cent had primary education, thirty six per cent had high school education, 8 per cent had predegree education ten per cent had degree education and 4 per cent had postgraduate education.

In the plain region, 30 per cent had primary level of education. Forty six per cent had completed their high school. Twelve per cent had completed their predegree and 12 per cent had degree level of education.

4.1.4 Religion

Table 5. Distribution of dog owners based on religion

n=150

Sl. No.	Category	Hilly		Coastal		Plain		Overall	
		f	%	f	%	f	%	f	%
1.	Hindu	29	58	43	86	41	82	113	75.33
2.	Christian	21	42	1	2	9	18	31	20.67
3.	Muslim	-	-	6	12	-	-	6	4.00

In general 75.33 per cent of respondents were Hindus, 20.67 per cent were Christians religion and 4 per cent Muslims.

Table 5 indicated that in the hilly region, 58 per cent were Hindus and 42 per cent Christians. In the coastal region, Hindu, Christian and Muslims were respectively 86 per cent, 2 per cent and 12 per cent. In the plain region, Hindus were 82 per cent and remaining 18 per cent were Christians.

4.1.5 Occupation

Table 6. Distribution of dog owners based on major occupation

n=150

Sl. No.	Category	Hilly		Coastal		Plain		Overall	
		f	%	f	%	f	%	f	%
1.	Agriculture	14	28	2	4	8	16	24	16
2.	Business	3	6	7	14	3	6	13	8.66
3.	Govt. service	-	-	3	6	8	16	11	7.33
4.	Coolie	21	42	11	22	5	10	37	24.66
5.	Overseas job	2	4	13	26	1	2	16	10.66
6.	Petty jobs (Welder, Driver, Sales girls etc)	10	20	14	28	25	50	49	32.67

Data in table 6 indicated that in the hilly region agriculture, business, coolie, overseas job and petty jobs were the major occupation of 28, 6, 42, 4 and 20 per cent of respondents. None were in the government service.

In the coastal region, agriculture, business, government service coolie, overseas job and petty jobs were the major occupation of 4, 14, 6, 22, 26 and 28 per cent of the respondents respectively.

In the plain region, agriculture, business, government service, coolie, overseas job and petty jobs were the major occupation of 16, 6, 16, 10, 2 and 50 per cent of the respondents respectively.

In general, agriculture, business, government service, coolie, overseas job and petty jobs were the major occupation of 16, 8.66, 7.33, 24.66, 10.67 and 32.67 per cent of the respondents respectively.

4.1.6 Income

Table 7. Distribution of dog owners based on income

n=150

Sl. No.	Category	Hilly		Coastal		Plain		Overall	
		f	%	f	%	f	%	f	%
1.	<5000	39	78	32	64	29	58	100	66.67
2.	5000 – 10000	7	14	15	30	17	34	39	26
3.	>10000	4	8	3	6	4	8	11	7.33

In the hilly region (table 7) the major income in the case of 78, 14 and 8 per cent of the respondents were less than 5000, between 5000 and 10,000 rupees and more than 10,000 rupees respectively.

In the coastal region, the major income in the case of 64, 30 and 6 per cent of the respondents were less than rupees 5000, between 5000 and 10,000 and more than 10,000 rupees respectively.

In the plain region, the major income in the case of 58, 34 and 8 per cent of the respondents were less than rupees 5000, between 5000 and 10,000 and more than 10,000 rupees respectively.

In general, the major income in the case of 66.67, 26, and 7.33 per cent of the respondents were respectively less than rupees 5000, between 5000 and 10,000 and more than 10,000 rupees respectively.

4.1.7.1 Media exposure

Table 8. Distribution of dog owners based on media exposure

n=150

Sl. No	Media	Hilly		Coastal		Plain		Overall	
		f	%	f	%	f	%	f	%
1	Print	37	74	44	88	39	78	120	80
2	Electronic	18	36	25	50	17	34	60	40
3	Localite	2	4	1	2	10	20	13	8.6
4	Cosmopolite	2	4	0	0	13	26	15	10

Data in table 8 revealed that in the hilly region, 74 per cent of the respondents got information about rabies from print media, 36 per cent from electronic media and 4 per cent each from localite and cosmopolite media. In the coastal region, 88 per cent of the respondents got information from print media, 50 per cent from electronic media, 2 per cent from localite and nobody got information from cosmopolite sources. Table further revealed that in the plain region, print, electronic, localite and cosmopolite sources contributed to 78 per cent, 34 per cent, 20 per cent and 26 per cent respectively.

In general, 80 per cent of the respondents got information from print media, 40 per cent from electronic media, 10 per cent from cosmopolite media and 8.6 per cent from localite media.

4.1.7.2 Interests in Getting Information About Rabies Through Media

Table 9. Distribution of dog owners based on interests in getting information through media

n=150

Region	Interested in information	
	f	%
Hilly	43	86
Coastal	42	84
Plain	45	90

Data in table 9 showed that in the hilly region, 86 per cent of the respondents had interest in getting information through media. In the coastal and plain regions, 84 per cent and 90 per cent respondents respectively were interested in getting information through media.

4.1.7.3 Media Preference

Table 10. Distribution of dog owners based on media preference

n=150

Preference	Communication source		
	Hilly	Coastal	Plain region
Low (50-150)	Poster, Leaflets	Weeklies, Poster, Leaflets	Poster, Leaflets
Medium (151-250)	Magazines, Weeklies, T.V	Magazines	Magazines, Weeklies, Radio
High (251-350)	Newspaper, Radio	Newspaper, Radio, TV	Newspaper, TV

The table 10 revealed that for getting information about rabies, in the hilly region newspaper and radio had high preference. Sources like magazines, weeklies and TV had medium preference. Poster and leaflets had low preference.

In the coastal region, newspaper, radio and TV were the most preferred sources. Magazines were of medium preference. Weeklies, poster and leaflets were of low preference.

In the plain region, newspaper and TV had high preference for getting information about rabies. Magazines, weeklies and radio had medium preference. Poster and leaflets had low preference.

Table 11. Distribution of dog owners based on media preference

Overall

n=150

Preference	Communication source
Low (150-450)	Poster, Leaflets
Medium (451-750)	Magazines, Weeklies
High (751-1050)	News paper, TV, Radio

Data in table 11 revealed that in general, newspaper, TV and radio had high preference. Magazines and weeklies had medium preference. Poster and leaflets had low preference.

4.1.7.4 Seminars / Workshops attended

Table 12. Distribution of dog owners based on seminars and workshops attended

n=150

Region	Seminars / Workshops attended	
	f	%
Hilly	2	4
Coastal	1	2
Plain	7	14

It was evident from the table 12 that in the hilly region 4 per cent of the respondents had attended seminars and workshops about rabies. In the coastal region, 2 per cent of the respondents had attended seminars and workshops. In the plain region, 14 per cent of the respondents had attended seminars and workshops on rabies.

4.1.7.5 Interests in attending seminars and workshops on rabies

Table 13. Distribution of dog owners based on interests in attending seminars and workshops

Region	Interested in attending Seminars / Workshops	
	F	%
Hilly	15	30
Coastal	4	8
Plain	32	64

n=150

Data in table 13 revealed that, thirty per cent of respondents of hilly region had interest in attending seminars and workshops. Eight per cent of the respondents in coastal region were interested in attending seminars and workshops and in plain region, 64 per cent of the respondents had interest.

4.1.8 Indigenous beliefs

Table 14. Distribution of dog owners based on indigenous beliefs

Sl No	Indigenous beliefs	Hilly		Coastal		Plain		Overall	
		f	%	f	%	f	%	f	%
1.	Lemon provokes rabies in animals/human beings having a history of dog bite (Hence one should abhor lemon)	1	2	1	2	3	6	5	3.3
2.	Egg provokes rabies in animals/human beings having a history of dog bite (Hence one should abhor egg)	-	-	1	2	2	4	3	2
3.	Both lemon and eggs provokes rabies in animals/ human beings having a history of dog bite (Hence one should abhor both lemon and eggs)	-	-	-	-	1	2	1	0.67
4.	Cauterizing with hot charcoal / Irrigating the bite wound with hot water poured over red hot charcoal	-	-	-	-	3	6	3	2
5.	Anti Rabies Vaccination (ARV) is unnecessary	20	40	-	-	-	-	20	13.33
6.	Animals show fear of water	47	94	48	96	43	86	138	92
7.	Rabies/ hydrophobia is due to heat	1	2	-	-	-	-	1	0.67
8.	Rabies/ hydrophobia is due to snake bite	-	-	-	-	1	2	1	0.67

n=150

Two per cent respondents each from hilly and coastal regions as well as 6 per cent from the plains reported that lemon provokes rabies/hydrophobia in bite victims and therefore it should not be eaten. In general, 3.3 per cent respondents reported this.

In the coastal and plain regions, 2 per cent and 4 per cent respondents respectively reported that eggs provoke rabies/ hydrophobia. In general, 2 per cent respondents reported the same.

Two per cent respondents of the plains reported that both lemon and eggs provoke rabies/ hydrophobia.

Six per cent of the plains believed in cauterizing the bite wound with hot charcoal and irrigating the wound with hot water poured over red hot charcoal. Among the hilly region respondents 40 per cent told that ARV is unnecessary.

Ninety four per cent of respondents in the hilly region believed that animals will show hydrophobia. In the coastal region 96 per cent had the belief that animals will show hydrophobia. Eighty six per cent of respondents in the plain region believed that animals will show hydrophobia. In general, 92 per cent of dog owners had the belief that animals also will show hydrophobia as human beings.

In the hilly region, one of the respondents believed that the cause of rabies rabies is heat.

In the plain region, a respondent reported the reason for rabies as snake bite.

4.1.9 Attitude towards humane dog rearing

Table 15. Distribution of dog owners based on attitude towards humane dog rearing
n=150

Category	Hilly		Coastal		Plain		Overall	
	f	%	f	%	f	%	f	%
Favourable	16	32	18	36	7	14	41	27.33
Neutral	20	40	12	24	36	72	68	45.33
Unfavourable	14	28	20	40	7	14	41	27.33

It was seen that (table 15) in the hilly region 40 per cent were holding a neutral attitude followed by 32 per cent favorable, and 28 per cent holding unfavorable attitude towards humane dog rearing.

In coastal region, 40 per cent were holding unfavorable attitude followed by 36 per cent favorable and 24 per cent neutral.

In the plain region, 72 per cent of respondents were holding a neutral attitude towards humane dog rearing, followed by 14 per cent each holding favorable and unfavorable attitude.

In general, 45.33 per cent were neutral, 27.33 per cent were favorable and 27.33 per cent were unfavorable towards humane dog rearing.

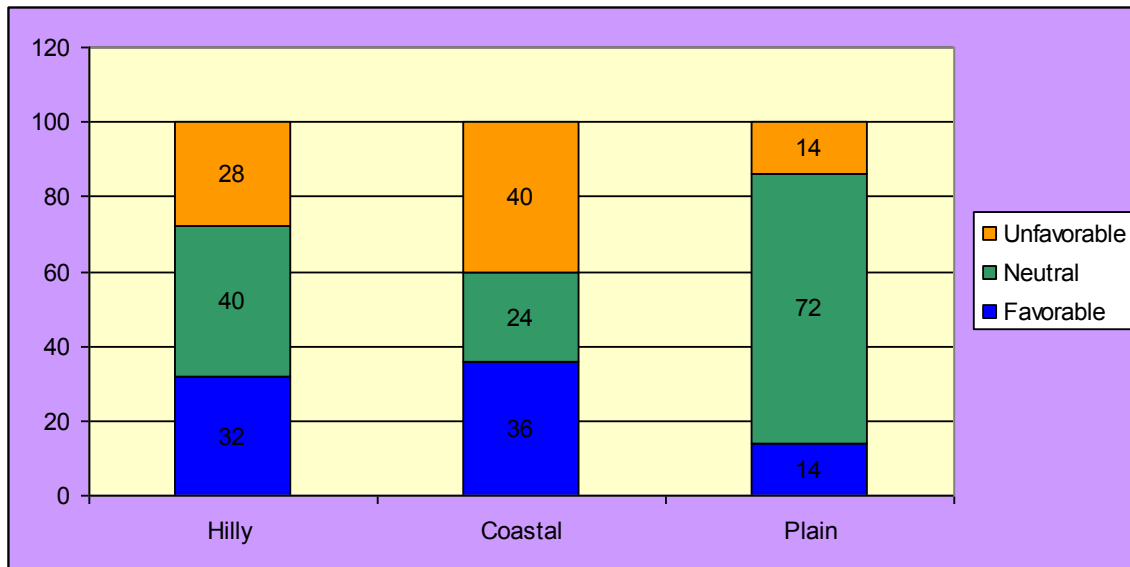


Fig. 4. Region wise distribution of dog owners based on attitude towards humane dog rearing

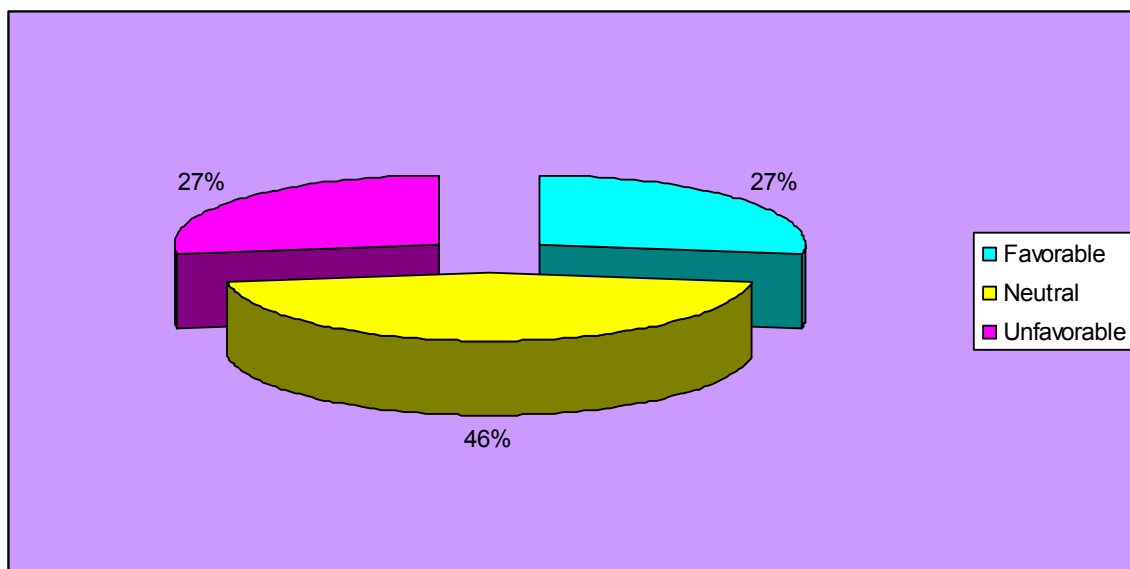


Fig. 5. Overall distribution of dog owners based on attitude towards humane dog rearing

The major findings of this section are listed below

1. Dog owners aged above 50 years predominated followed by those of middle and young age in that order.
2. Primary education was the most common level of education among dog owners.
3. Dog owners comprised of mostly Hindus, followed by Christians and Muslims.
4. The predominant occupation was petty jobs followed by coolie and farming in that order.
5. Majority of dog owners had a monthly income of below Rs. 5000.
6. A substantial percentage of dog owners got information on rabies from print media followed by electronic media.
7. Exposure to localite and cosmopolite channels was negligible in hilly and coastal regions.
8. Dog owners of all the three regions were interested in information pertaining to rabies and its control.
9. Newspaper, radio and TV were the highly preferred media for information on rabies and its control.
10. Posters and leaflets were only lowly preferred for information on rabies and its control.
11. TV is not a highly preferred choice of media for dog owners of hilly region.
12. Radio was not a highly preferred choice of media for dog owners in the plain region.

13. Dog owners attending seminars and workshops were only few in all the three regions.
14. Dog owners interested in attending seminars and workshops on rabies were more in the plains followed by hilly and coastal regions.
15. A substantial percentage of dog owners of hilly region believed that ARV is unnecessary.
16. A large percentage of dog owners of all the regions believed that rabid animal shows fear of water just as human.
17. Dog owners' attitude towards humane dog rearing was predominantly neutral or ambivalent.
18. Dog owners with unfavorable attitude outnumbered favorable ones in the coastal region.

4.2 DEPENDENT VARIABLES

4.2.1 Awareness about etiology and spread of rabies

Table 16. Distribution of dog owners based on awareness about etiology and spread of rabies

n=150

Hilly			Coastal			Plain			Overall		
Category	f	%	Category	f	%	Category	f	%	Category	f	%
Low <3.1	13	26	Low<3.2	13	26	Low <3.3	13	26	Low	39	26
Medium 3.1-5.3	30	60	Medium 3.2-5.9	24	48	Medium 3.3-6.0	34	68	Medium	88	58.67
High >5.3	7	14	High >5.9	13	26	High >6.0	3	6	High	23	15.33

Data in table 16 revealed that as for awareness about etiology of rabies, in the hilly region, it was medium awareness for 60 per cent, followed by low awareness for 26 per cent and high awareness for 14 per cent.

In the case of coastal region, it was medium awareness for 48 per cent, followed by high awareness for 26 per cent and low awareness for 26 per cent.

In the case of plain region, it was medium awareness for 68 per cent of dog owners, followed by low awareness for 26 per cent and high awareness for 6 per cent.

In general, 58.67 per cent of the respondents had medium awareness, 26 per cent had low awareness and 15.33 per cent had high awareness about etiology and spread of rabies.

4.2.1.1 Content analysis of awareness items regarding etiology and spread of rabies

Table 17. Content analysis of the awareness items regarding etiology and spread of rabies

Sl. No.	Items	Hilly		Coastal		Plain		Overall	
		f	%	f	%	f	%	F	%
1	Causative organism of rabies	32	64	32	64	40	80	104	69.33
2	Most common source of rabies in man	27	54	27	54	42	84	96	64
3	Wild animals can cause rabies	32	64	27	54	23	46	82	54.66
4	Cat can transmit rabies	39	78	34	68	44	88	117	78
5	Rabies spreads through the saliva of the infected animal	39	78	36	72	35	70	110	73.33
6	Subclinical rabies is seen in some of the animals and can be a source of infection	16	32	29	58	25	50	70	46.66
7	Rabies will not spread through cooked meat and pasteurized milk	25	50	35	70	25	50	85	56.67

Data in table 17 revealed that vast majority (78%) of the respondents in the hilly region had awareness about the transmission of rabies by cats and that rabies is spread through the saliva of the infected animal (78%). About 64 per cent of the respondents had awareness about the causative organism of rabies and that wild animals can also cause rabies. It was followed by awareness of most common source of rabies in man (54%), rabies will not spread through cooked meat and pasteurized milk (50%) and sub clinical rabies is seen in some of the animals and can be a source of infection (32%).

Data revealed that 72 percent of the coastal region respondents were aware that rabies spreads through saliva of the infected animal followed by, rabies will not spread through cooked meat and pasteurized milk (70%), cats can also transmit rabies (68%), causative organism of rabies (64%), sub clinical rabies could be seen in some of the animals (58%), most common source of rabies in man (54%) and wild animals can cause rabies (54%).

Data revealed that 88 per cent of the respondents in the plain region were aware that cats can cause rabies, followed by awareness about most common source of rabies in man (84%), causative organism of rabies (80%), rabies spreads through the saliva of infected animal (70%), sub clinical rabies is seen in some of the animals (50%), rabies will not spread through meat and pasteurized milk (50%) and wild animals can cause rabies (46%).

The data in table 17 indicated that in general, majority of the respondents were aware that cat can cause rabies (78%), followed by rabies spreads through the saliva of infected animal (73.33%), causative organism of rabies (69.33%), most common source of rabies in man (64%), rabies will not spread through cooked meat and pasteurized milk (56.67%), wild animals can cause rabies (54.66%) and sub clinical rabies is seen in some animals and can be a source of infection (46.66%).

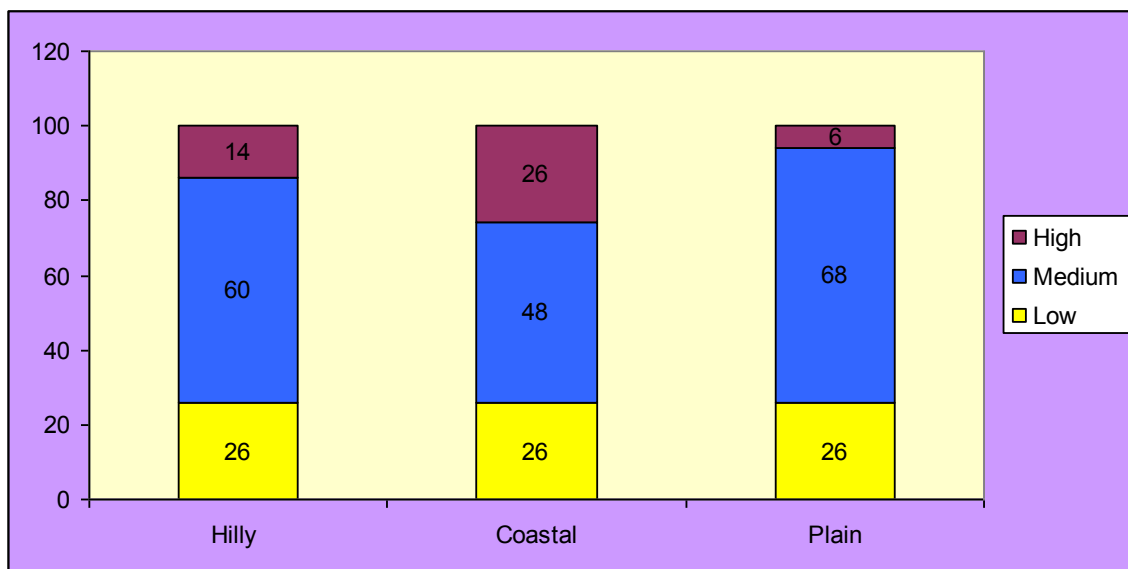


Fig. 6. Region wise distribution of dog owners based on awareness about etiology and spread of rabies

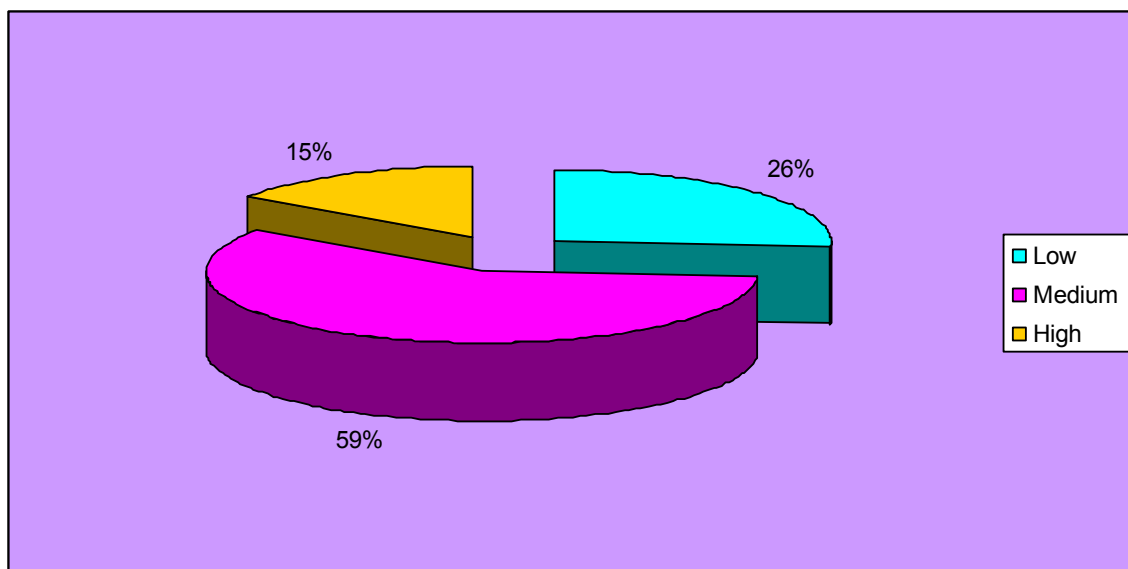


Fig. 7. Overall distribution of dog owners based on awareness about etiology and spread of rabies

4.2.2 Awareness about the symptoms of rabies

Table 18. Distribution of dog owners based on symptoms of rabies

n =150

Hilly			Coastal			Plain			Overall		
Category	f	%	Category	f	%	Category	f	%	Category	f	%
Low <4.4	8	16	Low <4.9	6	12	Low <5.6	6	12	Low	20	13.33
Medium 4.4-8.7	33	66	Medium 4.9-8.9	34	68	Medium 5.6-9.7	34	68	Medium	101	67.33
High >8.7	9	18	High >8.9	10	20	High >9.7	10	20	High	29	19.33

Data in table 18 indicated that as far as the hilly region respondents' awareness of symptoms of rabies were concerned; it was medium awareness for 66 per cent, high awareness for 18 per cent and low awareness for 16 per cent.

As for the coastal region, it was medium awareness for 68 per cent, high awareness for 20 per cent and low awareness for 12 per cent.

As for the plain region, it was medium awareness for 68 per cent, followed by high awareness for 20 per cent and low awareness for 12 per cent.

In general, it was medium awareness for 67.33 per cent, high for 19.33 per cent and low for 13.33 per cent regarding symptoms of rabies.

4.2.2.1 Content analysis of the awareness items regarding symptoms of rabies

Table 19. Content analysis of the awareness items regarding symptoms of rabies

Sl. No.	Items	Hilly		Coastal		Plain		Overall	
		f	%	f	%	f	%	f	%
1	Changes in behavioral signs is the initial sign of rabies in dog	8	16	11	22	9	18	28	18.67
2.	Rabid dog remains in a solitude condition	25	50	29	58	27	54	81	54
3	Some times the rabid dog will bite the owner itself	25	50	37	74	29	58	91	60.67
4	After the occurrence of rabies the dog will make more attachment with the owner	25	50	36	72	28	56	89	59.33
5	One of the symptoms of rabid dog is roaming in the streets	44	88	39	78	47	94	130	86.67
6	The rabid dog will be hyper responsive to auditory and visual stimuli	33	66	31	62	30	60	94	62.67
7	Photophobia is one of the symptoms of rabies in animals	36	72	34	78	36	72	106	70.67
8	A rabid dog will bite and swallow the nonliving objects such as stones and wood	22	44	18	36	30	60	70	46.67
9	A rabid dog will attack imaginary objects.	21	42	16	32	32	64	69	46
10	Hydrophobia is not a symptom of rabies in dog	3	6	2	4	7	14	12	8
11	Paralysis of the jaw is one of the symptoms of rabies in dogs	8	16	3	6	17	34	28	18.67
12	Fever is seen in the preliminary stage of rabies	12	24	24	48	23	46	59	39.33
13	A rabid cat will also show some of the same symptoms as that a rabid dog	32	64	23	46	34	68	89	59.33
14	Rabid cats have the tendency to fight and crawl.	22	44	28	56	20	40	70	46.67
15	Livestock such as cow, goat and buffalo will not show hydrophobia	16	32	4	8	12	24	32	21.33

The results presented in the table 19 indicated that majority of the respondents in the hilly region (88%) had the awareness that one of the symptoms of rabid dog is roaming in the streets, followed by photophobia (72%), hyper

responsive to auditory and visual stimuli (66%), rabid cat will also show some of the same symptoms as that of a rabid dog (64%), rabid dog remains in a solitude condition (50%), some times will bite the owner itself (50%), will be more affectionate to owner (50%), rabid cats have the tendency to fight and crawl (44%), a rabid dog will bite and swallow nonliving objects such as stones and wood (44%), will attack imaginary objects (42%), livestock such as cow, goat and buffalo will not show hydrophobia (32%), fever is seen at the preliminary stage of rabies (24%), paralysis of the jaw is one of the symptoms of rabies in dogs (16%), changes in behavior signs is the initial sign (16%), hydrophobia is not a symptom of rabies in dog (6%).

Data in the table revealed that among the respondents in the coastal region, 78 per cent each were aware of two symptoms of rabies namely roaming of dogs in the streets and photophobia, will bite the owner itself (74%), after the occurrence of rabies the dog will make more attachment with the owner (72%), the rabid dog will be hyper-responsive to auditory and visual stimuli (62%), remains in a solitude condition (58%), rabid cats have the tendency to fight and crawl (56%), fever is seen at the preliminary stage of rabies (48%), a rabid cat will also show some of the same symptoms as that of a rabid dog (46%), a rabid dog will bite and swallow the nonliving objects such as stones and wood (36%), will attack imaginary objects (32%), change in behavior is the initial sign (22%), livestock such as cow, goat and buffalo will show hydrophobia (8%), paralysis of the jaw is one of the symptoms of rabies in dogs (6%), hydrophobia is not a symptom of rabies in dog (4%).

A vast majority of the dog owners in the plain region were aware of the symptom that the rabid dog will roam in the streets (94%), followed by photophobia (72%), rabid cat will show the same symptoms as that of rabid dog (68%), a rabid dog will attack the imaginary objects (64%), the rabid dog will be hyper responsive to auditory and visual stimuli and rabid dog will bite and swallow the nonliving objects such as stones and wood (60%), some times the rabid dog will bite the owner itself (58%), after the occurrence of rabies the dog

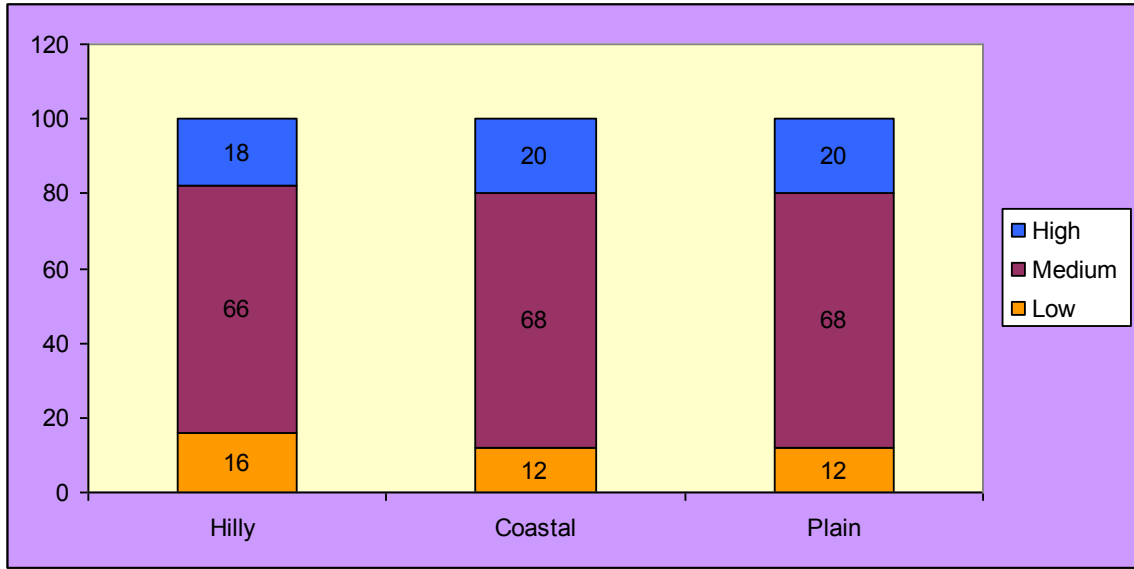


Fig. 8. Region wise distribution of dog owners based on awareness about symptoms of rabies

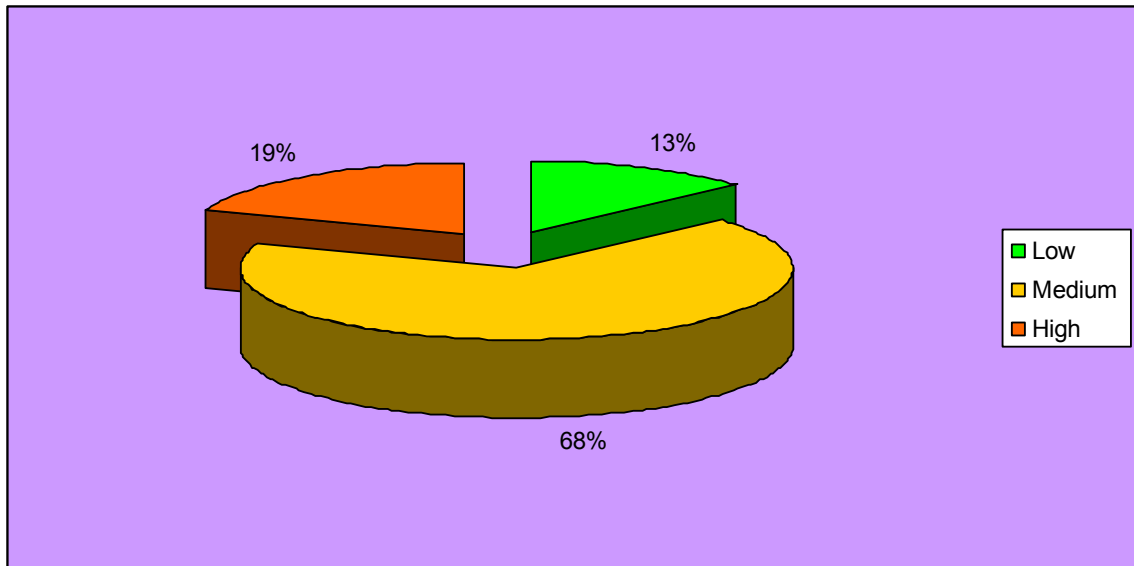


Fig. 9. Overall distribution of dog owners based on awareness about symptoms of rabies

will make more attachment with the owner (56%), rabid dog remains in a solitude condition (54%), fever is seen at the preliminary stage of rabies (46%), rabid cats have the tendency to fight and crawl (40%), paralysis of the jaw as one of the symptom (34%), livestock animals such as cow, goat and buffalo will not show hydrophobia (24%), change in behavior is the initial sign (18%), and hydrophobia is not a symptom of rabies in dogs (14%).

In general, a vast majority of dog owners was aware that one of the symptoms of rabid dog is roaming in the streets (86.67%), followed by photophobia (70.67%), the rabid dog will be hyper responsive to auditory and visual stimuli (62.67%), sometimes the rabid dog will bite the owner itself (60.67%), a rabid cat will also show some of the same symptoms as that of a rabid dog (59.33%), after the occurrence of rabies the dog will make more attachment with the owner (59.33%), will remain in a solitude condition (54%), will bite and swallow nonliving objects such as stones and wood and rabid cats have the tendency to fight and crawl (46.67%), a rabid dog will attack imaginary objects (46%), fever is seen at the preliminary stage of rabies (39.33%), livestock such as cow, goat and buffalo will not show hydrophobia (21.33%), change in behavior is the initial sign (18.67%), paralysis of the jaw is one of the symptoms of rabies in dogs (18.67%) and hydrophobia is not a symptom of rabies in dogs (8%).

4.2.3 Awareness of dog owners about the control measures of rabies

Table 20. Distribution of dog owners based on awareness of control measures of rabies

Hilly n=50			Coastal n=50			Plain n=50			Overall		
Category	f	%	Category	f	%	Category	f	%	Category	f	%
Low <5.5	8	16	Low <7.6	6	12	Low <7.6	6	12	Low	20	13.33
Medium 5.5-10.3	33	66	Medium 7.6-12.0	40	80	Medium 7.6-13.5	31	62	Medium	104	69.33
High >10.3	9	18	High >12.0	4	8	High >13.5	13	26	High	26	17.33

As for the control measures of rabies, it was evident from table 20 that among the dog owners of hilly region, medium awareness was for 66 per cent, followed by high awareness for 18 per cent and low awareness for 16 per cent.

In the case of coastal region, it was medium awareness for 80 per cent, low awareness for 12 per cent and high awareness for 8 per cent.

In the case of plain region, it was medium awareness for 62 per cent, high awareness for 26 per cent and low awareness for 12 per cent.

In general, it was medium awareness for 69.33 per cent, high awareness for 17.33 per cent and low awareness for 13.33 per cent

4.2.3.1 Content analysis of control measures of rabies

Table 21. Content analysis of control measures of rabies

Sl. No.	Items	Hilly		Coastal		Plain		Overall	
		f	%	f	%	f	%	f	%
1	Rabies vaccination should be given to puppies in the third month	20	40	35	70	40	80	95	63.33
2	Booster doses should be given every year	23	46	36	72	35	70	94	62.67
3	Don't abandon the puppies after their birth	16	32	21	42	21	42	58	38.67
4	Don't allow the dogs to roam during the night t	29	58	47	94	34	68	110	73.33
5	Destroy the stray dogs in a humane manner	42	84	45	90	47	94	134	89.33
6	Sterilize the stray dogs and control their population	49	98	47	94	50	100	146	97.33
7	Construct compound wall around the house	28	56	49	98	39	78	116	77.33
8	If your dog is bitten by another dog, vaccination should be given without fail.	21	42	45	90	40	80	106	70.67
9	Vaccination should be given for cats also	14	28	13	26	25	50	52	34.67
10	Don't abandon the kittens after birth	16	32	8	16	25	50	49	32.67
11	Don't allow fighting between dogs	16	32	17	34	36	72	69	46
12	Don't allow children to play with cats	29	58	46	92	40	80	115	76.67
13	Don't allow children to play with dogs	35	70	49	98	42	84	126	84
14	It is necessary to license the dogs	24	48	14	28	36	72	74	49.33
15	Controlling of wild animals by authorities concerned	19	38	28	56	25	50	72	48

Table 21 showed that in the hilly region majority of respondents were aware of the need for sterilizing stray dogs and controlling their population (98%). The other items in the descending order of awareness were the importance of destroying stray dogs in a humane manner (84%), not allowing children to

play with dogs(70%), not allowing the dogs to roam during the night (58%), not allowing children to play with cats (58%), constructing compound wall around the house (56%), licensing of dogs (48%), giving the booster doses of vaccine (46%), post vaccination should be given without fail (42%), vaccinating the dog in the third month (40%), controlling of wild animals by authorities concerned (38%) not abandoning the puppies after their birth (32%), not abandoning the kittens after birth (32%), not allowing fighting between dogs (32%) and vaccination should be given for cats also (28%).

Regarding the coastal region, the vast majority (98% each) of dog owners were aware of the importance of constructing compound walls around the house and also not allowing children to play with dogs. The other items in the descending order were not allowing the dogs to roam during night (94%), sterilization of stray dogs (94%), not allowing children to play with cats (92%), destruction of stray dogs (90%), post exposure vaccination should be given without fail (90%), giving the booster doses of vaccine (72%), vaccinating the dog in the third month (70%), controlling of wild animals by authorities concerned (56%), not abandoning the puppies after birth (42%), not allowing fighting between dogs (34%), licensing of dogs (28%) and vaccination should be given for cats also (26%) and abandoning of kittens after birth (16%).

In the plain region, all the respondents were aware about the need for sterilizing the stray dogs and controlling their population. Other items in the descending order are destroying stray dogs in humane manner (94%), not allowing the children to play with dogs (84%), vaccinating the dog in the third month (80%), post exposure vaccination should be given without fail (80%), constructing compound wall around the house (78%), licensing the dogs (72%), booster doses should be given every year (70%), not allowing the dogs to roam during the night (68%), vaccination should be given for cats also (50%), not abandoning the kittens after birth (50%), controlling of wild animals by authorities concerned (50%) and abandoning the puppies after birth (42%).

In general vast majority (97.33%) of the respondents had awareness about the importance of sterilizing stray dogs and controlling their population, followed by destroying the stray dogs in a humane manner (89.33%), not allowing children to play with dogs (84%), constructing compound wall around the house (77.33%), not allowing children to play with cats (76.67%), not allowing the dogs to roam during the night (73.33%), post exposure vaccination should be given with out fail (70.67%), vaccinating the dog in the third month (63.33%), booster doses should be given every year (62.67%), licensing the dogs (49.33%), controlling of wild animals by concerned authorities (48%), not allowing fighting between dogs (46%), not abandoning the puppies after their birth (38.67%), vaccination should be given for cats also (34.67%) and not abandoning the kittens after birth (32.67%).

4.2.4 General awareness of rabies and its control

Table 22. Distribution of dog owners based on general awareness of rabies and its control

Hilly n=50			Coastal n=50			Plain n=50			Overall		
Category	f	%	Category	f	%	Category	f	%	Category	f	%
Low <15.0	9	18	Low <17.9	6	12	Low <17.9	7	14	Low	22	14.67
Medium 15.0-22.6	31	62	Medium 17.9-24.3	37	74	Medium 17.9-28.0	34	68	Medium	102	68
High >22.6	10	20	High >24.3	7	14	High >28.0	9	18	High	26	17.33

As far as the general awareness of rabies and its control is concerned, it was evident from table 22 that in the hilly region, 62 per cent of the respondents had medium awareness, 20 per cent had high awareness and 18 per cent had low awareness.

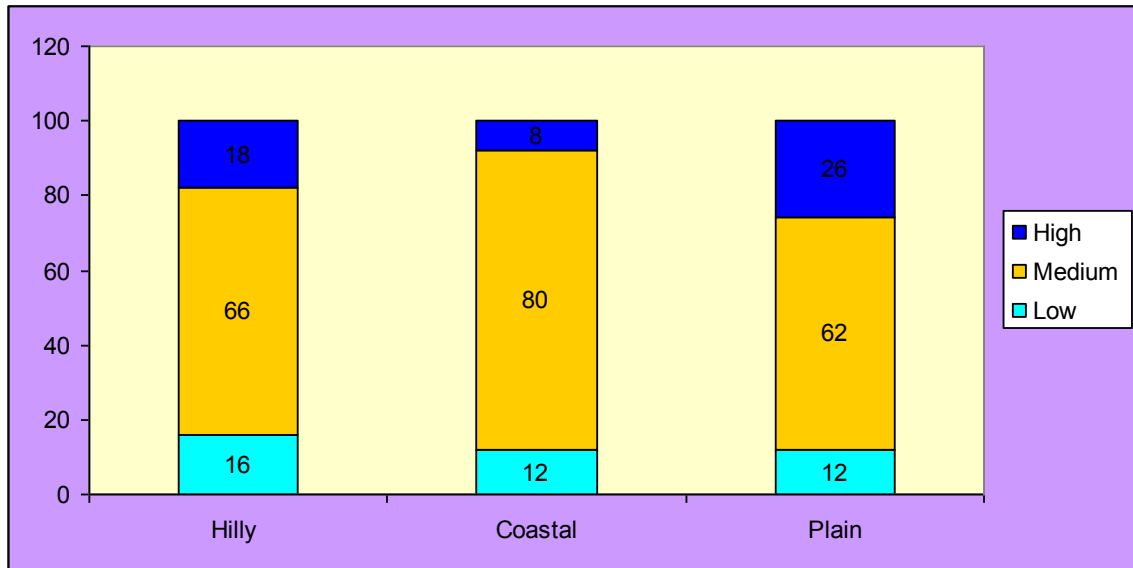


Fig. 10. Region wise distribution of dog owners on awareness about control measures of rabies

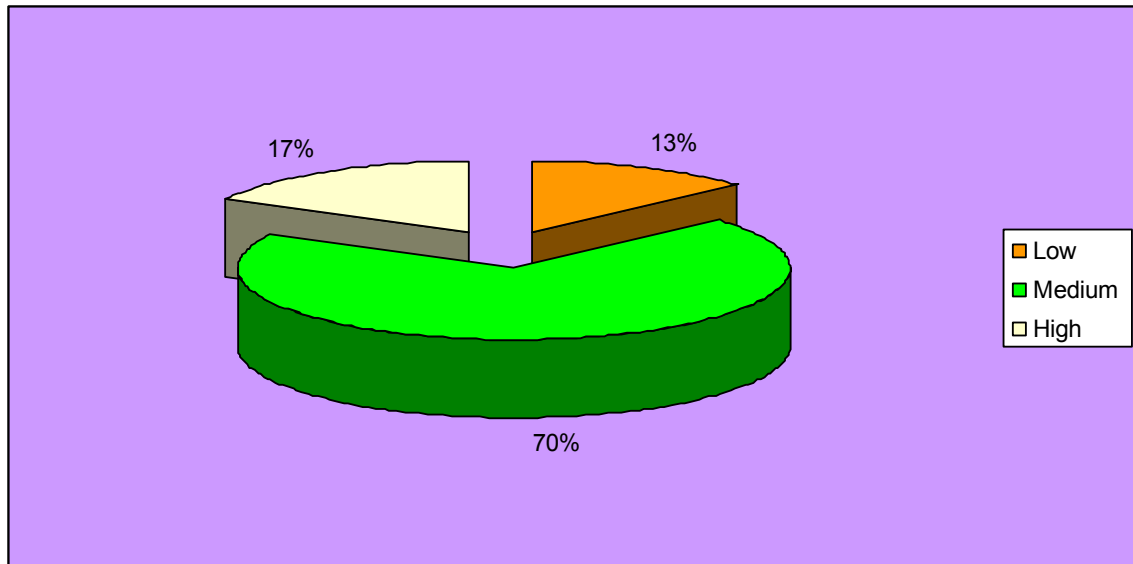


Fig. 11. Overall distribution of dog owners on awareness about control measures of rabies

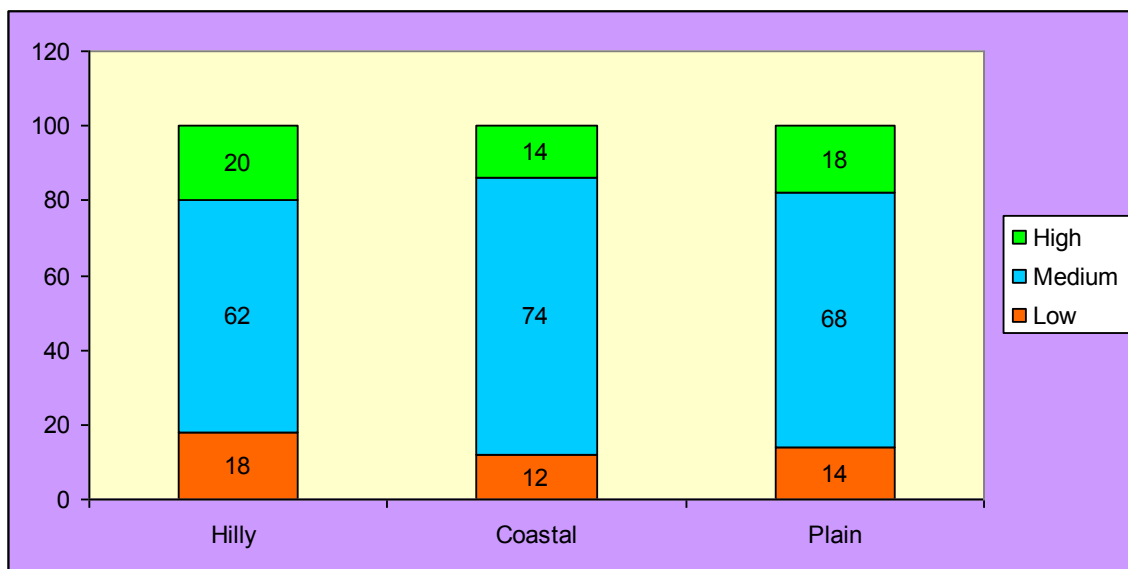


Fig. 12. Region wise distribution of dog owners based on general awareness of rabies and its control

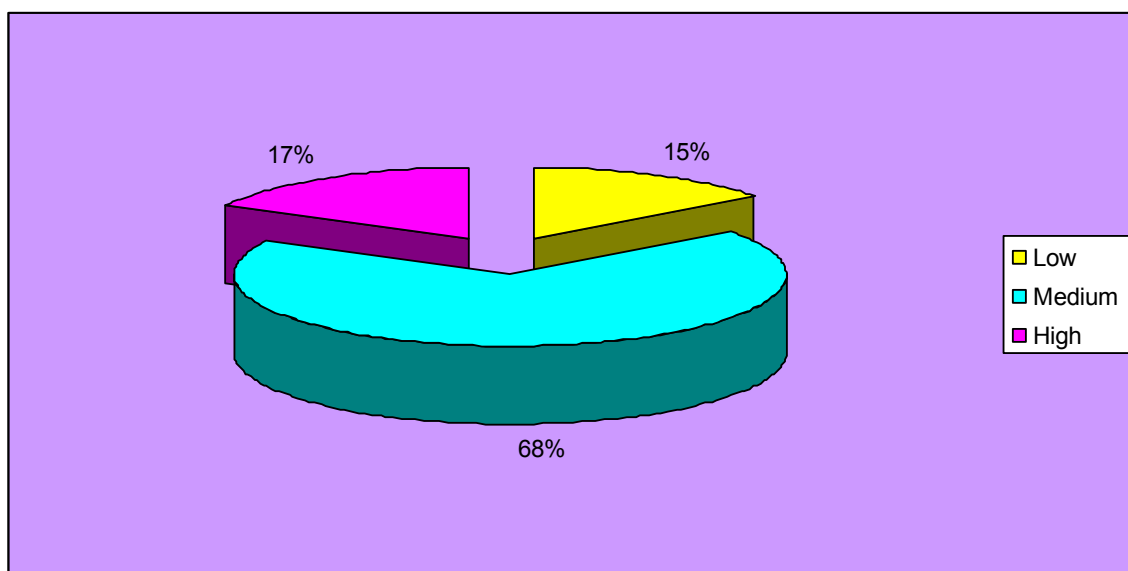


Fig. 13. Overall distribution of dog owners based on general awareness of rabies and its control

In the coastal region, 74 per cent of the respondents had medium awareness, 14 percent had high awareness and 12 per cent had low awareness.

In the plain region, 68 per cent of the respondents had medium awareness, 18 per cent had high awareness and 14 per cent of the respondents had low awareness.

In general, 68 per cent of the dog owners had medium awareness, 17.33 per cent of the respondents had high awareness and 14.67 per cent had low awareness.

The major findings of this section are as follows

1. As for etiology and spread of rabies dog owners with medium awareness predominated.
2. In the plains as well as hilly regions, those of low awareness on etiology and spread of rabies somewhat outnumbered those of high awareness.
3. A large majority of dog owners were aware of the fact that cats can transmit rabies, closely followed by the knowledge that rabies spreads through saliva of the infected animal, and that etiology is an infectious agent.
4. A majority of dog owners were ignorant that subclinical rabies is seen in certain animals and can be a source of infection.
5. Less dog owners of coastal region than hilly and plain regions believed that rabies will spread through cooked meat and pasteurized milk.
6. Regarding symptoms of rabies, dog owners with medium awareness predominated whereas those of low awareness were only a minority across all regions.
7. A large majority of dog owners knew that a rabid dog will roam in the streets, fear of light is one of the symptoms of rabies, rabid dog can bite the owner itself and rabid dog will be hyper responsive to light and sound.

8. A large majority of dog owners believed that hydrophobia is a symptom of rabies in dog/ livestock.
9. A majority of dog owners had medium awareness on the control measures of rabies. Those with low awareness were only a minority.
10. A large majority of dog owners believed that stray dogs should be sterilized to control their population, even the strays may be destroyed in a humane manner, should not allow one's own dog to roam during the night times, it is better to have compound wall around the house, postexposure vaccination should be given without fail and one should not permit children to play with dogs and cats.
11. A majority didn't believe that cats should be given ARV.
12. Dog owners overall awareness across all the domains studied indicated that those with medium awareness abound over either the high or low awareness across hilly, coastal and plain regions.

4.2.5 Scientific practices adopted in controlling rabies

4.2.5.1 Practice adoption of control measures of rabies

Table 23. Distribution of dog owners based on practice adoption of control measures of rabies

n=150

Hilly			Coastal			Plain			Overall		
Category	f	%	Category	f	%	Category	f	%	Category	f	%
Low <3.6	26	52	Low <3.3	7	14	Low <4.2	12	24	Low	45	30
Medium 3.6-4.9	11	22	Medium 3.3-5.7	31	62	Medium 4.2-6.3	29	58	Medium	71	47.33
High >4.9	13	26	High >5.7	12	24	High >6.37	9	18	High	34	22.67

Table 23 showed that regarding practice adoption of control measures of rabies in the hilly region, 52 per cent, 26 percent and 22 per cent belonged to low, high and medium level of adoption categories respectively.

In the coastal region, 62 per cent, 24 percent and 14 per cent respectively belonged to medium, high and low adoption categories.

In the plain region, 58 per cent, 24 per cent and 18 per cent of the respondents belonged to the medium, low and high adoption categories.

In general, 47.33 per cent, 30 per cent and 22.67 per cent of the respondents belonged to the medium, low and high adoption categories.

4.2.5.1.1 Content analysis of practice adoption in controlling rabies

Table 24. Content analysis of practice adoption in controlling rabies

Sl. No.	Items	Hilly		Coastal		Plain		Overall	
		f	%	f	%	f	%	f	%
1	Keeping the dog in chain	26	52	45	90	45	90	116	77.33
2	Constructing compound wall around the house and controlling the dog	11	22	27	54	30	60	68	45.33
3	Vaccination against rabies	16	32	27	54	39	78	82	54.67
4	Not allowing the dog to play with stray dogs	47	94	49	98	45	90	141	94
5	Observing the dog for 10 days, if the dog had bitten another dog or man	36	72	41	82	46	92	123	82
6	Participation in vaccination camps	2	4	0	0	14	28	16	10.67
7	Washing the wound with soap and water	41	82	39	78	42	84	122	81.33
8	Sterilizing the dog	1	2	0	0	11	22	12	8

Data regarding content analysis of practice adoption of control measures (table 24) indicated that in the hilly region, 94 per cent of the respondents adopted the practice of not allowing their dogs to play with stray dogs, followed by washing the wound with soap and water (82%), observing the dog for 10 days if it had bitten another dog / man (72%), keeping the dog in chain (52%), vaccination against rabies (32%), construction of compound wall around the

house (22%), participation in vaccination camps (4%), and sterilization of their dogs (2%).

In the coastal region, 98 percent of the respondents adopted the practice of not allowing their dogs to play with stray dogs, followed by keeping the dog in chain (90%), observing the dog for 10 days if it had bitten another dog / man (82%), washing the wound with soap and water (78%), vaccination against rabies (54%) and construction of compound wall around the house (54%). The dog owners neither participated in vaccination camps nor did they sterilize the dog.

In the plain region, 92 per cent of the respondents adopted the practice of observing the dog for 10 days if it had bitten another dog / man followed by keeping the dog in chain (90%) and not allowing their dogs to play with the stray dogs (90%), washing the wound with soap and water (84%), vaccination against rabies (78%), construction of compound wall around the house (60%), participation in vaccination camps (28%) and sterilization of their dogs (22%).

In the case of overall sample, the owners were adopting the practice of not allowing the dog to play with stray dogs (94%), observing the dog for 10 days (82%) followed by, washing the wound with soap and water (81.33%), keeping the dog in chain (77.33%), vaccination against rabies (54.67%), constructing compound wall around the house and controlling the dog (45.33%), participation in vaccination camps (10.67%) and sterilization of dogs (8%).

4.2.5.2 Symbolic adoption in controlling rabies

Table 25. Distribution of dog owners based on symbolic adoption

Hilly			Coastal			Plain			Overall		
Category	f	%	Category	F	%	Category	f	%	Category	f	%
Low <3.5	6	12	Low <3.2	2	4	Low <5.4	8	16	Low	16	10.67
Medium 3.5-6.2	39	78	Medium 3.2-6.7	39	78	Medium 5.4-7.5	30	60	Medium	108	72
High >6.2	5	10	High >6.7	9	18	High >7.5	12	24	High	26	17.33

n=150

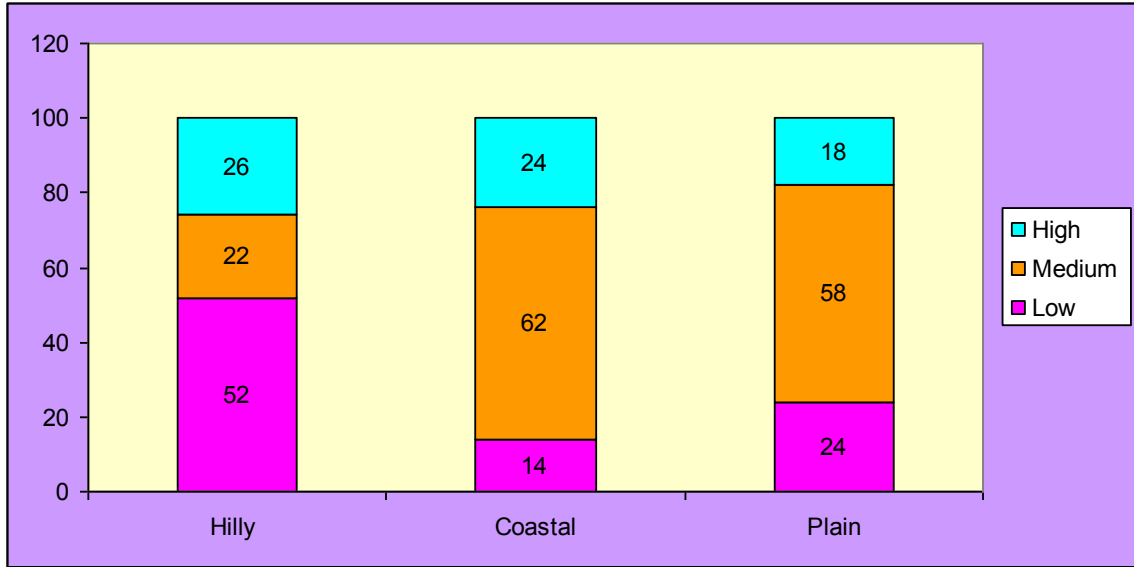


Fig. 14. Region wise distribution of dog owners based on practice adoption of controlling rabies

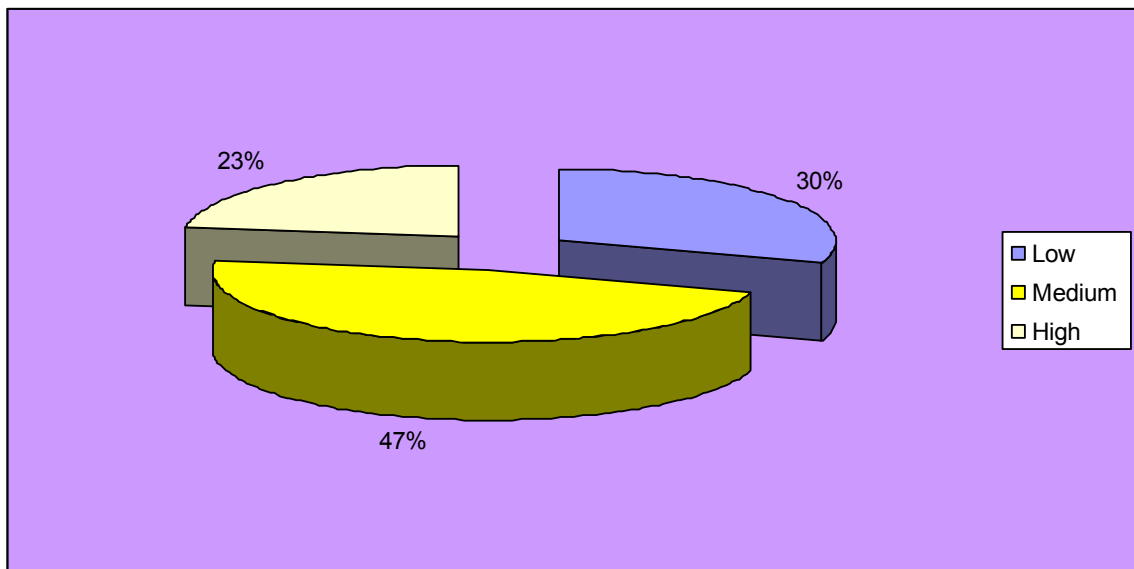


Fig. 15. Overall distribution of dog owners based on practice adoption of controlling rabies

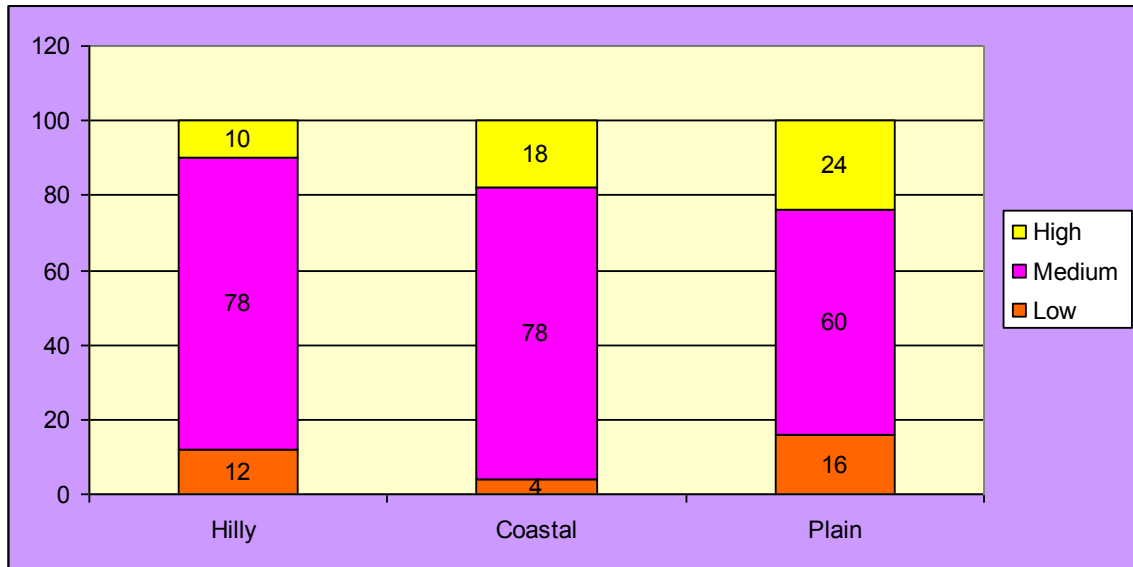


Fig. 16. Region wise distribution of dog owners based on symbolic adoption of controlling rabies

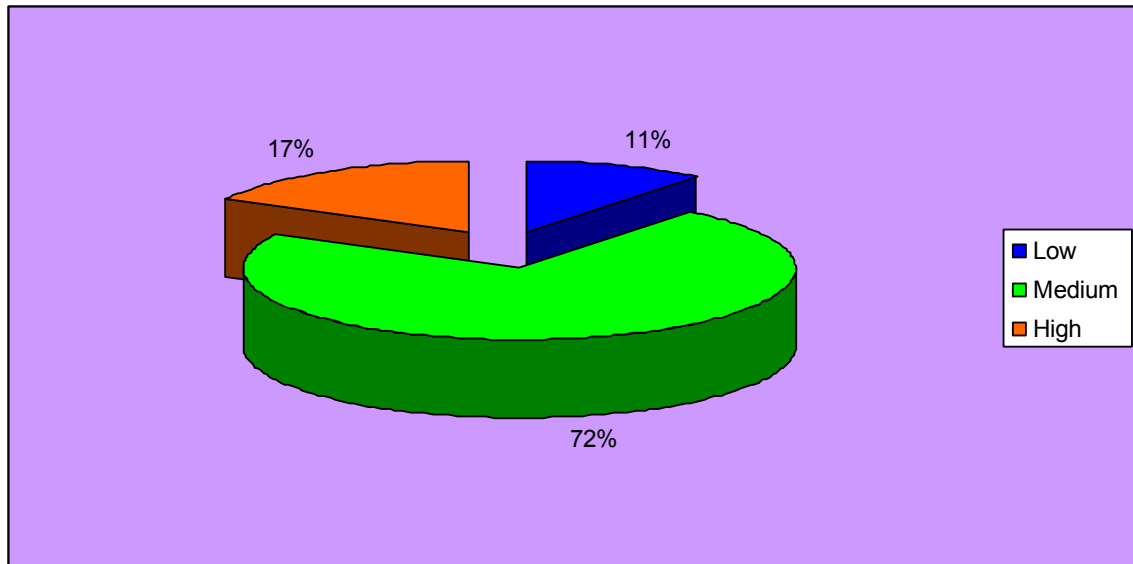


Fig. 17. Overall distribution of dog owners based on symbolic adoption of controlling rabies

Data regarding symbolic adoption in controlling rabies indicated that (table 25) in the hilly region, 78 per cent, 12 per cent and 10 per cent respectively belonged to medium, low and high adoption categories.

In the coastal region, 78 per cent, 18 per cent and 4 per cent of the respondents belonged to the medium, high and low adoption categories.

In the plain region, 60 per cent, 24 per cent and 16 per cent belonged to medium, high and low adoption categories respectively.

In general, 72 per cent, 17.33 per cent and 10.67 per cent of the respondents belonged to medium, high, and low adoption categories respectively.

4.2.5.2.1 Content analysis of symbolic adoption of controlling rabies

Table 26. Content analysis of symbolic adoption of controlling rabies

Sl. No.	Items	Hilly		Coastal		Plain		Overall	
		f	%	f	%	f	%	f	%
1	Keeping the dogs in chain	34	68	48	96	47	94	129	86
2	Constructing compound wall around the house and controlling the dog	16	32	35	70	46	92	97	64.67
3	Vaccination against rabies	42	84	47	94	50	100	139	92.67
4	Not allowing your dog to play with stray dogs	49	98	48	96	50	100	147	98
5	Observing the dog for 10 days, if the dog had bitten another dog or man, then	48	96	44	88	48	96	140	93.33
6	Participation in vaccination camps	6	12	12	24	21	42	39	26
7	Washing the wound with soap and water	46	92	41	82	47	94	134	89.33
8	Sterilizing the dog	1	2	1	2	17	34	19	12.67

Data in the table 26 revealed that in the hilly region, ninety eight percent of the respondents would adopt the practice of not allowing the dogs to play with the stray dogs followed by observing the dog for 10 days if it had bitten another dog or man (96%), washing the wound with soap and water (92%), vaccinating against rabies (84%), keeping the dogs in chain (68%), constructing compound wall around the house and controlling the dog (32%), participate in vaccination camps (12%) and sterilize the dog (2%).

In the coastal region ninety six percent of the respondents would adopt the practice of not allowing the dogs to play with the stray dogs and keeping the dog in chain followed by vaccinating against rabies (94%), observing the dog for 10 days if the dog had bitten another dog or man (88%), washing the wound with soap and water (82%), constructing compound wall around the house and controlling the dog (70%), participating in vaccination camps (24%) and sterilizing the dog (2%).

In the plain region, all the respondents adopted the practice of vaccination against rabies and the practice of not allowing the dogs to play with the stray dogs followed by observing the dog for 10 days if the dog had bitten another dog or man (96%), keeping the dogs in chain (94%) and washing the wound with soap and water (94%), constructing compound wall around the house and controlling the dog (92%), participating in vaccination camps (42%) and sterilizing the dog (34%).

In the case of overall sample, the owners would adopt the practice of not allowing the dog to play with stray dogs (98%) followed by observation of the dog for 10 days if it bites another dog or man (93.33%), vaccination against rabies (92.67%), washing the wound with soap and water (89.33%), keeping the dogs in chain (86%), constructing compound wall around the house and controlling the dog (64.67%), participation in vaccination camps (26%) and sterilization of dogs (12.67%).

The major findings of this section are given below

1. Regarding practice adoption of control measures, there were more number of medium level adopters followed by low and high level adopters in that order.
2. High adopters of control measures were more than low adopters in the coastal region.
3. Large majority of dog owners were adopted the control measures such as not allowing the dogs to play with stray dogs, observing the dog for ten days if the dog had bitten another dog/ man, washing the dog bite wound with soap and water and keeping the dogs in chain.
4. Those participating in vaccination camps as well as sterilizing their dogs were negligible across all regions.
5. The dog owners preferred to be medium adopters of control measures in the future followed by high adopters and low adopters in that order.
6. Dog owners prepared to sterilize their dogs in the future were only very less or even negligible in the hilly and coastal regions as compared to the plain region.
7. Dog owners prepared to participate in vaccination camps in the future were also a minority.

4.3 RELATIONSHIP BETWEEN INDEPENDENT AND DEPENDENT VARIABLES

4.3.1 Relationship between independent variables and general awareness of rabies and its control

4.3.1.1 Multiple regression analysis of independent variables with dependent variable, general awareness of rabies and its control

Table 27. Multiple regression analysis of independent variables with dependent variable, general awareness of rabies and its control

Sl. No.	Independent variable	Correlation coefficient	Regression coefficient	Standard error	t- value
1	Age	-0.048	0.0082	0.0891	0.245
2	Education	0.297**	0.8553	0.0872	2.157*
3	Number of children	0.047	0.2505	0.1109	0.465
4	Income	0.140	0.00005	0.0842	1.129
5	Age of young children	0.034	0.0141	0.1030	0.201
6	Media exposure	0.266**	0.6877	0.0807	2.373*
7	Attitude towards humane dog rearing	0.242**	0.1791	0.0792	2.731*

* (P<0.05) ** (P<0.01) F=4.29 Intercept = 12.9 R square = 17.4%

Data in table 27 indicated that out of the seven independent variables studied, three variables viz., education, media exposure and attitude towards humane dog rearing were significantly correlated with the general awareness of rabies and its control. In order to assess the relative contribution of each of the independent variables the data was subjected to multiple regression analysis. It could be observed that the three variables education, media exposure and attitude towards humane dog rearing were found to be significant in explaining variations in the general awareness of rabies and its control. The multiple regression equation fitted to the data was

$Y=12.9+0.0082x_1+0.8553x_2+0.2505x_3+0.00005x_4+0.0141x_5+0.6877x_6+0.1791x_7$. The coefficient of determination was found to be 17.4%. This indicated that 17.4 per cent of total variability in the general awareness of rabies and control measures could be attributed to the seven independent variables.

4.3.1.2 Multiple regression analysis of independent variables with dependent variable, practice adoption of control measures of rabies

Table 28. Multiple regression analysis of independent variables with dependent variable, practice adoption of control measures of rabies

Sl. No.	Independent variable	Correlation coefficient	Regression coefficient	Standard error	t- value
1	Age	0.002	0.0015	0.0843	0.144
2	Education	0.373**	0.3854	0.0826	3.056**
3	Number of children	-0.036	-0.3161	0.1050	-1.846
4	Income	0.311**	0.00006	0.0797	2.783*
5	Age of youngest child	0.148	0.0601	0.0750	2.885*
6	Media exposure	0.128	-0.0555	0.0975	2.477*
7	Attitude towards humane dog rearing	0.215*	0.0703	0.0764	0.763

* (P<0.05) ** (P<0.01) F=7.13 Intercept = 1.88 R² = 26%

Data in table 28 indicated that out of the seven independent variables studied, education, income and attitude towards humane dog rearing were found to be significantly correlated with the practice adoption of control measures of rabies. In order to assess the relative contribution of each of the independent

variable studied, the data was subjected to multiple regression analysis. It could be observed that education, income, age of the youngest child and media exposure were found to be significant in explaining variations in the practice adoption of control measures of rabies of dog owners. The multiple regression equation fitted to the data was

$Y = 1.88 + 0.0015 x_1 + 0.3854 x_2 - 0.3161 x_3 + 0.00006 x_4 + 0.0601 x_5 + 0.0555 x_6 + 0.0703 x_7$. The coefficient of determination was found to be 26%. This indicated that 26% percent of total variability in practice adoption of control measures of rabies could be attributed to the seven independent variables.

4.3.1.3 Multiple regression analysis of independent variables with dependent variable, symbolic adoption of control measures of rabies

Table 29. Multiple regression analysis of independent variables with dependent variable, symbolic adoption of control measures of rabies

Sl. No.	Independent variables	Correlation coefficient	Regression coefficient	Standard error	t- value
1	Age	-0.052	0.0029	0.0898	0.277
2	Education	0.308**	0.2913	0.0879	2.309*
3	Number of children	0.087	0.0681	0.1118	0.398
4	Income	0.174*	0.00002	0.0849	1.255
5	Age of youngest child	0.105	0.0479	0.0798	2.147
6	Media exposure	0.229*	0.0181	0.1037	0.809
7	Attitude towards humane dog rearing	0.186*	0.1863	0.0813	2.021

* (P<0.05) ** (P<0.01) F=3.92 Intercept = 3.29 R² = 16.2%

Data in the table 29 showed that out of seven independent variables studied, education, income, media exposure and attitude towards humane dog

rearing were found to be significantly associated with the symbolic adoption of control measures of rabies. In order to assess the relative contribution of each of the independent variables, the data was subjected to multiple regression analysis. It could be observed that education was found to be significant in explaining variations in the symbolic adoption of control measures of rabies. The multiple regression equation fitted to the data was

$Y = 3.92 + 0.0029 x_1 + 0.2913 x_2 + 0.0681 x_3 + 0.00002 x_4 + 0.0479 x_5 + 0.0181 x_6 + 0.1863 x_7$. The coefficient of determination was found to be 16.2%. This indicated that 16.2% of total variability in symbolic adoption of control measures of rabies could be attributable to the seven independent variables.

4.4 CORRELATION BETWEEN GENERAL AWARENESS OF RABIES AND ADOPTION OF CONTROL MEASURES

Table 30. Correlation between general awareness of rabies and adoption of control measures

Region	Adoption of control measures	
	Practice adoption	Symbolic adoption
Hilly	0.374**	0.191
Coastal	0.492**	0.415**
Plain	0.407**	0.704**
Overall	0.524**	0.525**

** (P<0.01)

4.5 ANOVA

Table 31. Differences between attitude towards humane dog rearing according to regions (ANOVA)

Sl. No.	Variable	Region			F value
		Hilly	Coastal	Plain	
1	Attitude towards humane dog rearing	22.78 ^a ± 0.69	22.10 ^a ± 0.80	26.78 ^b ± 0.59	12.98**

Means bearing same superscript in a row do not differ significantly

Data in table 31 showed that the mean attitude towards humane dog rearing differed highly significantly ($P < 0.01$) among the hilly and coastal regions.

It was highest for the plain region followed by hilly and coastal regions. However there was no significant difference between the hilly and coastal regions.

Table 32. Differences between the general awareness of rabies and its control measures according to regions.

Sl. No.	Variable	Region			F value
		Hilly	Coastal	Plain	
1	Awareness about etiology and spread of rabies	4.46 ± 0.210	4.20 ± 0.156	4.66 ± 0.195	1.49
2	Awareness about symptoms of rabies	6.90 ^a ± 0.288	6.68 ^{ab} ± 0.322	7.720 ^a ± 0.292	3.30**
3	Awareness about control measures of rabies	9.82 ^a ± 0.310	7.92 ^b ± 0.342	10.6 ^{ac} ± 0.415	14.78**
4	General awareness of rabies and its control	21.18 ^a ± 0.457	18.8 ^b ± 0.541	22.98 ^c ± 0.715	13.01**

** ($P < 0.01$)

Means bearing same superscript in a row do not differ significantly

Data in table 32 showed that the average awareness of etiology and spread of rabies did not differ significantly between the three different regions viz. hilly, coastal and plain.

Data further revealed that the average awareness of symptoms as well as awareness of control measures differed significantly between three regions.

Regarding general awareness of rabies and its control, it differed highly significantly among the three regions viz. hilly, coastal and plain.

In all the above cases, the highest mean awareness was for the plain regions followed by hilly and coastal regions in that order.

Table 33. Differences between adoption of control measures according to regions

Sl. No.	Variable	Region			F value
		Hilly	Coastal	Plain	
1	Practice adoption	4.56 ^a ±0.174	3.60 ^b ±0.187	5.44 ^c ±0.185	25.45**
2	Symbolic adoption	5.52 ^a ±0.179	4.84 ^b ±0.192	6.52 ^c ±0.46	23.68**

**($P < 0.01$)

Means bearing same superscript in a row do not differ significantly

A perusal of table 33 revealed that the mean adoption, both practice and symbolic, differed significantly ($p < 0.01$) among the three regions viz. hilly, coastal and plain.

The mean of both practice adoption and symbolic adoption were the highest for the plain region followed by hilly and coastal regions in that order.

Table 34. Differences between the general awareness of rabies and its control according to socio personal characteristics, media exposure, attitude towards humane dog rearing and scientific practices adopted in controlling rabies

Variable	Level			F value
	Low	Medium	High	
Age	20.06 ± 0.86	21.35 ± 0.46	20.76 ± 0.74	1.02
Education	19.87 ^a ± 0.51	21.61 ^b ± 0.54	23.64 ^c ± 1.05	5.72**
Media exposure	21.04 ± 0.46	21.53 ± 0.64	17.78 ± 1.04	2.76
Attitude towards humane dog rearing	20.34 ^a ± 0.55	20.07 ^a ± 0.46	22.50 ^b ± 0.76	4.93**
Practice adoption	17.63 ^a ± 0.53	21.61 ^b ± 0.40	26.67 ^c ± 1.12	24.3**
Symbolic adoption	17.73 ^a ± 0.65	20.97 ^b ± 0.36	28.17 ^c ± 0.89	32.3**

** (P<0.01) Means bearing same superscript in a row do not differ significantly

A perusal of table 34 revealed that the mean general awareness of rabies and its control measures did not differ significantly among low, medium and high age groups as well as medium and high media exposure groups.

Data further revealed that the mean general awareness differed highly significantly (p<0.01) among low, medium and high groups pertaining to education, practice adoption and symbolic adoption.

It however differed significantly between low and high as well as medium and high attitude groups regarding humane dog rearing.

The mean general awareness was the highest when education was high and this was followed by medium and low education in that order.

Similarly the mean general awareness was the highest when practice adoption and symbolic adoption were high and this was followed by in both cases, medium and low adopters in that order.

But the mean general awareness was the highest when attitude towards humane dog rearing was high.

Table 35. Difference between adoption of rabies control measures according to sociopersonal characters, media exposure, attitude towards humane dog rearing and general awareness of rabies

Variable	Level			F value
	Low	Medium	High	
Age	4.29 ± 0.254	5.08±0.258	4.50 ± 0.156	2.189
Education	3.93 ^a ± 0.182	4.95 ^b ± 0.154	5.57 ^{bc} ± 0.271	13.90**
Media exposure	4.57 ± 0.159	4.65± 0.204	3.56 ± 0.175	2.14
Attitude towards humane dog rearing	4.15 ± 0.210	4.52 ± 0.170	4.85 ± 0.240	2.53
General awareness of rabies	3.18 ^a ± 0.260	4.50 ^b ± 0.128	5.91 ^c ± 0.247	26.0**
Symbolic adoption	2.65 ^a ± 0.165	4.56 ^b ± 0.117	5.83 ^c ± 0.205	63.56**

**($P<0.01$) Means bearing same superscript in a row do not differ significantly

Data in table 35 indicated that the average mean practice adoption score didn't differ significantly among low, medium and high age groups, media exposure groups and attitude groups.

Data further revealed that the mean practice adoption differed highly ($p<0.01$) significantly among low, medium and high groups pertaining to education, general awareness of rabies and symbolic adoption.

The mean practice adoption was highest when education was high and this was followed by medium and low education.

Similarly, the mean practice adoption was the highest when general awareness and symbolic adoption were high and this was followed by in both cases, medium and low groups in that order.

The findings of this section are as follows

1. Education, media exposure and attitude towards humane dog rearing were correlated with general awareness of rabies and its control.
2. Education, media exposure and attitude towards humane dog rearing were found to be significant in explaining variations in the general awareness of rabies and its control.
3. Education, income and attitude towards humane dog rearing were correlated with practice adoption of control measures of rabies.
4. Education, income, age of youngest child and media exposure were found to be significant in explaining variations in the practice adoption of control measures of rabies.
5. Education, income, media exposure and attitude towards humane dog rearing were found to be significantly associated with symbolic adoption of control measures of rabies.
6. Education was found to be significant in explaining variations in the symbolic adoption of control measures of rabies.
7. There was significant correlation between general awareness and adoption of control measures in the coastal and plain regions.
8. The general awareness was not found to be significantly correlated with symbolic adoption in the hilly region.
9. The mean attitude towards humane dog rearing differed highly significantly among hilly and coastal regions. It was highest for the plain region followed by hilly and coastal regions.
10. The mean awareness of etiology and spread of rabies did not differ significantly among the three regions.

11. The mean awareness of symptoms and control measures differed significantly between three regions. It was highest for the plain region followed by hilly and coastal regions.
12. Both practice and symbolic adoption differed significantly between three regions.
13. The mean general awareness of rabies and its control measures differed significantly among low, medium and high groups pertaining to education, practice adoption and symbolic adoption.
14. The mean practice adoption differed highly significantly among low, medium and high groups pertaining to education, general awareness of rabies and symbolic adoption.

Discussion

5. DISCUSSION

Discussion of the results is presented under the following heads

5.1 General awareness of rabies and its control

5.2 Adoption of control measures

5.3 Media exposure, indigenous beliefs and attitude towards humane dog rearing

5.1 GENERAL AWARENESS OF RABIES AND ITS CONTROL

5.1.1 Awareness on etiology and spread of rabies

Scientific knowledge of the cause and spread of any disease is most important. This knowledge helps to take the right precaution at the right time and right place. Not to speak of rabies/ hydrophobia which is a dreadful zoonosis, contracted mostly through dog bite. The finding that majority of dog owners had only medium awareness about etiology and spread of rabies draws special attention. For that matter, no region whether hilly, coastal or plain was an exception. It is normally expected that the situation in the plains would be better.

Some important information regarding etiology and spread of rabies are that rabies can be seen in sub-clinical form in certain cases, wild animals are a source, consuming cooked meat or pasteurized milk of animals bitten by rabid animals may not ordinarily cause hydrophobia. Unfortunately, majority were unaware of the fact that rabies can be seen in sub-clinical form in certain cases. It was noted that in the plain region, majority were ignorant that wild animals can cause rabies. This lack of awareness can lead to negligence in getting vaccinated even if bitten by wild animals. It is also worth mentioning that it is often news that the public panicked after accidentally consuming meat or milk of livestock bitten by dogs or other animals suspected of rabies. Just one-half of the dog owners in the hilly and plain regions did believe that rabies could spread through cooked

meat and pasteurized milk. It is quite a paradox that in the hilly and coastal regions, only slightly more than one-half of the dog owners studied knew about the most common source of rabies to man as the dog itself. Even so, Matibag *et al.* (2007) reported that majority of the respondents had a high level of awareness that dogs were the common reservoir in Srilanka. As mentioned earlier, lack of knowledge in this aspect can again result in negligence in not vaccinating one's own dog and most importantly undergoing even post-exposure vaccination.

It is also worth mentioning that a large majority of the dog owners studied knew that cats can transmit rabies, rabies spreads through saliva of the infected animal and etiology is an infectious agent. Opaleye *et al.* (2006) reported that 56.5 per cent of the respondents in Nigeria knew that etiology of rabies was an infectious agent.

5.1.2 Awareness about symptoms of rabies

Knowledge of symptoms or signs of rabies in animals especially dogs to dog owners and other public is of much significance. Such knowledge helps to genuinely suspect or even identify rabid animals and take precautions. But regarding these, awareness was only medium to a majority. It is of great concern that those having high awareness about the symptoms of rabies were only a minority. However, those with higher awareness about symptoms of rabies, across all the regions, were slightly more than those with low awareness. The dog owners of no region were an exception to this.

Generally, in all regions majority were unaware of the facts that the first sign of rabies in dogs is a change in its usual behavior, fever, fear of water is not a sign of rabies in dogs/ livestock, paralysis of jaw in dogs, rabid cats have a tendency to fight and crawl, rabid dog will bite and swallow stones and wood and it will also attack imaginary objects.

It needs special attention here that across all the regions only a few dog owners knew that fear of water is not a sign of rabies in dogs. It is very common in the country side to test the dog or other livestock suspected of rabies by providing drinking water under the false notion that if rabid, the animal will get frightened/ excited on seeing water. The present study empirically brings out the society's ignorance on this important issue. Similarly, dog owners of all the three regions studied were ignorant that during later part of rabies, lower jaw gets paralyzed. It is high time such vital information was provided to the public especially dog owners so that they can detect rabies. However, it was notable that a large majority of dog owners knew that a rabid dog will roam in the streets, fear of light is one of the symptoms of rabies and rabid dog can bite the owner itself.

The observation that the mean awareness of symptoms of rabies differed significantly among the three regions and that the mean awareness was the highest for plains followed by hilly and coastal regions should draw special attention of extension agents.

5.1.3 Awareness about control measures of rabies

It is notable that in the case of control measures of rabies too, dog owners with medium awareness dominated and those having high awareness was only a minority. It is ideal that majority of dog owners have high awareness regarding cause and spread, signs of rabies as well as control measures of rabies.

However as in the case of symptoms of rabies, those with high awareness about control measures of rabies, across all regions were slightly more than those with low awareness. While considering control measures of rabies there are some do's and don'ts that the dog owners should follow. It is a matter of great concern that some don'ts were not seen followed by majority of dog owners. For instance, one of the reasons for increasing population of stray dogs and cats is abandoning

of puppies as well as kittens after their birth in the streets. In the case of puppies, female is mostly abandoned and later delivers more puppies in the streets.

Vaccination should be given for domestic cats also since cats could also play a predominant role in the transmission of rabies. Wherever the system of licensing of dogs is prevailing, it shall be done after satisfying the requirements. Since a potential source of rabies especially in the hilly regions is wild animals, they should be controlled through appropriate measures by responsible authorities. Encouraging or allowing for fun at least fighting between dogs is a bad practice.

It was observed that in the present study majority were unaware of the afore said do's and don'ts. While considering the different regions, majority of the dog owners of the plains were found to be aware of these facts. But, majority was unaware that puppies/ kittens shall not be abandoned after birth. This inhumane practice can change only with an attitudinal change.

It is important to know the schedule of ARV. But, majority of the dog owners of the hilly region were ignorant of the fact that puppies should be given ARV in the third month and thereafter a booster every year. Robertson *et al.* (1991a) reported that the awareness about booster vaccination was higher among the dog owners of Perth. Goodwin *et al.* (2002) studied the knowledge, attitude and practices of dog and cat owners with respect to vaccinating their pets against rabies in Ontario and reported that 65 per cent of the dog owners were aware of the mandatory vaccination. Singh *et al.* (2005) studied the knowledge, attitude, behavior and practice on dog bites in a rural community of Gujarat. The result was that eighty six percent of individuals were aware about anti rabies vaccine and twenty four percent knew that pet dogs need vaccine against rabies. Matibag *et al.* (2007) reported that eighty eight per cent of the respondents in Srilanka knew that rabies can be prevented by vaccination. They also reported that ninety three per cent of the pet owners were more aware that dog rabies vaccines were available from authorized offices. Present study also revealed that a majority of

dog owners across all regions felt the need for sterilizing stray dogs, destroying them in a humane manner and not allowing ones' dog to roam during the night times, better to construct compound wall around the house, post exposure vaccination should be given without fail, and one should not permit children to play with dogs and cats. Nonetheless, generally all dog owners, especially those of hilly and coastal regions require training in rabies control measures.

Those of medium awareness regarding general awareness and its control dominated in the overall sample was only a reflection of the regional trend that in every region those of medium awareness dominated. It is expected that in all regions dog owners had high level of general awareness of rabies and its control. The observation that education, media exposure and attitude towards humane dog rearing significantly correlated with the general awareness of rabies and were significant in explaining variations in the general awareness points to the importance of education, media exposure as well as attitude. Abbate *et al.* (2006) in their study on knowledge, attitude and practices of avian influenza among the poultry workers of Italy reported that knowledge of avian influenza was greater in persons with more education and those who worked for a longer time. Koenraadt *et al.* (2006) in a survey of knowledge and practices of dengue and its impact on *Aedes aegypti* mosquito populations in Thailand reported that people with more formal education knew more about dengue than those with less schooling. Akinola *et al.* (2008) in a study on knowledge, attitude and compliance of poultry workers with preventive measures for avian influenza in Nigeria reported that knowledge was greater in workers with more education.

Further, the observation that the highest mean awareness was for the plain region followed by hilly and coastal regions and that it differed highly significantly among the three regions points to the need for all out educational efforts in hilly and coastal regions to enhance awareness of rabies and its control in order to bring these regions at least on par with the plains. Since it was found that general education of the people, media exposure as well as attitude were

significant in explaining variations in the general awareness, extension agencies should focus on these aspects.

5.2 ADOPTION OF CONTROL MEASURES

Anti Rabies Vaccination is the most important control measure but only a little above one-half of the dog owners adopted it. And, this general trend is almost the same in coastal region and still less in the hilly region. Nevertheless, in the plain region more than three-fourth of dog owners had adopted ARV. The fact that, more than one-half of all dog owners studied had adopted this practice is somewhat appreciable. For a few years now intensive ARV drive is going on in the state under the auspice of the AHD, Govt of Kerala. The cost of vaccine is heavily subsidized and made available at Rs. 5 per dose. Vaccination is provided at local veterinary hospitals/ dispensaries routinely. This facility seems to have boosted up the number of ARV's. Robertson *et al.* (1991a) reported that the adoption of vaccination and annual booster vaccination of dogs was higher among the dog owners of Perth (67%). Goodwin *et al.* (2002) reported that overall vaccine coverage rates in their study on knowledge, attitudes and practices of dog and cat owners against rabies in Ontario was eighty eight per cent for all pets, ninety five per cent for dogs and eighty three per cent for cats.

Participation in vaccination camps, nevertheless, is meager in all regions except in the plains. It seems dog owners on their own are getting their dogs vaccinated from the hospitals or arranging for it at their premises itself. The practice of sterilizing either by spaying or castration is meager too, in all regions except in the plains. ABC programme needs to be widely implemented with the cooperation of government, local self government and other voluntary animal welfare organizations.

It is notable that in all regions majority of dog owners were mentioning that they do observe the dog for ten days if the dog had bitten another dog/ man, do wash the dog bite wound with soap and water, not allow their dogs to play with strays and keeps the dog in chain. Matibag *et al.* (2007) reported that pet dogs were mostly housed in cages whereas some dogs were allowed to roam freely and chained outside the owner's house in Srilanka. In the present study nonetheless, a minority could only keep dogs within a compound wall for they do only have a compound wall around their houses.

Dog owners in general and particularly in the hilly and coastal regions shall be motivated to attend vaccination camps as well as sterilize their dogs. This is particularly so because those reporting that these practices would be adopted in future were also meager. There should be adequate media publicity and campaigns to address these issues. Kayali *et al.* (2003) made a study on the coverage of parenteral vaccination campaign against canine rabies in Chad. They reported that participation of dog owners in the free campaign was high.

Across all regions studied, medium adopters of control measures dominated and the direction was, in general from medium to low adoption. This again should draw the attention of extension agents and policy people.

The finding that education, income and attitude towards humane dog rearing were significantly correlated with the practice adoption of control measures and that education, income, age of the youngest child and media exposure were significant in explaining variations in the practice adoption of control measures of rabies points to their importance. Moreover, education was found to be significant in explaining variability in the symbolic adoption of control measures. Thus it could be seen that in the case of both practice and symbolic adoption, formal education of the public is a decisive factor.

As was the case with general awareness of rabies and its control measures, mean adoption of control measures was the highest for plain region followed by hilly and coastal regions in that order. This fact once more underlines the need for bringing up both hilly and coastal regions at least on par with the plains regarding adoption of control measures of rabies. The present study further brought out an association between general awareness and adoption of control measures as these were highly significantly correlated in the case of overall sample of dog owners studied. However, there is no evidence in this study which one is first whether general awareness or adoption. Benthem *et al.* (2002) studied the knowledge and use of preventive measures related to dengue in northern Thailand. Persons with knowledge of dengue reported a significantly higher use of prevention measures than those without knowledge of dengue. Akinola *et al.* (2008) studied the knowledge, attitude and compliance of poultry workers with preventive measures for avian influenza in Nigeria and it showed that high knowledge score was significantly associated with compliance with preventive measures against avian influenza infection.

5.3 MEDIA EXPOSURE, INDIGENOUS BELIEFS AND ATTITUDE TOWARDS HUMANE DOG REARING

It needs no mention that media plays an important role in imparting awareness of social issues among the public. Print as well as electronic mass communication media are almost common in any home in Kerala. Considering the facts regarding information on rabies and its control, a large majority of respondents obtained it from print media followed by electronic, cosmopolite and localite channels and that a large majority was interested in getting information that too, from print and electronic media viz. newspaper, radio and TV, these should be liberally used by extension agencies. Extension agencies should also consider the fact that magazines, weeklies, posters and leaflets were preferred only next to newspaper, radio and TV. It is relevant to observe that newspaper and TV in the case of plain region, newspaper and radio in the hilly region and

newspaper, radio and TV in the case of coastal region were the highly preferred media. So much so, those in the hilly region do not find much importance in TV and those in the plains do not find much importance in the radio even as, all these media were important for coastal people. This information is relevant for location-specific media planning and media policies. The attention of extension agents should fall on the fact that only a negligible per cent of dog owners in hilly and coastal regions attended any seminar on rabies. The situation in the plains was only somewhat better. This warrants the need for organizing more seminars in the hilly and coastal regions. Even so, the interest in attending seminars was expressed by a majority in plains; it was less than one-third in the hilly region and only a few in the coastal region. Therefore, the dog owners of the coastal as well as hilly regions require much motivation in this regard. The general awareness of rabies did not significantly differ among low, medium and high media exposure groups. This situation is akin to adoption of control measures. This could be possibly because media exposure has been on a low profile leaving no appreciable impact upon general awareness of rabies. Robertson *et al.* (1991a) reported that when pet owners of Perth were questioned on where they were most likely to read, see or hear information on the health and management of dogs, 21% received information from their veterinarian, 15% from the television, 15% from books, 15% from leaflets and brochures, 13% from newspapers, 8% from magazines and 2% from the radio while 11% obtained no information.

It should be read along with the above facts that in the hilly region a substantial percentage of dog owners believed that ARV is unnecessary. Other irrational beliefs such as rabid animal will be frightened of seeing water like that of human beings, lemon and eggs will provoke rabies in man/ dog having a history of dog bite and hence should abhor these food items were also widely prevalent in all the three regions. Such misconceptions of people at any cost should change. There should be appropriate extension educational efforts in this regard. Sekhon *et al.* (2002) studied the misconceptions and myths in the management of animal bite cases of Patiala. Majority (95%) of cases were of dog

bite followed by monkey bite (1.8%), buffalo bite (1.6%) and cat bite (1.3%). Common practices prevalent in the management of such bite wounds were washing with soap and water (21.02%), with water only(9.53%), application of chillies (14.18%), dettol and antiseptic (5.45%), cowdung (5.45%), and carbon (0.85%).

Things can change substantially with an attitudinal change. In explaining functional approach to attitudes, Katz and Stotland (1959) developed the idea that people hold and express particular attitudes because they derive psychological benefit from doing so, and the type of benefit varies among the individuals. Attitudes towards humane dog rearing for instance were found to be a decisive factor in explaining the variability in general awareness of rabies and its control. It is baffling that a large majority of dog owners studied had only a neutral or ambivalent attitude towards humane dog rearing. Moreover, in the coastal region, dog owners with unfavorable attitude exceeded those with neutral or favorable attitudes. These are indeed very critical issues requiring concerted action from the part of policy makers and extension agents. One of the significant reasons for ambivalence in attitude could be lack of knowledge as the latter precedes the former. Hence knowledge of humane dog rearing should be imparted prima-facie utilizing all relevant communication media.

Summary

6. SUMMARY

The present study ‘Determinants of the awareness of rabies and adoption of control measures among the dog owners of Thrissur district’ was undertaken with the objectives of assessing the general awareness of rabies among the dog owners, adoption of control measures of rabies and to study the determinants of extension educational importance. Descriptive research design was employed. And stratified random sampling was followed to select the sample. In all 150 dog owners, 25 each from six wards from three panchayats viz. hilly, coastal and plains of Thrissur district were selected as sample.

Dog owners’ general awareness of rabies and its control measures transcending all the sub domains viz. etiology and spread, symptoms, and control measures of rabies indicated that those of medium awareness predominated over high or low awareness across all the three regions- hilly, coastal and plains. However, those between high and low awareness groups, the former were slightly more than the latter. Although this was the general trend with all the domains, yet there was an exception in the case of the domain etiology and spread of rabies. In this case, between low and high awareness, those with low awareness somewhat exceeded those with high awareness. Nevertheless, there was no significant difference in the awareness about etiology and spread of rabies among the three regions. But, in the case of both symptoms and control measures of rabies, regional difference was significant. A significant regional difference was observed in the overall sample too and the highest mean awareness was for the plain region followed by hilly and coastal regions. All these facts points to the need for all out educational efforts in hilly and coastal regions to bring these regions on par with plains. Education, media exposure and attitude towards humane dog rearing were correlated with general awareness of rabies and its control. So much so, these could be antecedent factors or determinants of the general awareness of rabies and its control.

Regarding practice adoption of control measures, generally there were more number of medium level adopters followed by low and high level adopters in that order. Even so, high adopters of control measures were more than low adopters in the coastal region. The dog owners preferred to be medium level adopters of control measures followed by high and low level adopters in that order in future. Both practice and symbolic adoption differed significantly among the hilly, coastal and plain regions. Education, income and attitude towards humane dog rearing were correlated with practice adoption of control measures of rabies. Moreover, education was found to be significant in explaining variability in symbolic adoption of control measures. Therefore in the case of both practice and symbolic adoption, formal education of the public is a decisive factor. There was an association between general awareness and adoption of control measures as these were highly significantly correlated in the case of overall sample of dog owners studied. A possible reason for this relationship between general awareness and adoption of control measures is that increasing awareness about rabies resulted in a simultaneous increase in the adoption of control measures.

A large majority of respondents obtained information on rabies from print media followed by electronic, cosmopolite and localite channels. Posters and leaflets were preferred the least by dog owners. So extension agencies should accordingly plan media use. Only a negligible percentage of dog owners had attended any seminar or workshop on rabies. But, as compared with hilly and coastal regions, plain region was somewhat better in this aspect. The mean general awareness of rabies did not differ significantly among low, medium, and high media exposure groups. This is because the media has been on a low profile leaving no perceptible impact.

A large percentage of dog owners of hilly region believed that ARV is unnecessary. Majority of dog owners in all the three regions believed that animals will also show hydrophobia just as human beings. A few people had the belief that egg and lemon will provoke rabies. Dog owners' attitude towards humane dog

rearing was predominantly neutral or ambivalent. Dog owners with unfavorable attitude outnumbered those favorable in the coastal region. The mean attitude towards humane dog rearing differed highly significantly among hilly and coastal regions. It was the highest for the plain region followed by hilly and coastal regions. That apart, attitude towards humane dog rearing was found to be a decisive factor in explaining the variability in general awareness of rabies and its control. Therefore, attitudinal change is the most significant which policy people and extension agents should consider.

Suggestions

1. A time-series study of pet dogs maintained by people of different socio-economic status of Kerala to know the health management practices.
2. An in-depth study to know the nature and impact of rabies control programmes.
3. A detailed analysis of constraints felt by stakeholders' viz. dog owners, veterinarians, animal welfare organizations and LSG's in adopting rabies control measures.
4. Intensive extension educational efforts to bring about positive change in dog owners' attitude towards humane dog rearing.
5. ABC programme and licensing of dogs should be organized widely across all regions of the state.
6. Public awareness should be created on the importance of ARV as well as ABC programme in house cats through appropriate mass education.

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Appendices

APPENDIX - I

KERALA AGRICULTURAL UNIVERSITY
COLLEGE OF VETERINARY AND ANIMAL SCIENCES
MANNUTHY - 680 651

DEPARTMENT OF EXTENSION

"DETERMINANTS OF THE AWARENESS OF RABIES AND ADOPTION OF
CONTROL MEASURES AMONG THE DOG OWNERS OF THRISSUR
DISTRICT"

INTERVIEW SCHEDULE

Dr. SOJA AUGUSTIN
M.V.Sc. Scholar

1. Name of the respondent :
2. Address of the respondent :
3. Panchayat :
Ward :
Village :
4. Sex : (Give ✓)
(a) Male (b) Female
5. Age of the respondent : ----- years
6. Education of the respondent : (a) Primary (b) High School
(c) Pre-degree/Plus 2 (d) Degree
(e) Post graduate
7. Religion : (a) Hindu (b) Christian
(c) Muslim
8. Details of children in the family :

Sl. No.	Age of the children	Sex	Education
9. Occupation :

10. Income :

11. Do you hear about rabies from the following media or people
(Give a tick mark)

- a) Newspaper
- b) Magazines
- c) Weeklies
- d) Radio
- e) Television
- f) Friends
- g) Neighbours
- h) Local healers
- i) Veterinary doctor
- j) Compounder
- k) Medical doctor
- l) Para medical employees
- m) Nurse/Midwives

12. Are you interested in getting information about rabies through media

Yes No

13. Which media do you prefer in getting information about rabies?
(Indicate on priority basis)

- a) Newspaper
- b) Magazines
- c) Weeklies
- d) Leaflets
- e) Poster
- f) Radio
- g) Television

14. Have you attended any seminars or workshops on rabies?

Yes No

15. Are you interested in attending seminars and workshops on rabies?

Yes No

Tick mark the correct answer for the following questions

16. Cause of rabies
- a) Virus
 - b) Chemical agents
 - c) None of the above
17. Usually, rabies is due to the bite of
- a) Fox
 - b) Dog
 - c) Cat
18. The transmission will occur from fox, wolf and jackals to dogs and cats
- a) True
 - b) False
19. Which of the following animals is responsible for rabies after the dog
- a) Cat
 - b) Fox
 - c) Livestock
20. Rabies spreads through the saliva of the infected animal
- a) True
 - b) False
21. Some creatures act as carriers without showing any signs of rabies
- a) True
 - b) False
 - c)
22. Rabies will not spread through cooked meat and pasteurized milk
- a) True
 - b) False
23. First sign of rabies in dog
- a) Changes in behaviour
 - b) Salivation
 - c) Paralysis of legs
 - d) None of the above
24. After contracting rabies, the rabid dog may prefer to be in solitude
- a) True
 - b) False
25. Some times the rabid dog will bite the owner itself
- a) True
 - b) False

26. After contracting rabies, the dog may show more attachment with the owner
 a) True
 b) False
27. Wandering in the streets is one of the symptoms of rabid dog
 a) True
 b) False
28. After contracting rabies, the dog becomes hyper responsive to auditory and visual stimuli
 a) True
 b) False
29. Photophobia is one of the symptoms of rabies in dogs
 a) True
 b) False
30. A rabid dog will bite and swallow non-living objects such as stones and wood
 a) True
 b) False
31. Attacking imaginary objects is one of the symptoms of rabid dog
 a) True
 b) False
32. Hydrophobia is not a symptom of rabies in dog
 a) True
 b) False
33. There will be fever in the preliminary stage of rabies
 a) True
 b) False
34. Paralysis of jaw is one of the symptoms of rabies in dog
 a) True
 b) False
35. A rabid cat will have the tendency to attack
 a) True
 b) False
36. The rabid cow and goats will show hydrophobia
 a) True
 b) False
37. A rabid cat will also show some of the same symptoms as that of a rabid dog
 a) True
 b) False
38. Rabies vaccination should be given in the third month to puppies
 a) True
 b) False

39. Booster doses should be given every year
 a) True
 b) False
40. One should not abandon puppies in the streets
 a) True
 b) False
41. One should not allow dogs to roam during the night times
 a) True
 b) False
42. Stray dogs shall be destroyed in a humane manner
 a) True
 b) False
43. Stray dogs should be sterilized to control their population
 a) True
 b) False
44. It is better to construct compound wall around the house and rear the dogs
 a) True
 b) False
45. If your dog is bitten by another dog, vaccination should be given without fail
 a) True
 b) False
46. Vaccination should be given for cats also
 a) True
 b) False
47. One should not abandon the kittens in the streets
 a) True
 b) False
48. Don't allow fighting between dogs
 a) True
 b) False
49. Don't allow children to fondle cats
 a) True
 b) False
50. It is necessary to license the dogs
 a) True
 b) False
51. Wild animals should be controlled by authorities concerned
 a) True
 b) False

II. Scientific practices adopted in controlling rabies

Have you adopted the following practices of control measures of rabies sometime or the other

	Yes	No
1. Keeping the dogs in chain	<input type="checkbox"/>	<input type="checkbox"/>
2. Constructing compound wall around the house and controlling the dog	<input type="checkbox"/>	<input type="checkbox"/>
3. Vaccination against rabies	<input type="checkbox"/>	<input type="checkbox"/>
4. Not allowing the dog to play with stray dogs	<input type="checkbox"/>	<input type="checkbox"/>
5. If the dog had bitten another dog or man, then observing the dog for 10 days	<input type="checkbox"/>	<input type="checkbox"/>
6. Participation in vaccination camps	<input type="checkbox"/>	<input type="checkbox"/>
7. Washing the bite wound with soap and water	<input type="checkbox"/>	<input type="checkbox"/>
8. Sterilisation of dogs	<input type="checkbox"/>	<input type="checkbox"/>

Will you adopt the following practices of control measures of rabies in future

	Yes	No
1. Keeping the dogs in chain	<input type="checkbox"/>	<input type="checkbox"/>
2. Constructing compound wall around the house and controlling the dog	<input type="checkbox"/>	<input type="checkbox"/>
3. Vaccination against rabies	<input type="checkbox"/>	<input type="checkbox"/>
4. Not allowing the dog to play with stray dogs	<input type="checkbox"/>	<input type="checkbox"/>
5. If the dog had bitten another dog or man, then observing the dog for 10 days	<input type="checkbox"/>	<input type="checkbox"/>
6. Participation in vaccination camps	<input type="checkbox"/>	<input type="checkbox"/>

- | | | | |
|----|--|--------------------------|--------------------------|
| 7. | Washing the bite wound with soap and water | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. | Sterilisation of dogs | <input type="checkbox"/> | <input type="checkbox"/> |

III. Please indicate your opinion regarding the following statements

- | | Highly agree | Agree | Undecided | Disagree | Highly disagree |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. I believe dogs are very faithful animals | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. I believe, every living being has equal right to live on this earth | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. I prefer my dog to be vaccinated against rabies at proper time | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. I think basic training of dogs is essential | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Masters of dog shall see that they are given their share of love, care and affection | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. I believe that sick dog should be given proper medication | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. I prefer vaccinating dogs as I believe 'prevention is better than cure' | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Routine health check up of dogs is as important as ours | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Appendix II

‘t’ values of attitude statements of humane dog rearing

Sl No	Statement	‘t value’
1.	I think dog should be confined in properly fenced yard	1.388
2.	I would prefer the dog to be in chain	-0.395
3.	One shall provide a comfortable shelter for dogs	3.175
4.	Our dogs need not be fed regularly	2.403
5.	Drinking water should always be available to dogs	2.000
6.	Routine health check up of dogs is as important as ours	3.398*
7.	I believe that ‘Prevention is better than cure’ in the case of dogs too	3.586*
8.	It is not essential to trim the dogs nails regularly	0.645
9.	I think basic training of dogs is essential	4.329*
10.	Like humans dogs also have a right to peaceful life	2.853
11.	One should not encourage a dog to attack another dog	1.787
12.	It is a pleasure for me to provoke the dogs	0.914
13.	One shall not abandon puppies in the streets	0
14.	Dogs shall not be exploited for man’s amusement	3.166
15.	I don’t feel it is important to bath the dogs	1.463
16.	I feel our dogs never shall be starved	2.888
17.	Opportunity for exercise and play shall not be denied to dogs	3.328
18.	I feel it is better to groom the dogs regularly	2.697
19.	I don’t think periodic deworming is necessary	1.763
20	All men should love the animals	0.918

21.	I feel stray dogs can be beaten up	0.566
22.	I believe that animals don't feel much pain from injuries	1.591
23.	I believe ,every living being has equal right to live on this earth	5.055*
24.	Masters of dog shall see that they are given their share of love, care and affection	4.326*
25.	I believe that sick animal shall be given proper medication	3.899*
26.	I feel dogs should not play with sharp objects	1.391
27.	I believe dogs are very faithful animals	7.190*
28.	It is better puppies are kept inaccessible to lighted candles, kerosene lamps etc	1.116
29.	I feel medicine bottles should be kept away from dogs	2.535
30.	I feel there is a need for dog care centers to leave the dogs when ever the owners have to be away from home	1.463
31.	It doesn't matter even if the dog is left alone for a few days	3.194
32.	Why should one bother to provide sufficient space in the kennels for free movement of dogs	1.564
33.	A dog shall always be rewarded for its good behavior	3.047
34.	One shall be patient always to ones own dog	2.229
35.	It is better to keep the dogs chained through out day and night	0.894
36.	It is not essential to clean the dog kennel daily	3.117
37.	I feel it is better to poison stray dogs and kill them	0
38.	It is better to protect dogs from all diseases	2.452
39.	I don't feel it is important to protect the dogs from extreme climate	1.995
40.	I don't feel it is necessary to clean the eyes of dogs daily	0.222
41.	I think it is better to sterilize the dogs	0.671

42.	I don't think nutritious food should be given to dogs	2.086
43.	I prefer vaccinating the dog against rabies	4.549*
44.	I don't think kennels should be cleaned by disinfectant lotion	1.843
45.	I think it is better to protect the dogs from ticks ,mites, fleas etc	3.333
46.	I don't see any harm in feeding dogs food unfit for human consumption	2.123
47.	I think dog should get due love as a companion animal	1.865
48.	I feel it is cruel to keep dogs chained for days together	0
49.	I think the neck collar of dogs should be periodically inspected for any discomfort	2.401
50.	I believe that non cooked fish and meat shall not be fed to dogs	2.866
51	Beating of dogs is a cruel punishment	0.974
52	I prefer my dog to take for walking daily	3.333
53	It is not a cruel thing to sterilize the male dog by country methods	0
54	Regular dental care shall be given to the dogs	2.550

* Statements selected

RELIABILITY OF THE SCALE

First scale	Second scale
16	16
14	14
13	15
16	16
12	12
12	12
16	14
14	13
12	12
14	16
13	16
14	14
11	13
12	12
12	12
12	10
11	9
9	13
12	12
13	12
16	15
16	15
13	16
13	16
12	12
12	11
12	12
15	16
16	16
16	16

Correlation Coefficient = 0.691

$$\begin{aligned}
 \text{Spearmen Brown Prophecy formula} &= \frac{2 r'}{1+r'} \\
 &= 0.816
 \end{aligned}$$

കേരള കാർഷിക സർവ്വകലാശാല
കോളേജ് ഓഫ് വെറ്ററിനറി ആന്റ് അനിമൽ സയൻസസ്
ഡിപ്പാർട്ട്മെന്റ് ഓഫ് എക്സ്റ്റൻഷൻ
 മണ്ണുത്തി 680 651

തൃശൂർ ജില്ലയിലെ നായ ഉടമസ്ഥരുടെ പേ വിഷബാധയെക്കുറിച്ചുള്ള അറിവും,
 പേ വിഷബാധക്കെതിരെ അവർ സ്വീകരിക്കുന്ന നിയന്ത്രണ മാർഗ്ഗങ്ങളും - ഒരു പഠനം
 ഡോ. സോജ അഗസ്റ്റിൻ
 (എം.വി.എസ്.സി. ഗവേഷക)

ചോദ്യാവലി

- 1) പേര് :
- 2) വീട്ടുപേര് :
- 3) പഞ്ചായത്ത് : വാർഡ് : ഗ്രാമം :
- 4) ലിംഗം : (✓ അടയാളം രേഖപ്പെടുത്തുക)
 a) ആൺ b) പെൺ
- 5) വയസ്സ് : വയസ്സ്
- 6) വിദ്യാഭ്യാസം : a) പ്രൈമറി b) ഹൈസ്കൂൾ c) പ്രീഡിഗ്രി/പ്ലസ് ടു
 d) ഡിഗ്രി e) പോസ്റ്റ് ഗ്രാജുവേറ്റ്
- 7) മതം : a) ഹിന്ദു b) ക്രിസ്ത്യൻ c) മുസ്ലിം
- 8) കുട്ടികളുടെ വിവരം :

ക്രമനമ്പർ	വയസ്സ്	ലിംഗം	വിദ്യാഭ്യാസം

- 9) തൊഴിൽ :
 - 10) കുടുംബവരുമാനം :
 - 11) താഴെ പറയുന്ന ഏതെങ്കിലും മാധ്യമത്തിലൂടെ / വ്യക്തികളിലൂടെ പേവിഷബാധയെക്കുറിച്ച് അറിഞ്ഞിട്ടുണ്ടോ? (✓ അടയാളം രേഖപ്പെടുത്തുക)
- | | |
|---|--|
| a) പത്രങ്ങൾ <input type="checkbox"/> | h) നാട്ടു ചികിത്സകൾ <input type="checkbox"/> |
| b) ആനുകാലിക പ്രസിദ്ധീകരണങ്ങൾ <input type="checkbox"/> | i) വെറ്ററിനറി ഡോക്ടർ <input type="checkbox"/> |
| c) ആഴ്ചപ്പതിപ്പ് <input type="checkbox"/> | j) കമ്പൗണ്ടർ <input type="checkbox"/> |
| d) റേഡിയോ <input type="checkbox"/> | k) മെഡിക്കൽ ഡോക്ടർ <input type="checkbox"/> |
| e) ടെലിവിഷൻ <input type="checkbox"/> | l) പാരമെഡിക്കൽ ഉദ്യോഗസ്ഥൻ <input type="checkbox"/> |
| f) സുഹൃത്തുക്കൾ <input type="checkbox"/> | m) നേഴ്സ്/മിഡ് വൈഫ് <input type="checkbox"/> |
| g) അയൽവാസികൾ <input type="checkbox"/> | |

- 12) മാധ്യമങ്ങളിലൂടെ പേ വിഷബാധയെക്കുറിച്ചുള്ള കാര്യങ്ങൾ അറിയാൻ താൽപര്യമുണ്ടോ?
 a) ഉണ്ട് b) ഇല്ല
- 13) ഏത് മാധ്യമങ്ങളിലൂടെ പേ വിഷബാധയെക്കുറിച്ചുള്ള വിവരങ്ങൾ ലഭിക്കണമെന്നാണ് നിങ്ങൾക്ക് താൽപര്യം (മുൻഗണനാ ഗ്രമത്തിൽ രേഖപ്പെടുത്തുക)
 a) പത്രങ്ങൾ
 b) ആനുകാലിക പ്രസിദ്ധീകരണങ്ങൾ
 c) ആഴ്ചപതിപ്പ്
 d) ലഘു ലേഖകൾ
 e) പോസ്റ്റർ
 f) റേഡിയോ
 g) ടെലിവിഷൻ
- 14) പേ വിഷബാധയെക്കുറിച്ചുള്ള ഏതെങ്കിലും സെമിനാർ, ചർച്ചകൾ എന്നിവയിൽ പങ്കെടുത്തിട്ടുണ്ടോ?
 a) ഉണ്ട് b) ഇല്ല
- 15) പേ വിഷബാധയെക്കുറിച്ചുള്ള ശാസ്ത്രീയ സെമിനാർ, ചർച്ചകൾ എന്നിവയിൽ പങ്കെടുക്കാൻ താൽപര്യമുണ്ടോ?
 a) ഉണ്ട് b) ഇല്ല
 താഴെ പറയുന്ന ചോദ്യങ്ങളുടെ ശരിയുത്തരത്തിനു നേരെ അടയാളം രേഖപ്പെടുത്തുക
- 16) പേ വിഷബാധയ്ക്ക് കാരണം
 a) രോഗാണു
 b) രാസവസ്തുക്കൾ
 c) ഇതൊന്നുമല്ല
- 17) സാധാരണയായി വളർത്തു മൃഗങ്ങൾക്കും മനുഷ്യർക്കും പേ വിഷബാധയുണ്ടാവുന്നത് താഴെ പറയുന്ന ഏത് മൃഗത്തിന്റെ കടിയേറ്റാലാണ്
 a) കുറുക്കൻ
 b) നായ
 c) പൂച്ച
- 18) കുറുക്കൻ, കുറുനരി, ചെന്നായ മുതലായ വന്യമൃഗങ്ങളിൽ നിന്ന് നാട്ടുമൃഗങ്ങളായ നായ, പൂച്ച എന്നിവക്ക് പേ വിഷബാധ ഉണ്ടാകാറില്ല.
 a) ശരി
 b) തെറ്റ്
- 19) നാട്ടിൻപുറത്ത് രോഗവ്യാപനം നടത്തുന്നതിൽ നായ കഴിഞ്ഞാൽ പ്രധാന പങ്ക് വഹിക്കുന്ന മൃഗം
 a) പൂച്ച
 b) കുറുക്കൻ
 c) കന്നുകാലികൾ

- 20) കടിക്കുന്ന മൃഗത്തിന്റെ ഉമിനീര് വഴിയാണ് രോഗാണുക്കൾ കടിയേറ്റ മൃഗത്തിന് പകരുന്നത്
- a) ശരി
- b) തെറ്റ്
- 21) ചില ജന്തുക്കൾ രോഗ ലക്ഷണങ്ങൾ പ്രകടിപ്പിക്കാതെ തന്നെ രോഗവാഹകരായി വർത്തിക്കുന്നു.
- a) ശരി
- b) തെറ്റ്
- 22) രോഗം ബാധിച്ച കന്നുകാലിയുടെ തിളപ്പിച്ച പാലിലൂടെയും വേവിച്ച മാംസത്തിലൂടെയും പേ വിഷബാധ പകരും.
- a) ശരി
- b) തെറ്റ്
- 23) പേ വിഷബാധയേറ്റ നായയുടെ ആദ്യ ലക്ഷണം
- a) സ്വഭാവ രീതിയിലുള്ള മാറ്റങ്ങൾ
- b) വായിൽനിന്ന് ഉമിനീര് ഒലിക്കുക
- c) കൈകാലുകൾ തളർന്ന് കിടക്കുക
- d) ഇവയൊന്നുമല്ല
- 24) വളരെ അടുത്ത് ഇടപഴകുന്ന നായ ഏതെങ്കിലും ഒരു മൂലയിൽ ഒതുങ്ങി ഏകാന്തതയിൽ കഴിയുന്നത് പേവിഷബാധയുടെ ലക്ഷണമല്ല.
- a) ശരി
- b) തെറ്റ്
- 25) പേ വിഷബാധയേറ്റ് കഴിഞ്ഞാൽ സ്നേഹത്തോടെ വാലാട്ടിയിരുന്ന നായ, ഉടമസ്ഥനോട് പെട്ടെന്ന് ദേഷ്യം കാണിക്കുകയും കടിക്കാൻ ചെല്ലുകയും ചെയ്യും.
- a) ശരി
- b) തെറ്റ്
- 26) അധികം സ്നേഹം ഉടമസ്ഥനോട് പ്രകടിപ്പിക്കാത്ത നായ പേ വിഷബാധയേറ്റാൽ ഉടമസ്ഥനോട് കൂടുതൽ ഇണക്കം കാണിക്കുകയും സ്നേഹം പ്രകടിപ്പിക്കുകയും ചെയ്യും.
- a) ശരി
- b) തെറ്റ്
- 27) പേ വിഷബാധയേറ്റ നായ്ക്കൾ വീട് വിട്ട് വളരെ ദൂരം അലഞ്ഞ് നടന്നേക്കാം.
- a) ശരി
- b) തെറ്റ്
- 28) പേ വിഷബാധയേറ്റ് കഴിഞ്ഞാൽ ചെറിയ ശബ്ദം, പെട്ടെന്നുള്ള പ്രകാശം, അനക്കം, നിഴൽ എന്നിവ നായക്ക് പ്രകോപനം ഉണ്ടാക്കുകയില്ല.
- a) ശരി
- b) തെറ്റ്

29) പ്രകാശത്തോടുള്ള പേടി പേ വിഷബാധയേറ്റ നായ്ക്കളുടെ ഒരു ലക്ഷണമാണ്.

a) ശരി

b) തെറ്റ്

30) പേ വിഷബാധയേറ്റ നായ, കല്ല്, കട്ട, മരക്കഷണം എന്നിവയെ കടിക്കുകയും വിഴുങ്ങുകയും ചെയ്യും.

a) ശരി

b) തെറ്റ്

31) കൺമുമ്പിൽ ഇല്ലാത്ത വസ്തു ഉണ്ടെന്നു കരുതി അത്തരം സാങ്കല്പിക വസ്തുക്കളെ ആക്രമിക്കുന്നത് പേ വിഷബാധയുടെ ലക്ഷണമാണ്.

a) ശരി

b) തെറ്റ്

32) പേ വിഷബാധയേറ്റ നായ വെള്ളത്തിനോട് പേടി കാണിക്കുന്നു.

a) ശരി

b) തെറ്റ്

33) തളർച്ചമൂലം കീഴ്ത്താടി തുങ്ങിക്കിടക്കുന്നത് പേ വിഷബാധയേറ്റ നായയുടെ ഒരു ലക്ഷണമാണ്.

a) ശരി

b) തെറ്റ്

34) പേ വിഷബാധയേറ്റ നായക്ക് പനി ആരംഭഘട്ടത്തിൽ ഉണ്ടാവാറില്ല.

a) ശരി

b) തെറ്റ്

35) രോഗബാധയേറ്റ നായയുടെ ലക്ഷണങ്ങൾ ഏറെക്കുറെ പേ വിഷബാധയേറ്റ പൂച്ചയും പ്രകടിപ്പിക്കും.

a) ശരി

b) തെറ്റ്

36) പൂച്ചകൾ ആക്രമണ സ്വഭാവം കാണിക്കുകയും, മാന്യതയും ചെയ്യും.

a) ശരി

b) തെറ്റ്

37) പശു, ആട്, എരുമ തുടങ്ങിയ കന്നുകാലികൾ പേ വിഷബാധയേറ്റാൽ ജലഭീതി കാണിക്കുന്നു.

a) ശരി

b) തെറ്റ്

38) പേ വിഷബാധക്കെതിരെയുള്ള ആദ്യ കുത്തിവെപ്പ് നായ്ക്കുഞ്ഞിന് 3 മാസമാകുമ്പോൾ എടുക്കണം.

a) ശരി

b) തെറ്റ്

39) പേ വിഷബാധക്കെതിരെയുള്ള ബുസ്റ്റർ കുത്തിവെപ്പുകൾ ഓരോ വർഷവും എടുക്കണം.

a) ശരി

b) തെറ്റ്

40) പ്രസവശേഷം നായ്ക്കുഞ്ഞുങ്ങളെ ഉപേക്ഷിക്കാൻ പാടില്ല.

a) ശരി

b) തെറ്റ്

41) നായയെ രാത്രികാലങ്ങളിൽ അലഞ്ഞു തിരിയാൻ അനുവദിക്കരുത്.

a) ശരി

b) തെറ്റ്

42) തദ്ദേശ സ്വയം ഭരണ സ്ഥാപനങ്ങളുടെ നേതൃത്വത്തിൽ തെരുവ് നായ്ക്കളെ മനുഷ്യത്വത്തോടെ നശിപ്പിക്കേണ്ടതാണ്.

a) ശരി

b) തെറ്റ്

43) തെരുവ് നായ്ക്കളെ വന്ധ്യംകരണം നടത്തി അവയുടെ സംഖ്യ നിയന്ത്രിക്കേണ്ടതാണ്.

a) ശരി

b) തെറ്റ്

44) വീടിന് ചുറ്റുമതിൽ കെട്ടി നായയെ നിയന്ത്രിച്ച് വളർത്തുന്നതാണ് ഉത്തമം.

a) ശരി

b) തെറ്റ്

45) നായയെ മറ്റേതെങ്കിലും നായ കടിച്ചുവെങ്കിൽ താമസം കൂടാതെ പ്രതിരോധകുത്തിവെപ്പ് എടുക്കണം.

a) ശരി

b) തെറ്റ്

46) പുച്ചുകൾക്കും പ്രതിരോധ കുത്തിവെപ്പ് എടുക്കണം.

a) ശരി

b) തെറ്റ്

47) പ്രസവശേഷം നമ്മൾ പുച്ചുക്കുഞ്ഞുങ്ങളെ ഉപേക്ഷിക്കാൻ പാടില്ല.

a) ശരി

b) തെറ്റ്

- 48) മറ്റ് നായ്ക്കളുമായുള്ള പോർ ഒരു കാരണവശാലും അനുവദിക്കരുത്.
- a) ശരി
- b) തെറ്റ്
- 49) കുട്ടികൾ പുച്ചുകളുമായി കൂടുതൽ ഇടപഴകുന്നത് ഒഴിവാക്കണം.
- a) ശരി
- b) തെറ്റ്
- 50) കുട്ടികൾ നായ്ക്കളുമായി കൂടുതൽ ഇടപഴകുന്നത് ഒഴിവാക്കണം.
- a) ശരി
- b) തെറ്റ്
- 51) വളർത്തു നായ്ക്കൾക്ക് ലൈസൻസ് നിർബന്ധമാക്കണം.
- a) ശരി
- b) തെറ്റ്
- 52) രോഗം പരത്തുന്ന വന്യമൃഗങ്ങൾ കാട്ടിൽ നിന്നും നാട്ടിലെത്തുന്നത് തടയുവാനുള്ള സംവിധാനം ഏർപ്പെടുത്തണം.
- a) ശരി
- b) തെറ്റ്

പേ വിഷബാധക്കെതിരെ താഴെ പറയുന്ന നിയന്ത്രണ മാർഗ്ഗങ്ങൾ നിങ്ങൾ എപ്പോഴെങ്കിലും സ്വീകരിച്ചിട്ടുണ്ടോ?

	ഉണ്ട്	ഇല്ല
1) നായയെ ചങ്ങലക്കിട്ട് വളർത്തുന്നത്	<input type="checkbox"/>	<input type="checkbox"/>
2) വീടിന് ചുറ്റും ചുറ്റുമതിൽകെട്ടി നായയെ നിയന്ത്രിക്കുന്നത്	<input type="checkbox"/>	<input type="checkbox"/>
3) പേ വിഷബാധക്കെതിരെയുള്ള കുത്തിവെപ്പ് സമയാസമയങ്ങളിൽ എടുക്കുന്നത്	<input type="checkbox"/>	<input type="checkbox"/>
4) മറ്റ് തെരുവ് നായ്ക്കളുമായി സമ്പർക്കം പുലർത്താൻ വിടാതിരിക്കുന്നത്	<input type="checkbox"/>	<input type="checkbox"/>
5) മനുഷ്യരെയോ മറ്റ് മൃഗങ്ങളെയോ കടിച്ചാൽ നായയെ 10 ദിവസത്തേക്ക് നിരീക്ഷിക്കുന്നത്	<input type="checkbox"/>	<input type="checkbox"/>
6) കുത്തിവെപ്പ് ക്യാമ്പുകൾ സംഘടിപ്പിക്കുമ്പോൾ പങ്കെടുക്കുന്നത്	<input type="checkbox"/>	<input type="checkbox"/>
7) നായ കടിച്ചാൽ സോപ്പും വെള്ളവും ഉപയോഗിച്ച് മുറിവിനെ കഴുകുന്നത്	<input type="checkbox"/>	<input type="checkbox"/>
8) നായക്ക് വന്ധ്യം കരണം നടത്തുന്നത്	<input type="checkbox"/>	<input type="checkbox"/>

പേ വിഷബാധക്കെതിരെ താഴെ പറയുന്ന നിയന്ത്രണ മാർഗ്ഗങ്ങൾ നിങ്ങൾ ഭാവിയിൽ പ്രാവർത്തികമാക്കാൻ ഉദ്ദേശിക്കുന്നുണ്ടോ? (✓ അടയാളം)

ഉദ്ദേശിക്കുന്നു- ഉദ്ദേശിക്കുന്നില്ല

- | | | |
|--|--------------------------|--------------------------|
| 1) നായയെ ചങ്ങലക്കിട്ട് വളർത്തുന്നത്. | | |
| 2) വീട്ടിന് ചുറ്റും ചുറ്റുമതിൽക്കെട്ടി നായയെ നിയന്ത്രിക്കുന്നത്. | <input type="checkbox"/> | <input type="checkbox"/> |
| 3) പേ വിഷബാധക്കെതിരെയുള്ള കുത്തിവെപ്പ് സമയാസമയങ്ങളിൽ എടുക്കുന്നത്. | <input type="checkbox"/> | <input type="checkbox"/> |
| 4) മറ്റ് തെരുവ് നായ്ക്കളുമായി സമ്പർക്കം പുലർത്താൻ വിടാതിരിക്കുന്നത്. | <input type="checkbox"/> | <input type="checkbox"/> |
| 5) മനുഷ്യരെയോ മറ്റ് മൃഗങ്ങളെയോ കടിച്ചാൽ നായയെ 10 ദിവസത്തേക്ക് നിരീക്ഷിക്കുന്നത്. | <input type="checkbox"/> | <input type="checkbox"/> |
| 6) കുത്തിവെപ്പ് ക്യാമ്പുകൾ സംഘടിപ്പിക്കുമ്പോൾ പങ്കെടുക്കുന്നത്. | <input type="checkbox"/> | <input type="checkbox"/> |
| 7) നായ കടിച്ചാൽ സോപ്പും വെള്ളവും ഉപയോഗിച്ച് മുറിവിനെ കഴുകുന്നത്. | <input type="checkbox"/> | <input type="checkbox"/> |
| 8) നായക്ക് വന്ധ്യംകരണം നടത്തുന്നത്. | <input type="checkbox"/> | <input type="checkbox"/> |

താഴെ പറയുന്ന പ്രസ്ഥാവനകൾക്ക് നേരെ താങ്കളുടെ പ്രതികരണം രേഖപ്പെടുത്തുക.

- | | വളരെ യോജിക്കുന്നു | യോജിക്കുന്നു | അഭിപ്രായമില്ല | വിയോജിക്കുന്നു | വളരെ വിയോജിക്കുന്നു |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1) നന്ദിയുള്ള മൃഗമാണ് നായ എന്നുള്ളതിൽ എനിക്ക് സംശയമില്ല. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2) എല്ലാ ജീവജാലങ്ങൾക്കും ഈ ഭൂമിയിൽ ജീവിക്കാൻ തുല്യാവകാശമുണ്ട് എന്നാണ് എന്റെ വിശ്വാസം. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3) എന്റെ നായക്ക് യഥാസമയം പേ വിഷബാധക്കെതിരെ കുത്തിവെപ്പ് എടുക്കാൻ ആഗ്രഹിക്കുന്നു. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4) നായക്ക് അത്യാവശ്യം ചില പരിശീലനങ്ങൾ ആവശ്യമാണെന്നു തന്നെയാണെന്റെ വിശ്വാസം. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5) നായക്കൾക്ക് വേണ്ടത്ര സ്നേഹവും ശ്രദ്ധയും കിട്ടുന്നുണ്ടോ എന്ന് ഉടമസ്ഥർ ഉറപ്പാക്കണം. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6) അസുഖമുള്ള നായക്ക് യഥാസമയം ചികിത്സ നൽകണമെന്ന് ഞാൻ വിശ്വസിക്കുന്നു. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7) നായയുടെ കാര്യത്തിലും രോഗപ്രതിരോധം പ്രതിവിധിയേക്കാൾ പ്രധാനമാണ്. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8) മനുഷ്യരുടെ ആരോഗ്യ പരിശോധനപോലെ തന്നെ പ്രധാനമാണ് നായയുടേതും. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

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**DETERMINANTS OF THE AWARENESS OF
RABIES AND ADOPTION OF CONTROL
MEASURES AMONG THE DOG OWNERS OF
THRISSUR DISTRICT**

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requirement for the degree of**

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**Faculty of Veterinary and Animal Sciences
Kerala Agricultural University, Thrissur**

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ABSTRACT

Determinants of the general awareness of rabies and adoption of control measures among the dog owners of Thrissur district of Kerala were studied. Dog owners' general awareness of rabies and its control measures transcending all the domains viz. etiology and spread, symptoms, and control measures of rabies indicated that those of medium awareness predominated across all the three regions- hilly, coastal and plains. Significant regional differences were observed on general awareness of rabies and control measures. Dog owners of hilly and coastal regions as compared to plains comparatively lagged behind on general awareness and control measures. Formal education, media exposure and attitude towards humane dog rearing were associated with general awareness of rabies and its control.

Regarding practice adoption of rabies control measures, there were more number of medium level adopters followed by low and high level adopters in that order. Majority of dog owners preferred to be medium level adopters of control measures in future also. Besides, there was a regional difference on the adoption of rabies control measures. Coastal region was behind even the hilly region in this regard. An association was found between general awareness and adoption of control measures. Further formal education, income and attitude towards humane dog rearing were associated with practice adoption of control measures of rabies.

A large majority of dog owners obtained information on rabies from print media followed by electronic, cosmopolite and localite channels. Only a negligible percentage of dog owners had attended any seminar or workshop on rabies. A large percentage of dog owners of hilly region believed that ARV is unnecessary. Dog owners' attitude towards humane dog rearing was predominantly neutral or ambivalent. Attitude towards humane dog rearing was found to be a decisive factor in explaining the variability in general awareness of rabies and its control.

