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Knowledge and Attitude Regarding Rabies Prevention Among Adults Residing Under the Field Areas of Medical College Health Unit, Pangappara

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ABSTRACT

Rabies has been one among the most dreaded diseases to man since antiquity. The present study was intended to assess the knowledge and attitude regarding rabies prevention among adults residing under the field areas of Medical College Health Unit, Pangappara. The objectives of the study were to assess the knowledge and attitude regarding rabies prevention, to assess the practice regarding rabies prevention, to find out the correlation between knowledge and attitude and to find out the association between knowledge of adults regarding rabies prevention with sociodemographic variables. The research approach adopted for the study was quantitative and the data was collected from 408 participants. The study design was cross sectional design and participants were selected using cluster sampling technique. Socio demographic data and the knowledge were assessed using an interview schedule, attitude and practice were assessed using a five point Likert scale and a checklist respectively. Data analysis was carried out using both descriptive and inferential statistics. The results showed that 47.1% had good knowledge,28.4% had average knowledge and 24.5% had poor knowledge regarding rabies prevention and 38% of adults had positive attitude,36% had uncertain attitude and 26% had negative attitude towards rabies prevention,45.9% reported good practice after an animal bite. The study revealed that there was a moderate positive correlation between knowledge and attitude ($r = 0.443$ and $p < 0.05$) and there was a significant association between knowledge of adults regarding rabies prevention with age, socio economic status and adults participation status in rabies prevention campaign. The study concludes the necessity for preventing the mortality by dog mediated Rabies.

Keywords: Knowledge; Attitude; Rabies prevention; Adults

INTRODUCTION

Rabies is one of the most important and dangerous viral zoonosis caused by rabies virus, which belongs to the genus Lyssavirus and family Rhabdoviridae. Rabies is one of the oldest and deadliest disease known to man and still continues to cause significant human mortality in Asian, South American, African and Eurasian countries. It is the world's deadliest disease, which has 100% fatality and, at the same time 100% preventability.[1] Rabies is primarily a zoonotic disease transmitted by bites and licks of rabid animals.

Although a number of wild animals serve as natural reservoirs including dogs, wolves, foxes, coyotes, jackals, cats, bobcats, lions, mongooses, skunks, badgers, bats, monkeys and humans.[2]Almost 95% of the human cases are from Asia and Africa and 99% of all human rabies is transmitted through dog bites. Globally, it is estimated that rabies accounts for more than 59,000 deaths every year, and the majority of human rabies deaths occur due to the biting of rabid dogs.[3]

Since 1985, India has reported estimated 250,00-30,000 human deaths from rabies annually. Dogs are the major vectors of rabies transmission in Asian countries and they are responsible for over 95% of human deaths in India.[4] In India, Rabies is a problem of considerable magnitude. India is one of the countries with the highest population of stray dogs in the world. With these stray dogs being unvaccinated, Indians are at high risk of getting rabies.[2] In India, the burden is unevenly distributed among different states .However, the state's death rate is much lower than the national average .[5]

In Kerala, more than one lakh people have been bitten by dogs in 2015–2016, Kerala is estimated to have a stray dog population of 2.5 lakh.[6] According to the report of animal husbandry department,Kerala has reported a consistent increase in the incidence of animal bites, mostly by dogs, and subsequent deaths due to rabies over the past six years. [7]

LITERATURE SURVEY

According to the report of global burden of disease in 2019 reveals that the number of rabies cases and ASIR(Age Standardized Incidence Rate) were both highest in South Asia, which were 15,139.39 and 149.76 /10,000,000, respectively. In 2019 the region with the largest number of rabies cases was still South Asia.[8]

In India, the annual estimated number of dog bite is 17.4 million, leading to estimated 18,000–20,000 cases of human rabies per year.[6]The true public health impact of rabies in India is unknown due to a lack of accurate data. A gross lack of awareness about the disease is one of the prime factors that leads to under-reporting of human mortality due to rabies.[9]

All mammals can be infected with the rabies virus, but dogs are the most important source of human rabies. The virus still has worldwide distribution and is causing a significant health and economic burden to mainly developing countries in Africa and Asia. This is widespread throughout the world. More than 59,000 people die of rabies in each year and India has the highest number of human rabies deaths. Although the annual number of human rabies cases has decreased in recent years, but the epidemic situation remains serious in India. [10]

According to the report of animal husbandry department, Kerala has reported that in 2022, the number of rabies deaths reached almost twice as many as in 2021.There has been almost double the rise in cases of dogs infected with the deadly rabies virus in the last five years. Main reason for this substantial rise in rabies case in animals is the ineffective animal vaccination against rabies. Around 140 people have died in stray dog attacks since 2016 in Kerala and over a million were injured. The problem is only growing.[11]

Kerala reported a drastic increment in dog bite cases for the past 10 years, and most rabies deaths in the past decade were reported in the Thiruvananthapuram district of Kerala.[12]

According to the report of National Rabies Control Programme (NRCP) fact sheet , in Kerala, there was consistent increase in the incidence of animal bite. As per monthly animal bite report of this programme during 2021-2022 has reported a consistent increase in the incidence of animal bites, mostly by dog. Also reported that the number of dog bite cases from April 2021 to February 2022 were about 208923.Most animal bite cases were reported in the Thiruvananthapuram district of Kerala, about 61687 from April 20

21to March 2022.[13]

Statement of the problem

A study to assess the Knowledge and Attitude regarding Rabies prevention among adults residing under the field areas of Medical College Health Unit, Pangappara.

Objectives of the study

Primary objectives

1. Assess the knowledge regarding rabies prevention among adults residing under the field areas of Medical College Health Unit, Pangappara.
2. Assess the attitude regarding rabies prevention among adults residing under the field areas of Medical College Health Unit, Pangappara.

Secondary objectives

1. Assess the reported practice regarding rabies prevention among adults residing under the field areas of Medical College Health Unit, Pangappara.
2. Find out the correlation between knowledge and attitude regarding rabies prevention among adults residing under the field areas of Medical College Health Unit, Pangappara.
3. Find out the association between knowledge of adults regarding rabies prevention with sociodemographic variables.

Operational definitions

Knowledge regarding Rabies

In this study the knowledge refers to the awareness of adults on Rabies, its causative agent, mode of transmission, clinical manifestation, incubation period, first aid management following an animal bite, pre exposure and post exposure prophylaxis as measured by an interview schedule.

Attitude regarding Rabies

In this study attitude refers to the way of thinking or feeling of adults towards Rabies, its first aid measures, vaccination following an animal bite, general preventive measures, misconceptions and cultural beliefs regarding Rabies as measured by a five point Likert scale.

Rabies prevention

In this study rabies prevention refers to the methods and strategies adopted by individuals to prevent Rabies.

Adults

In this study adults refers to people aged 18 years and above residing under the field areas of Medical College Health Unit, Pangappara.

Reported practice after an animal bite

In the present study reported practice refers to the activities done by a person following an animal bite which includes thoroughly washing the wound with soap and water, reaching hospital as soon as possible, completing the scheduled vaccination as per doctor's advice. It was assessed by using a checklist.

Assumption

Adults are having varying levels of knowledge and attitude regarding rabies prevention.

METHODOLOGY

Research approach: quantitative approach.

Research design: cross sectional design.

Variables

Study variables: Socio demographic factors- Age, gender, religion, education, occupation, monthly income of family, pet ownership, vaccination status of pets and participation status of adults in rabies prevention campaign.

Outcome variables: Knowledge and Attitude regarding rabies prevention

Setting: Field areas of Medical College Health Unit, Pangappara.

Population: Adults with the age 18 years and above

Sample size = 408.

The sample size of the present study was 408 adults residing under the field areas of Medical College Health Unit, Pangappara based on inclusion criteria.

Sampling technique: Cluster sampling

Inclusion criteria

- The adults who are willing to participate in this study.
- The adults who can read and write Malayalam.

Exclusion criteria

- Adults with cognitive impairment
- Adults with major psychiatric illness

Tools and Technique

Tool 1: Interview schedule to assess the knowledge regarding rabies prevention among adults which consists of three sections;

Section 1: Socio demographic data

Section 2: Knowledge of adults regarding rabies prevention.

Technique: Interview

Section 3: Checklist for assessing the reported practice after an animal bite.

Technique: Self report

Tool 2: Five point Likert scale to assess the attitude regarding rabies prevention among adults. Total questions are 15 and each statement consists of five choices.

Technique: Self-report

Data Collection Process

The researcher obtained prior permission for data collection from Institutional Research Committee, Institutional Human Ethics Committee of Govt College of Nursing, Thiruvananthapuram. Setting permission was obtained from Administrative Medical Officer of Medical College Health Unit, Pangappara . Data collection period for the study was six weeks from 1st June 2023 to 8th July 2023. Data collection was done under the field areas of Medical College Health Unit, Pangappara. From eleven subcenters of Medical College Health Unit, Pangappara , six subcenters were selected. From each subcenter 68 participants were selected, from each house only one adult, who met the inclusion criteria was selected by using simple random sampling technique. Thus total 408 participants were selected through cluster sampling. The investigator met each participant individually, established rapport with them

and the purpose and objectives of the study were explained to the participants and confidentiality was assured to them. A copy of the participant information sheet was given and obtained the written informed consent from each participant prior to data collection.

Data analysis

Data were entered using Microsoft Excel worksheet and analysed using appropriate statistical tests, using the Statistical Package for Social Sciences (SPSS) software. Data were analysed using descriptive and inferential statistics. Socio demographic data, knowledge and attitude regarding rabies prevention, practice after an animal bite were expressed as frequency and percentage. The Chi square test was used to analyze the association between knowledge regarding rabies prevention with socio demographic variables.Correlation between knowledge and attitude of adults regarding rabies prevention was estimated using Spearman's correlation coefficient. Findings were communicated through tables and figures.

RESULTS

Socio demographic data

A total of 408 adults participated in this study, out of these 40.6 % of the adults belonged to the age group of 41-60 years. In the present study 69% were females and 31% were males. Among the participants, 84.6% were Hindus. Based on education,33.8% had high school educational qualification. Regarding occupation, 46.6% of them were unemployed. In the present study 63.0 % belonged to the upper lower class, 3.2 % of them belonged to the lower class and 1.4% belonged to the upper class .In the present study 39 % had pets and among 159 pet owners, 52.8% of them, didn't vaccinate their pets and 44% had vaccinated their pets. Among the participants 89.5% didn't attend any rabies prevention campaign and 10.5 % adults had attended the rabies prevention campaign .

Assessment of Knowledge of the adults regarding rabies prevention

The study revealed that 29.9% had good knowledge regarding Rabies .Regarding their knowledge about first aid after an animal bite showed that 22.8 had good knowledge and only 10.3 % adults had good knowledge regarding rabies vaccination. The study inferred that 47.1 % of adults had overall good knowledge, 28.4% had overall average knowledge and 24.5% had overall poor knowledge regarding rabies prevention.

Assessment of attitude of the adults regarding rabies prevention

The study revealed that 30.4% adults had a positive attitude towards rabies vaccination . The study inferred that 38% of adults had overall positive attitude 36% had uncertain attitude and 26% of adults had overall negative attitude towards rabies prevention.(please see figure 1 showing Distribution of adults based on their Overall attitude towards rabies prevention)

Assessment of practice of adults after an animal bite

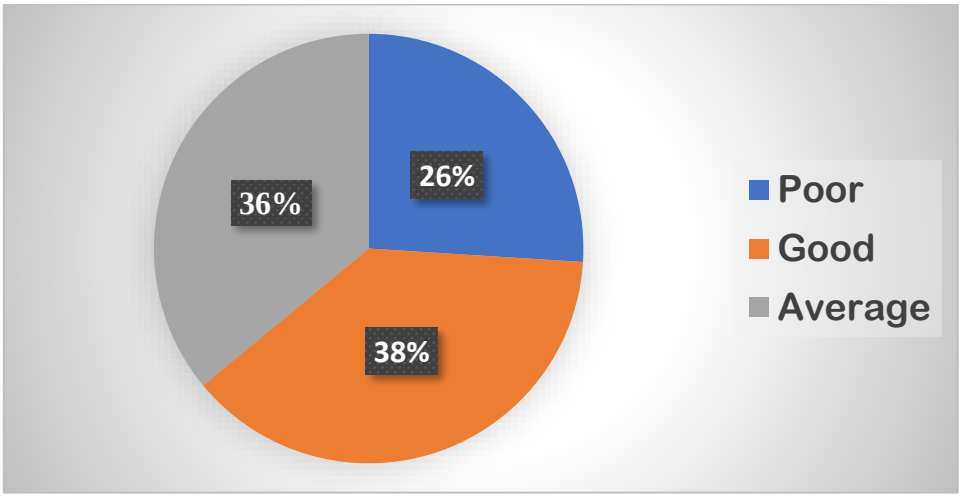
The study showed that 20.8% had a history of an animal bite. 45.9% of adults reported had good practice, 35.3% had average practice and 18.8 % of adults had poor practice after an animal bite.

Correlation between knowledge and attitude of adults regarding rabies prevention

The study revealed that there was a moderate positive correlation between total knowledge score and total attitude score (r value=0.443 and p value < 0.05). (please see figure 2 - Scatter diagram showing correlation between total knowledge score and total attitude score)

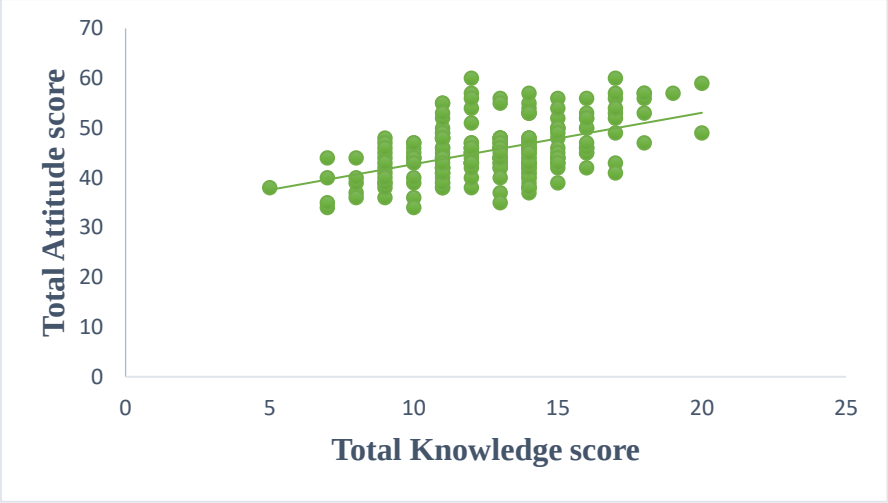
Association between knowledge of adults regarding rabies prevention with Socio demographic variables

The study revealed that there was a significant association between knowledge regarding rabies prevention with sociodemographic variables such as age (p value =0.0001), socio economic status (p value=0.001) and participation status of adults in rabies prevention campaign (p=0.007).The present study inferred that there was no association between knowledge and other socio-demographic variables such as gender, religion, pet ownership status, vaccination status of pet.



(n = 408)

Figure 1 : Distribution of adults based on their Overall attitude towards rabies prevention



r = 0.443, p = 0.0001

Figure 2 - Scatter diagram showing correlation between total knowledge score and total attitude score

DISCUSSION

The present study was intended to assess the knowledge and attitude regarding rabies prevention among adults residing under the field areas of Medical College Health Unit, Pangappara. It is also intended to find out of the reported practice regarding rabies prevention, association of knowledge regarding rabies prevention with sociodemographic variables and find out the correlation between knowledge and attitude

regarding rabies prevention.

Knowledge regarding Rabies prevention

It was observed from the present study that 47% were having good knowledge regarding rabies prevention. This study is supported by a cross sectional study conducted among general population in Rajasthan showed that 46.66% had good knowledge regarding rabies prevention.[14]

Attitude regarding Rabies prevention

This study found out that 38% of adults had a positive attitude towards Rabies prevention. This is not supported by a cross sectional study conducted in Bangladesh among school children showed that 51% of respondents had positive attitudes towards rabies prevention activities.[15]

Practice regarding Rabies prevention

The present study revealed that 20.8% had an history of animal bite. Among these 45.9 % of adults reported had good practice after an animal bite. This finding is non congruent with a cross sectional study from Tamil Nadu showed that 37.5% of them had good practice after an animal bite.[16]

Correlation between knowledge and attitude of adults regarding Rabies prevention

The present study revealed that there is a positive correlation between total knowledge score and total attitude score ($r = 0.443$ and $p = 0.0001$). This findings is congruent with a Cross sectional study conducted among 275 households in rural community of Tamil Nadu showed that there was positive correlation between knowledge and attitude ($r = 0.7$, $P < 0.0001$).[17]

Association between knowledge regarding Rabies prevention with Sociodemographic variables

The present study result showed a significant association between knowledge regarding rabies prevention with socio demographic factors such as age socioeconomic status (education, occupation, monthly income of family) and participation status of adults in rabies prevention campaign. This findings is congruent with the Cross sectional study conducted in Pathanamthitta district showed that there was a association between educational status with knowledge regarding rabies.[18]

FUTURE SCOPE

Nursing Practice

Community health nurse can involve in formulating policies regarding rabies prevention and control. The result of the study can be used to identify the reasons for inappropriate practice after an animal bite it also implicates the necessity for educating people who have pets regarding importance of pet vaccination.Community health nurse can distribute an instructional module regarding first aid measures after an animal bite.

Nursing Education

Nurse educators can take steps for the revision of nursing curriculum by providing more focus to public health including prevention of Rabies. The findings of the study can be incorporated into training programmes in nursing. The nurse educator can utilize this findings while taking classes on prevention of zoonotic diseases and for the training of the public as well as health workers regarding rabies preventive measures.

Nursing Research

Nurse researcher can disseminate the study findings in various regional, national and international journals and can be used as a scientific basis for further research related to prevention of rabies. This study can be replicated on a large scale to generalize the study findings. A study can be conducted to assess the attitude towards rabies vaccination among the rural community and An experimental study can be conduc-

ted to find out the effect of an educational interventions on the prevention of rabies.

Nursing Administration

The nurse administrators can report the study findings to the concerned authority in order to make public awareness regarding rabies prevention and to build a positive attitude towards it and can take the initiative to organize health educational programmes regarding rabies prevention among the public and health professionals. CNE's can be conducted on challenges in prevention of rabies . The nurse administrators can influence policy makers in order to develop policies and programmes that facilitate rabies control among the public with a positive attitude and good knowledge.The nurse administrators can utilize these findings for modifying the policies and programmes regarding rabies prevention, control and rabies case management.

Limitations

- The present study was conducted only in six subcentres of the Medical College Health Unit, Pangappara.
- Interview schedule was used to collect data and then inflow of information were limited.
- The study period was short duration

Summary

The present study is intended to assess the knowledge and attitude regarding rabies prevention among adults residing under the field areas of Medical College Health Unit, Pangappara. The objectives of the study were to assess the knowledge and attitude regarding rabies prevention, to assess the practice regarding rabies prevention, to find out the correlation between knowledge and attitude and to find out the association between knowledge of adults regarding rabies prevention with sociodemographic variables.The conceptual framework of the present study was based on Nola J Pender's Health Promotion Model. The review of relevant literature helped the investigator to choose appropriate design and also in the preparation of tools. The research approach adopted for the study was a quantitative approach and the research design adopted was cross sectional design. Which is the most suitable one for attaining the above mentioned objectives. The study was conducted among 408 adults residing under field areas of Medical College Health Unit, Pangappara, who satisfied sampling criteria.The tools used for the present study included an interview schedule to assess sociodemographic data and knowledge regarding rabies prevention. Attitude regarding rabies prevention was assessed using a self prepared five point Likert scale and a check list was used to assess practice after an animal bite. The duration of data collection was 6 weeks from 01/06/2023-08/07/2023.The data were collected from 408 adults, selected using cluster sampling residing under the field areas of Medical College Health Unit, Pangappara .An interview schedule was used for collecting socio demographic data and knowledge regarding rabies prevention, a five point Likert scale was used to assess the attitude regarding rabies prevention .A checklist was used for collecting practice after an animal bite. The data obtained were analyzed using descriptive and inferential statistics. The association of knowledge with socio demographic variables were found out using Chi square test and the correlation between knowledge and attitude score was found out using Spearman's correlation coefficient .

Conclusion

The study findings showed that 47.1% of adults had good knowledge, 28.4% had average knowledge and

24.5% had poor knowledge regarding rabies prevention and 38% of adults had a positive attitude, 36% had uncertain attitude and 26% of adults had a negative attitude towards rabies prevention. Less than half (45.9%) of the participants of adults had good practice and 18.8% of adults had poor practice after an animal bite. There was a moderate positive correlation between total knowledge score and total attitude score (r value=0.443 and p =0.0001).In the present study there was a significant association between knowledge of adults regarding rabies prevention with sociodemographic variables such as age (p value = 0.0001), socio economic status (p value=0.001) and participation status of adults in rabies prevention campaign (p=0.007)

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