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KNOWLEDGE ON RABIES PREVENTION PRACTICES AMONG HOUSEHOLDS IN A SPECIFIED AREA, NADATHARA, THRISSUR

Mrs. Nimmy Tharian[1], Mrs. Seeja Jacob[2]*, Dr. Angela Gnanadurai[3], Rose Mariya U. Poulson[4], Sachin Sabu[4], Sephaniya Sabu[4], Shiyona K.[4], Sija Jose[4], Sneha Johnson[4], Sneha Shaji[3], Sona Shaju[4], Sreejesh S.[4]

[1](Asst. Professor, Jubilee Mission College of Nursing, Thrissur.).
[2](HOD of Community Health Nursing Department, Jubilee Mission College of Nursing Thrissur.).
[3](Principal, Jubilee Mission College of Nursing, Thrissur.).
[4](Seventh Semester Bsc(N) Students, Jubilee Mission College of Nursing, Thrissur).

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***Corresponding Author: Mrs. Seeja Jacob**

(HOD of Community Health Nursing Department, Jubilee Mission College of Nursing Thrissur.).

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ABSTRACT

According to WHO, Rabies is estimated to cause 59,000 human death annually in over 150 countries with 95% of cases occurring in Africa and Asia. **Title:** A study to assess knowledge on Rabies prevention practices among household in a specified area, Nadathara, Thrissur. **Objective:** To assess level of knowledge on Rabies prevention among households in a specified area. Assess level of practice on Rabies prevention among households. Determine correlation between level of knowledge and practice regarding Rabies prevention among households. Find out association between level of knowledge and practice with their selected sociodemographic variables. **Methodology:** Quantitative approach with descriptive design was used among 90 household heads in 16th and 17th wards of Nadathara who were selected by convenient sampling technique. Tools 1.Socio- demographic and clinical data variables questionnaire. 2.Structured knowledge questionnaire on rabies prevention.3. Structured practice checklist to assess Rabies prevention practices. The information is collected through interview method and analyzed. **Result**: The study showed that, majority 48.9%(44) of the samples belongs to the age group between 55- 70 years and majority 86.7%(78) were females. The majority i.e, 61(67.8%) were having good knowledge on Rabies prevention and 24(26.7%) were having average knowledge regarding Rabies prevention practices. The majority 39 households i.e, 7 (43.3%) were having good practice and 26 household (28.9%) were having average practice. There is negative mild correlation between level of knowledge and practice regarding Rabies prevention practices at 0.01 level. On analyzing the association between level of knowledge with demographic variables, it is revealed that the variable i.e, education is having significant association with the level of knowledge among households i.e, p(0.006). **Discussion**: The study, is supportive as there is a mild correlation between level of knowledge and practice regarding Rabies.

KEYWORDS: Practice, Rabies, Prevention, households, knowledge**,** specific area.

INTRODUCTION

Rabies is a fatal, acute, progressive encephalomyelitis caused by neurotropic viruses in the family Rhabdoviridae, genus Lyssavirus. Rabies, a preventable viral disease, causes an estimated 59,000 human deaths annually, primarily in Asia and Africa.[1] Rabies remains a significant public health concern in India, with an estimated 20,000 human deaths annually. Rabies remains a significant public health concern in Kerala, with increasing deaths and a high number of people seeking treatment for dog bites. In the past four years (2020-2024), 47 deaths were attributed to rabies caused by stray dog bites. The number of individuals seeking treatment for dog bites has also risen, reaching 3.06 lakh in 20232.[3]

The most well-known and ubiquitous lyssavirus is the rabies virus (RABV), which circulates in New World

bats and both Old and New World terrestrial mammals. The vast majority of human rabies cases worldwide are transmitted by dogs infected with RABV.[4] In recent decades, initiatives aimed at raising rabies awareness (e.g. the World Rabies Day campaign) and lowering human exposure risk through mass vaccination of leading reservoir species have been implemented globally, coinciding with the development of highly potent human rabies vaccines.

Almost all human cases of Rabies were fatal until a vaccine was developed in 1885 by Louis Pasteur and Emile Roux.[5] There is no effective curative treatment for Rabies once clinical signs have appeared. Treatment and prevention of Rabies is done by case management, local treatment of wound, immunization, and pre and post exposure prophylaxis. In case of Rabies in dogs, prophylactic vaccination of dogs against Rabies is one of the most important weapons in rabies control. Other methods are registration and licensing of domestic dogs, restraints of dogs in public places, quarantine for about 6 months of imported dogs, health education to people regarding dog care, immunization, and rabies prevention.[4] WHO promotes mass dog vaccination campaigns, dog population management, and oral vaccination for domestic carnivores. WHO also promotes wide access to appropriate post-exposure treatment, domestic production of Rabies biological (particularly immunoglobulin), continual health education to public and veterinary professionals in Rabies prevention and control.[6]

According to WHO, Rabies is estimated to cause 59,000 human deaths annually. In over 150 countries with 95% of cases occurring in Africa and Asia. Due to underreporting and uncertain estimate, this number is likely a gross under estimate. Burden of the disease is disproportionally borne by rural poor populations with approximately half of cases attributable to children's under 15 years of age.[4] In recent years, Kerala has seen a concerning rise in Rabies deaths, with 26 deaths reported in 2024, a significant increase from 5 in 2020, and a total of 94 deaths over the past five years. Stray dog bites have also increased, with 3.16 lakh cases reported in 2024, a 100% increase in seven years.[4]

Dog bites and scratches cause 99% of the human Rabies cases, and can be prevented through dog vaccination and bite prevention. Once the virus infects the central nervous system and clinical symptoms appear, Rabies is fatal in 100% of cases. However, Rabies deaths are preventable with prompt post exposure prophylaxis (PEP) by stopping the virus from reaching the central nervous system. PEP consists of thorough wound washing, administration of a course of human rabies vaccine and, when indicated, rabies immunoglobulins (RIG). If a person is bitten or scratched by a potentially rabid animal, they should immediately and always seek PEP care. WHO and its global partners aim to end human deaths from dog-mediated rabies through a comprehensive One Health approach promoting mass dog vaccination, ensuring access to PEP, health worker training, improved surveillance, and bite prevention through community awareness.[7]

Rabies is a vaccine preventable viral disease which occur in more than 150 countries and territories. Low awareness regarding seeking healthcare after a dog bite claim the lives of more than 55,000 people each year mostly in Asia and Africa. India is endemic for Rabies and accounts for 36% of world's Rabies deaths. As per the available information, it causes 18,000-20,000 deaths every year. About 30 to 60% of reported Rabies cases and death in India occur in children's under 15 years of age as bites that occur in children's often unrecognized and unreported. So there is need for research study.[4,5]

Rabies spreads to people and animals via saliva, usually through bites, scratches, or direct contact with mucosa (e.g. eyes, mouth, or open wounds). Once clinical symptoms appear, rabies is virtually 100% fatal. The global cost of Rabies is estimated to be around US$ 8.6 billion per year including lost lives and livelihoods, medical care and associated costs, as well as uncalculated psychological trauma.

Over 29 million people worldwide receive human Rabies vaccine annually. If a person is bitten or scratched by a potentially rabid animal, they should immediately and always seek PEP care.[6,7] WHO and its global partners aim to end human deaths from dog-mediated rabies through a comprehensive One Health approach promoting mass dog vaccination, ensuring access to PEP, health worker training, improved surveillance, and bite prevention through community awareness.[6,7]

As the incidence of dog bite and associated Rabies disease is increasing day by day, strong control measures have to be taken from the part of Government. It is also essential to create an awareness regarding control measures and should assess their practice level also. So, a study to assess the level of knowledge and practice regarding Rabies prevention is essential.

MATERIAL AND METHODS

Research approach -Quantitative approach was used.
Research Design-Non experimental descriptive research design.

Research Variable

Dependent Variable: Knowledge and practice on Rabies prevention among households in a specified area.

Demographic Variable: Age, gender, religion, education, income, type of family, place of residence, household size, contact with stray dogs, nearby veterinary clinic, domestic animals in house, history of dog bite, details regarding animal and family member's vaccination.

Setting of the study
The study was conducted on wards 16 and 17 of Nadathara panchayat under Thrissur district.

Population
Population consists of household heads from selected community(Ward 16 &17)

Sample
Number of samples are 90

Sample Technique
The Sampling technique used for the study is Convenient Sampling technique.

Inclusion Criteria
1. Household heads of age group between 25-70 years.
2. Household heads who are having domestic animals such as dogs, cats etc.
3. Household heads who are willing to participate in study.
4. Household heads who are able to read and write Malayalam.
5. Household heads who are able to follow instructions.

TOOLS AND TECHNIQUE
Tool 1: Sociodemographic and clinical data variables such as age, gender, religion, education, occupation, income, type of family, place of residence, household size, history of contact with stray dogs, any nearby veterinary clinic, presence of any domestic animals in house, history of dog bite, details regarding vaccination of family members and animals.

Tool 2: Knowledge questionnaire regarding Rabies prevention practices.

It consists of 10 questions. Each correct responses carries one mark and wrong responses carries zero mark. Maximum score is "10" and minimum score is "0".

The level of knowledge can be interpreted as>80% - good knowledge, 60 -79% - average knowledge,< 60%- poor knowledge

Tool 3: Structured practice checklist
It consist of 10 statements. Each correct responses carries one mark and wrong responses carries zero mark. Maximum score is "10" and minimum score is "0".

Interpreted as >80% - good practice, 60 -79% - average practice,< 60%- poor practice.

Data collection method
After getting ethical clearance from research committee, permission for the data collection will be obtained from the concerned ward member of 16 th and 17 th ward, Nadathara. The data collection period will be 1 week .For conducting the study, the researchers will select a sample size of 90 under the basis of inclusion and exclusion criteria by using convenient sampling technique. Informed consent will be taken from the subjects and will assure the confidentiality of the information. The data will be collected using 3 tools ie, sociodemographic questionnaire, knowledge questionnaire and structured practice checklist through interview method. The data will be organized and tabulated for analysis.

RESULT
Table 1: Frequency and percentage distribution of sociodemographic variables and clinical data variables.

(n =90)

SL No.	Sociodemographic data and clinical variables	Frequency(f)	Percentage(%)
1	**Age**		
	25-34	11	12.2
	35-44	13	14.4
	45-54	22	24.4
	55-70	44	48.9
2	**Gender**		
	Male	12	13.3
	Female	78	86.7
	Transgender	0	0
3	**Religion**		
	Hindu	39	43.3
	Christian	47	52.2
	Muslim	4	4.4
	Others	0	0
4	**Education**		
	Illiterate	2	2.2
	Primary education	25	27.8
	Secondary education	41	45.6
	Graduate	16	17.8
	Professional education	6	6.7
5	**Occupation**		

	Professional	14	15.6
	Clerical	3	3.3
	Daily wager	24	26.7
	unemployed	49	54.4
6	**Income**		
	<=10,000	47	52.2
	10,001-31,999	36	40.0
	32,000-53360	5	5.6
	53361-80109	1	1.1
	80110 and above	1	1.1
7	**Type of Family**		
	Joint Family	11	12.2
	Nuclear Family	79	87.8
	Extended family	0	0
8	**Living Area**		
	Rural	90	100
	Urban	0	0
9	**Household size**		
	1-3 members	35	38.9
	4-6 members	47	52.2
	Above 6 members	8	8.9
10	**Any contact with stray dogs by the family members**		
	Yes	37	41.1
	No	53	58.9
11	**Location of nearest Veterinary clinics within 30 minutes walk from residents**		
	Yes	78	86.7
	No	12	13.3
12	**History of dog bite for any one of the family members within last 6 months**		
	Yes	10	11.1
	No	80	88.9
13	**Presence of any domestic animals in the house**		
	Yes	90	100
	No	0	0
14	**History of vaccination of the domestic animal within last 12 months**		
	Yes	45	50.0
	No	45	50.0
15	**History of vaccination of the family members**		
	Yes	37	41.1
	No	53	58.9
16	**Recieval of any information regarding Rabies Prevention**		
	Yes	74	82.2
	No	16	17.8
17	**Source of information**		
	Mass media	56	75.68
	Health professionals	12	16.21
	Friend/ neighbourhood	4	5.41
	Others	2	2.7

From the above table, it is evident that majority i.e. 48.9% (44) of the samples belong to the age group between 55-70 years and majority i.e. 86.7% (78) were females. Also it is revealed that most of the samples i.e. 45.6% (41) are having secondary education and most of them are unemployed i.e. 54.4%(49). Majority of the samples are from nuclear families and most of them are from urban areas. The table also depicts that about 58.9%(53) of the household family members are having no contact with stray dogs. It reveals that there is a veterinary clinic within 30 minutes walks from residents and had no history of dog bite among the family membership within 6 months i.e. 88.9 %(80). 100% (90) having domestic animal in their house and 50 % (45) of

them vaccinated the domestic animal within last 12 months. The table delivers that 58.9% (53) of family members not get vaccinated and 82.2% (74) of households had received information regarding Rabies prevention through mass media i.e. 75.68 % (56).

Table 1.2: Frequency and percentage of distribution of samples based on level of knowledge regarding Rabies prevention practices.

(n=90)

Sl No	Knowledge	Frequency (f)	Percentage (%)
1	Good	61	67.8
2	Average	24	26.7
3	Poor	5	5.6
	Total	90	100

From the above table, it reveals that majority i.e., 61(67.8%) were having good knowledge, 24(26.7%) were having average knowledge and 5(5.6%) were having poor knowledge.

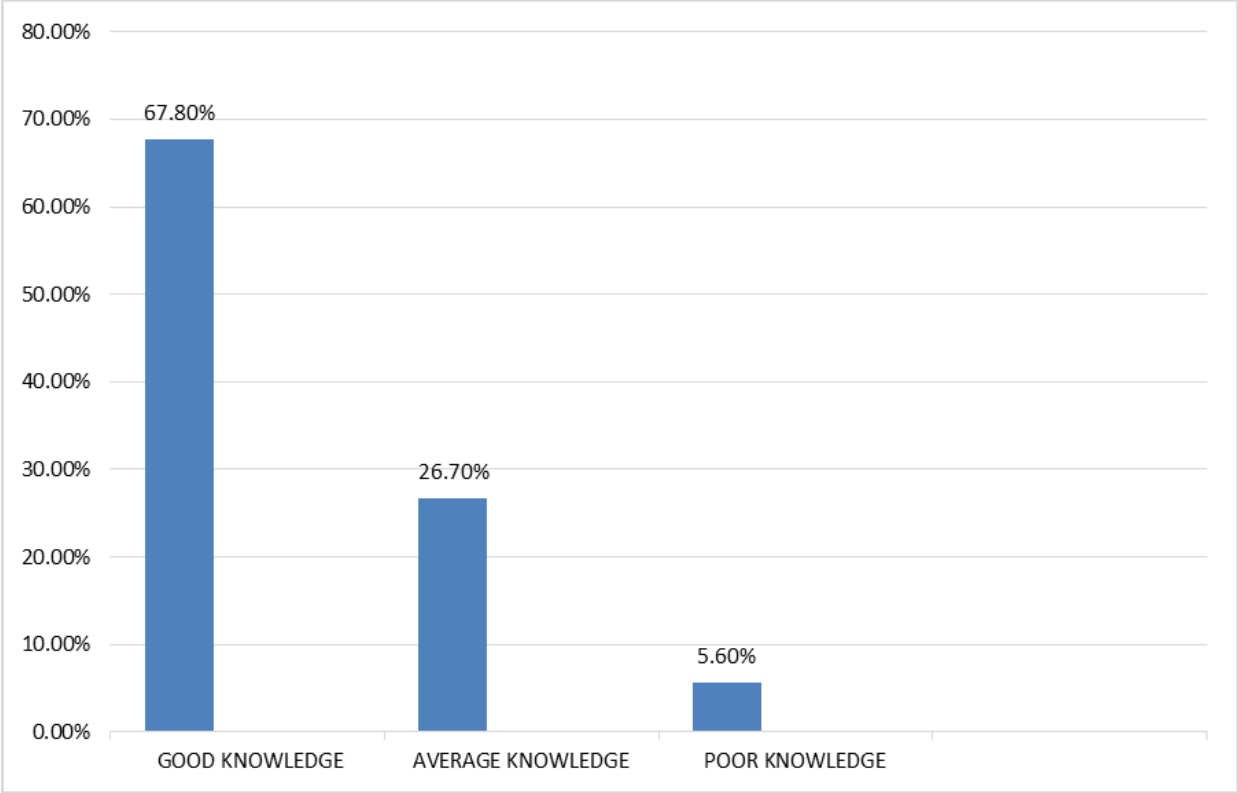

Fig. No. 1: Frequency and percentage of distribution of samples based on level of knowledge regarding Rabies prevention practices.

Table 1.3: Frequency and percentage distribution of knowledge using a practice checklist.

(n=90)

SL NO	PRACTICE	Frequency (f)	Percentage (%)
1	Good	39	43.3
2	Average	26	28.9
3	Poor	25	27.8
	Total	90	100.0

From the above table, shows that majority 39 households i.e., (43.3%) were having good practice, 26 households (28.9%) were having average practice and 25 households (27.8%) were having poor practice.

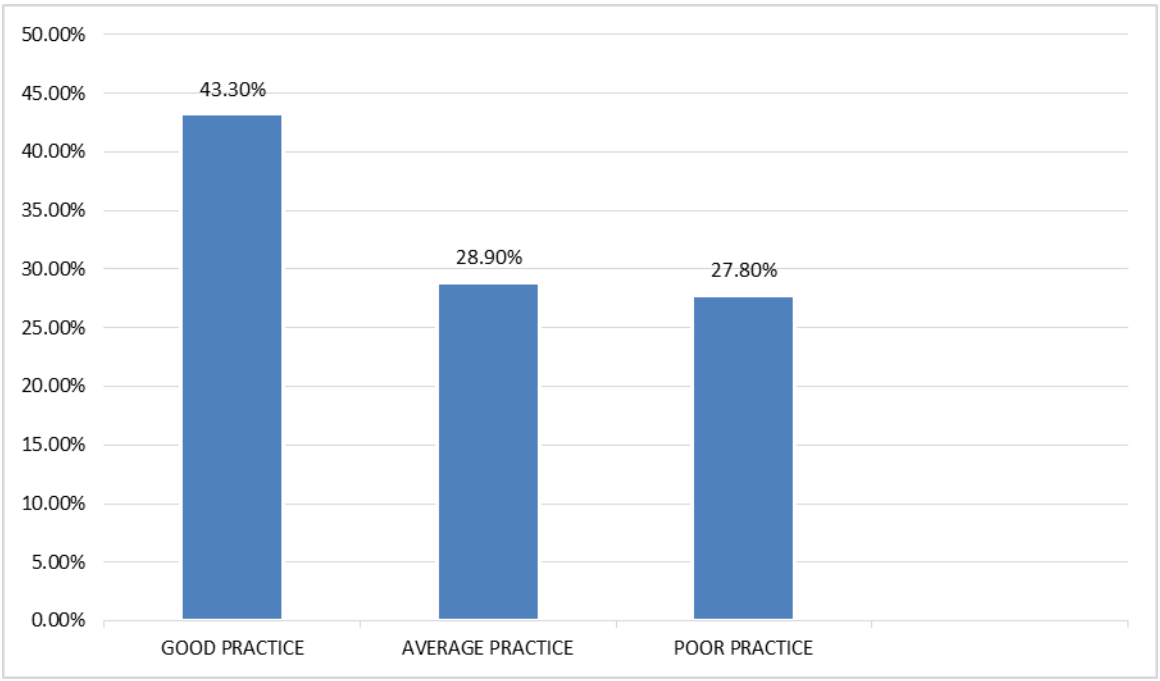

Fig. no. 2: Frequency and percentage distribution of knowledge using a practice checklist.

Table 1.4: Correlation between level of knowledge and practice regarding Rabies prevention practices.

(n=90)

SL NO	Variables	Spearman Correlation Coefficient(r)	P value
1	Level of knowledge	-0.121	0.256
2	Level of Practice		

The above table depicts that there is negative mild correlation between level of knowledge and practice regarding Rabies prevention practices at 0.01 level. It conveys that, an increase in knowledge about Rabies prevention leads to mild practice of Rabies prevention measures. Hence the H_1 hypothesis (There is a correlation between level of knowledge and practice regarding Rabies prevention among households in a specified area) is rejected.

Table 1.5: Association of level of knowledge and practice with their sociodemographic variables among household's.

(n=90)

Sl.no	Type of variable with knowledge	x^2	df	p
1	Education			
i)	Illiterate & primary education	10.159a	2	0.006
ii)	Secondary education			
iii)	Graduate & professional education			
Sl.no	**Type of variable with practice**	**x^2**	**df**	**p**
2	Age	0.598a	2	0.742
3	Occupation	2.937a	2	0.230
4	Income	3.711a	2	0.156
5	Member Size	0.165a	2	0.921

On analyzing the association between level of knowledge with demographic variables, it is revealed that the variable i.e. the education of study subjects (p-0.006) is associated with level of knowledge. Therefore H_2 is accepted and there is significant association between selected sociodemographic variable and level of knowledge.

On Analysing the association between the level of practice with sociodemographic variables among households, it shows that the variables such as age p(0.742), educationp(0.303), Occupationp(0.230), Incomep(0.156) and Member Size p(0.921) are not having significant association with level of practice among households.

DISCUSSION

1. To assess the level of knowledge on Rabies prevention among households specified area in Nadathara, Thrissur. It reveals that majority i.e., 61(67.8%) were having good knowledge, 24(26.7%) were having average knowledge and 5(5.6%) were having poor knowledge.

2. To assess the level of practice on Rabies prevention among households in a specified area in Nadathara, Thrissur.

From the data obtained, shows that majority 39 households i.e.(43.3%) were having good practice, 26 households (28.9%) were having average practice and 25 households (27.8%) were having poor practice.

3. To determine correlation between level of knowledge with practice regarding Rabies prevention among households in a specified area.

From the data obtained, there is negative mild correlation between level of knowledge and practice regarding Rabies prevention practices at 0.01 level. It conveys that, an increase in knowledge about Rabies prevention leads to mild practice of Rabies prevention measures. Hence the H_1 hypothesis (There is a correlation between level of knowledge and practice regarding Rabies prevention among households in a specified area) is rejected.

4. To find out association between level of knowledge and practice with their selected socio demographic variables.

From the obtained data, on analyzing the association between level of knowledge with demographic variables, it is revealed that the variable i.e. the education of study subjects (p-0.006) is associated with level of knowledge. Therefore H_2 is accepted and there is significant association between selected sociodemographic variable and level of knowledge. On analysing the association between the level of practice with sociodemographic variables among households, it shows that the variables such as age p(0.742), education p(0.303), Occupation p(0.230), Income p(0.156) and Member Size p(0.921) are not having significant association with level of practice among households.

A cross sectional study was conducted in the year 2021, among household heads from 3 districts in Nepal, the total sample size involves 308 household heads, Of 70% owning pet animals, 82.9% vaccinated but 87.9% kept a vaccination records. The chi-square test showed a significant association between the socio demographic characteristics of respondents with practices (good practice and poor practice) towards rabies.

CONCLUSION

The major findings of the study were , the majority of the samples 61(67.8%) were having good knowledge and the majority of the samples 39(43.3%) samples were following good practice Descriptive statistics are used to analyse the data. On analyzing the correlation between level of knowledge and practice regarding rabies prevention practices, There is negative mild correlation between level of knowledge and practice regarding Rabies prevention practices at 0.01 level. It conveys that, an increase in knowledge about Rabies prevention leads to mild practice of Rabiesprevention measures. Hence the correlation between level of knowledge and practice regarding Rabies prevention among households in a specified area is rejected. On analyzing the association between level of knowledge with demographic variables, it is revealed that the variable i.e. the education of study subjects (p-0.006) is associated with level of knowledge. Therefore H_2 is accepted and there is significant association between selected sociodemographic variable and level of knowledge. On Analysing the association between the level of practice with sociodemographic variables among households, it shows that the variables such as age (p-0.742), education(p-0.303), Occupation (p-0.230), Income(p-0.156) and Member Size (p-0.921) are not having significant association with level of practice among households.

RECOMMENDATION

From the study, it is revealed that there is no adequate preventive practice among the people, family and house. It has lead to increasing number of death in our country without adequate practice. Stray dogs and stray cats also seen in number of houses, without adequate knowledge they take care these animals that lead to rabies.

CONFLICT OF INTEREST

The authors have no conflicts of interest regarding this investigation.

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