A STUDY TO ASSESS THE ATTITUDE OF FARMERS TOWARDS SAFE PRACTISES AGAINST TULAREMIA AT THIRUBUVANAI, PUDUCHERRY.

[1]Mrs. S. Sakthypriya, [2]S.Karthika

[1] Department, [2]Final year student
Community Health Nursing
Sri Manakula Vinayagar Nursing College
Puducherry-605107, India.

***Abstract*- A study was conducted to assess the attitude of farmers towards safe practices against tularemia at thirubuvanai, puducherry. A quantitative approach was used for this study. Out of the 50 farmers who were interviewed, Majority of the farmers 24(48%) of study population were in the age group are 50-60 years. Majority of the farmers were male 32(64%). Majority of the farmers were Hindu 29(58%). Majority of the farmers were Illiterate 19(38%). Majority of the farmers were Own business 22(44%). Majority of the farmers Monthly Income were 18(36%) Rs1000-5000 and Rs 5000-10,000. Majority of the farmers were Middle Class 28(56%). Majority of the farmers were married 46(92%). Majority of the farmers were Joint family 23(46%). Majority of the farmers were having 2 children 17(34%). Majority of the farmers were Rural 28(56%). Majority of the farmers had not Lifestyle diseases 32(64%). Majority of the farmers were Both Vegetarian and non-Vegetarian 23(46%). Majority of the farmers had not previous knowledge about Tularemia 40(80%). Majority of the farmers had not previous history of Tularemia 43(86%). Majority of the farmers were 5-10 years of working in the agricultural field 27(54%). Majority of the farmers, Sources and information about Tularemia were Health Professional and Television 17(34%). Majority of the farmers 43(86%) had Moderately Favorable level of attitude, and 7(14%) had Favorable level of attitude. The mean and standard deviation of level of attitude of farmers towards safe practices against tularaemia is (74.58+5.59) respectively. Thus, the study shows the significant level of attitude of farmers towards safe practices against tularemia at thirubuvanai, puducherry.**

Keywords: **Tularemia, Farmer, Attitude.**

INTRODUCTION

Tularemia, also known as rabbit fever. It is an infectious disease caused by the bacterium Francisella tularensis. Symptoms may include fever, skin ulcers, and enlarged lymph nodes. Occasionally, a form that results in pneumonia or a throat infection may occur. Tularemia bacterium spread by ticks, deer flies, or contact with infected animals. It may also be spread by drinking contaminated water or breathing in contaminated dust. The disease is named after Tulare County, California, where the disease was discovered in 1911.A number of other animals, such as rabbits, may also be infected. Strains of F. tularensis subspecies tularensis (also known as type A) are associated with more severe disease and a greater risk for death. Based on the site of infection, tularemia has six characteristic clinical variants: ulceroglandular , oropharyngeal, pneumonic, oculoglandular, and typhoidal Tularemia.

AIM OF THE STUDY:

The aim of the study was to assess the attitude of farmers towards safe practices against tularemia,at Thirubhuvanai, Puducherry.

OBJECTIVES OF STUDY

- To assess the level of attitude of farmers towards safe practices against tularaemia .
- To associate the level of attitude of farmers towards safe practices against tularaemia with their selected demographic variables.

METHODOLOGY

The research approach used for this study was quantitative research approach. A quasi experimental research design was used to assess the attitude of farmers towards safe practices against tularemia at thirubuvanai, Puducherry. By using purposive sampling technique 50 samples was selected for the present study. The period of data collection was two week. The tool consists of demographic data, attitude assessment tool. The outcome of the study was evaluated by using descriptive and inferential statistics.

RESEARCH DESIGN

Descriptive research design is used for this study.

REASEARCH APPROACH

Quantitative research approach will be used for this study

SETTING
The study will be conducted in Thirubuvanai, Puducherry

POPULATION
Population of the study will be all the farmers in Thirubuvanai

SAMPLE
Farmers in Thirubuvanai who fulfills the inclusion criteria

SAMPLE SIZE
50 farmers residing at Thirubuvanai

SAMPLE SELECTION CRITERIA:
INCLUSION CRITERIA:
- All farmers age group of between 40 -60 years .
- Farmers who are willing to participate in the study .

EXCLUSION CRITERIA:
- All farmers who are with severe illness .
- All farmers who are not present at the time of data collection .

SETTINGS:
The study was conducted in Thirubuvanai, Puducherry.

DEVELOPMENT AND DESCRIPTION OF THE DATA COLLECTION TOOLS:
Since the objective of the study to assess the attitude towards safe practices against tularemia at thirubuvanai, Puducherry with their selected demographic variables.It would have two sections namely,

SECTION – A : Demographic data
SECTION – B : Assessment of attitude

SCORE INTERPRETATION:

Classification	Unfavourable	**Moderately favourable**	Favourable
Score	**0-6**	7-12	**13-20**

DATA COLLECTION PROCEDURE :
The data collection done with permission obtain from consent authorities, the investigator administer , the tools to 50 farmers residing at thirubuvanai and selected by using convinent sampling technique after introducing and explaining the purpose of the study .For a week of period of time duration selection of 50 samples by using convinent sampling method data collection was done by using Attitude assessment tool.

RESULTS
The major findings of the study were;. Majority of the farmers 43(86%) had Moderately Favourable level of attitude, and 7(14%) had Favourable level of attitude. The mean and standard deviation of level of attitude of farmers towards safe practices against tularaemia is (74.58+5.59) respectively.
Association between the level of attitude of farmers towards safe practices against tularemia with selected demographic variables.The chi square reveals that it is statistically association type of family, previous history of Tularemia and Sources and information about Tularemia belongs to significant $p < 0.05$ significant others are belongs to non significance.

RECOMMEDATIONS:
On the basis of the findings of the present study,the following recommendations have been made :
- The study can be conducted at different settings.
- The study can done to the farmers towards safe practices against tularaemia.
- The study can be implemented at the various states of India with 100 samples for better generalization.

CONCLUSION:
A study to assess the attitude of farmers towards safe practices against tularemia at thirubuvanai ,Puducherry. The findings of the study revealed that Out of 50 samples, Majority of the farmers 43(86%) had Moderately Favourable level of attitude, and 7(14%)

had Favourable level of attitude. The mean and standard deviation of level of attitude of farmers towards safe practices against tularemia is (74.58+5.59) respectively.

A study to assess the attitude of farmers towards safe practices against tularemia at thirubuvanai, Puducherry

CHAPTER -1

INTRODUCTION

"A good farmer is nothing more nor less than a handy man with a sense of humus "

E .B . WHITE

Tularemia, also known as rabbit fever. It is an infectious disease caused by the bacterium Francisella tularensis. Symptoms may include fever, skin ulcers, and enlarged lymph nodes.Occasionally, a form that results in pneumonia or a throat infection may occur. Tularemia bacterium spread by ticks, deer flies, or contact with infected animals. It may also be spread by drinking contaminated water or breathing in contaminated dust. It does not spread directly between people.

By the 1970s and 2015, around 200 cases were reported in the United States a year. Males are affected more often than females. It occurs most frequently in the young and the middle aged. In the United States, most cases occur in the summer. The disease is named after Tulare County, California, where the disease was discovered in 1911.A number of other animals, such as rabbits, may also be infected.

Strains of F. tularensis subspecies tularensis (also known as type A) are associated with more severe disease and a greater risk for death. Mortality is less than 2% overall but ranges up to 24% depending on the strain. Based on the site of infection, tularemia has six characteristic clinical variants: ulceroglandular (the most common type representing 75% of all forms), glandular, oropharyngeal, pneumonic, oculoglandular, and typhoidal.

The types of tularemia include Ulceroglandular tularemia. This type is the most common. Painful open sores (ulcers) develop where the bacteria entered the skin: through a break in the skin, usually on the hands and fingers, or a tick bite, usually in the groin, armpit, or trunk.The bacteria travel to nearby lymph nodes, making them swollen and painful. Occasionally, the skin around the lymph nodes breaks down, and pus may drain from them. In Glandular tularemia lymph nodes become swollen and painful, but skin sores do not form.

In Oculoglandular an eye becomes painful, swollen, and red, and pus often oozes from it. Nearby lymph nodes become swollen and painful. Oculoglandular tularemia results from touching the eye with a contaminated finger or from having infected fluid splashed into the eye. In Oropharyngeal, The throat (pharynx) is sore, and lymph nodes in the neck are swollen. Some people also have abdominal pain, nausea, vomiting, and diarrhea.

Oropharyngeal tularemia is caused by eating undercooked contaminated meat or drinking contaminated water.Typhoidal tularemia causes chills, high fever, and abdominal pain develop, but no sores form and lymph nodes do not swell.Typhoidal tularemia develops when the bloodstream is infected. Sometimes the source of infection is unknown. in Pneumonic tularemia The lungs are infected. People may have a dry cough, be short of breath, and havechest pain. A rash may appear.

Pneumonic tularemia is caused by inhaling the bacteria or spread of the bacteria through the bloodstream to the lungs. This type develops in 10 to 15% of people with ulceroglandular tularemia and in 50% of people with typhoidal tularemia. Septicemic tularemia is the rare type is the most serious. It is a bodywide illness that develops when bacteria spread through the bloodstream and cause many organs to malfunction.Blood pressure is low, the lungs fill with fluid, and clotting factors in blood are used up, causing bleeding.

The first signs and symptoms of tularemia is seen in 14 days of infection; most human infections become apparent after three to five days. In most susceptible mammals, the clinical signs include fever, lethargy, loss of appetite, signs of sepsis, and possibly death. Nonhuman mammals rarely develop the skin lesions seen in people. Subclinical infections are common, and animals often develop specific antibodies to the organism. Fever is moderate or very high, and tularemia bacilli can be isolated from blood cultures at this stage. The face and eyes redden and become inflamed. Inflammation spreads to the lymph nodes, which enlarge and may suppurate (mimicking bubonic plague). Lymph node involvement is accompanied by a high fever.

The bacteria can penetrate into the body through damaged skin, mucous membranes, and inhalation. Humans are most often infected by tick/deer fly bite or through handling an infected animal. Ingesting infected water, soil, or food can also cause infection. Hunters are at a higher risk for this disease of the potential of inhaling the bacteria during the skinning process. It has been contracted from inhaling particles from an infected rabbit ground up in a lawnmower .Tularemia is not spread directly from person to person. Humans can also be infected through bioterrorism attempts.

In lymph node biopsies, the typical histopathologic pattern is characterized by geographic areas of necrosis with neutrophils and necrotizing granulomas. The pattern is non specific and similar to other infectious lymphadenopathis. The laboratorial isolation of F. tularensis requires special media such as buffered charcoal yeast extract agar. It cannot be isolated in the routine culture media because of the need for sulfhydryl group donors (such as cysteine). The microbiologist must be informed when tularemia is suspected not only to include the special media for appropriate isolation, but also to ensure that safety precautions are taken to avoid contamination of laboratory personnel.

The serological tests (detection of antibodies in the serum of the patients) are available and widely used. Cross reactivity with Brucella can confuse interpretation of the results, so diagnosis should not rely only on serology. Molecular methods such as PCR are available in reference laboratories.

If infection occurs or is suspected, treatment is generally with the antibiotics streptomycin or gentamicin. Doxycycline was previously used. Gentamicin may be easier to obtain than streptomycin. There is also tentative evidence to support the use of quinolone antibiotics. Strains of F. tularensis subspecies tularensis (also known as type A) are associated with more severe disease and a greater risk for death. Mortality is less than 2% overall but ranges up to 24% depending on the strain .

In the 1900s, several vaccines were developed against tularemia including the killed "Foshay" vaccine, subunit vaccines comprising F. tularensis protein(s) or lipoproteins(s) in an adjuvant formulation, and the F. tularensis Live Vaccine Strain (LVS); none were licensed in the U.S.A. or European Union.

NEED FOR STUDY:

Global level :

In humans, F. tularensis causes distinct clinical syndromes depending on the route of exposure. Percutaneous inoculation typically produces ulceroglandular tularemia, characterized by a cutaneous ulcer at the site of inoculation and tender regional lymphadenopathy. A less common presentation after percutaneous inoculation is glandular tularemia, in which patients develop regional lymphadenopathy without ulcer. Inhalation of F. tularensis can result in a primary pneumonia, whereas ingestion causes oropharyngeal disease consisting of tonsillitis or pharyngitis with cervical lymphadenopathy. Other forms of tularemia include oculoglandular (infection of the eye) and typhoidal (fever without localizing signs). Certain strains of F. tularensis subspecies tularensis (also known as type A) are associated with more severe disease and a greater risk for death.Mortality is less than 2% overall but ranges up to 24% depending on the strain.

For national surveillance purposes, a confirmed case of tularemia is defined as clinically compatible illness with either a four-fold or greater change in serum antibody titer to F. tularensis antigen or isolation of F. tularensis from a clinical specimen. A probable case is defined as clinically compatible illness with either a single elevated antibody titer to F. tularensis antigen or detection of F. tularensis in a clinical specimen by fluorescent assay). In this report, incidence is calculated using 2005 census population estimates.

A total of 1,208 cases of tularemia were reported via NNDSS during 2001–2010. The median number of cases per year was 126.5, with a range of 90–154 cases per year. Of these 1,208 reported cases, 64% were categorized as confirmed and 35% as probable . Median age of patients was 39 years (range: 1–92 years), and 68% were male. Average annual incidence was 0.041 cases per 100,000 persons. By age group and sex, annual incidence was highest among children aged 5–9 years (0.071) and among men aged 65–69 years . Race was recorded for 887 patients (73%). Among these, 86% were white, 9% were American Indian/Alaska Native, and 3% were black. Ethnicity was recorded for 718 patients (59%), of whom 5% were Hispanic. The highest annual incidence by race was among American Indians/Alaska Natives (0.3 per 100,000 persons).

Cases were reported from 47 states . Six states accounted for 59% of reported cases: Missouri (19%), Arkansas (13%), Oklahoma (9%), Massachusetts (7%), South Dakota (5%), and Kansas (5%). Among the 10 states with the highest incidence of tularemia, all but Massachusetts were located in the central or western United States .

Tularemia cases were reported from 505 U.S. counties (16%) during 2001–2010. County of residence was available for 1,198 patients (99%), although in some cases this might not have been the county of exposure. Among these, 53% of patients resided in counties classified as rural by **CDC** National Center for Health Statistics' Urban-Rural Classification Scheme for Counties , although rural counties accounted for only 17% of the U.S. population in 2006. The county with the highest annual incidence was Dukes County (Martha's Vineyard and the Elizabeth Islands), Massachusetts (67 cases; 43 per 100,000 persons). Cases in Dukes County were reported consistently during the 10-year period (range: 2–16 cases per year), with substantial increases in 2005 (11 cases), 2006 (10 cases), and 2008 (16 cases). Additional counties with high incidence rates were Buffalo County, South Dakota (six cases; 29 per 100,000), and Shannon County, South Dakota (24 cases; 18 per 100,000).

The majority of cases (77%) occurred during May through September, consistent with peak arthropod activity and increased outdoor human activity. However, seasonal patterns varied by region. In the New England states, no cases occurred in the nonpeak winter months of December through March. In contrast, 20% of cases in the South Atlantic states, 15% in the East South Central states, and 14% in the Pacific states occurred from December through March.

The total number of cases reported during 2001–2010 was similar to the number reported during the 10-year period 1991–2000 (1,208 versus 1,216, respectively). Nevertheless, notable changes occurred in the number of cases reported from some individual states: Montana (72% decrease), Arkansas (42% decrease), South Dakota (29% decrease), Massachusetts (155% increase), Nebraska (120% increase), and Oklahoma (35% increase)

Tularemia is considered to have existed in Anatolia for several thousand years. There are suspicions regarding its use in biological warfare in the Neshite-Arzawan conflict. The causative agent of tularemia may have first been used as a biological weapon in 1320–1318 BC. The disease has recently become a significant re-emerging disease globally as well as in Turkey. In the period of 2001–2010, Kosovo had the highest annual incidence in Europe at a rate of 5.2 per 100,000. Sweden, Finland, Slovakia, Czech Republic, Norway, Serbia-Montenegro, Hungary, Bulgaria, and Croatia follow with rates of 2.80, 1.19, 1.0, 0.81, 0.42, 0.4, 0.36, 0.21, and 0.15 per 100,000 people, respectively.

Tularemia in Turkey was first reported in the soldiers living in the region very close to the Kaynarca Stream of Thrace in 1936. It has started to gain more and more importance, especially in recent decades in Turkey, due to a very high number of cases and its spread throughout the country. A total of 431 tularemia cases were recorded in Turkey in 2005, but a significant reduction was observed in the number of the cases in the next three years; the number of patients decreased to 71 in 2008. The number of cases increased again in 2009 and continued in subsequent years. The number of cases reached 428, 1531, 2151, and 607 in 2009, 2010, 2011, and 2012, respectively. The number of cases peaked in 2011 in Turkey, and was in fact higher than the total number of cases in all European Union countries. The number of cases is higher in females than males in Turkey. In Turkey, 52% of cases of

tularemia diagnoses occur from December to March and the most common clinical presentation is the oropharyngeal form caused by contaminated water. Rodents are the most likely sources of tularemia outbreaks in Turkey as well as in Kosovo. Organisms such as ticks, flies and mosquitoes are vectors of tularemia transmission to mammals. Because ticks can carry the bacteria by both transovarial and transstadial transmission, they play a role in the life cycle of tularemia as both reservoir and vector.

National level:

This report summarizes tularemia cases reported to CDC during 2001–2010 via the National Notifiable Diseases Surveillance System (NNDSS) and compares the epidemiology of these cases with those reported during the preceding decade. During **2001–2010**, a total of 1,208 cases were reported Incidence was highest among children aged 5–9 years and men aged >55 years. Clinicians and public health practitioners should be familiar with the current epidemiology and clinical features of tularemia to identify and adequately treat individual cases and recognize unusual patterns that might signal an outbreak or bioterrorism event.

Tamilnadu view:

Agriculture continues to be the most predominant sector of the State economy, around 60 percent of the population is engaged in Agriculture and allied activities for their livelihood. The State has as an area of 130.33 Lakh with a gross cropped area of around 59.42 lakh ha.. The Government policy and objectives have been to ensure stability in agricultural production and to increase the agricultural production in a sustainable manner to meet the food requirement of growing population and also to meet the raw material needs of agro based industries, thereby providing employment opportunities to the rural population.

Tamil Nadu Has all along been one of the states with a creditable performance in agricultural production with the farmers relatively more responsive and receptive to changing technologies and market forces.farmers meet most of the infections in the land and fields, including the rabbit fever. As the farmers have not been given much importance to the hygienic Measures, they have been continuously facing the highest rate of ticks and rodents born infections.

Pondicherry view:

It is essential for beginning farmers, home gardeners and experienced farmers to prevent rodent infestations on the farm. Rodents affect the farm in several ways. First and foremost, they are disease carriers. Rodents can cause tularemia.. Additionally they contribute to the spread of other diseases caused by the parasites that infect rodents. Rodents also cause physical damage to structures. Rat's teeth never stop growing and to keep them from getting to long, a rat must chew to grind them off. The chewing can cause damage to wood, plastics and concrete used in the urban farming operation. Finally, rodents cause financial loss due to crop damage, and damage to facilities. Rodents can cause major problems due to destruction and contamination of food, and also by the spread of various diseases. On farms, the risk of rodent-borne spread of pathogens to production animals is obvious due to the difficulty of excluding rodents from animal houses. The spread of tularemia in Pondicherry can be expected in few more years. Rodent born infections are increasing in Pondicherry, particularly in The spring, summer and early fall when, according to the Centers for Disease Control and Prevention. That means it is necessary to incorporate knowledge among farmers about the various rodent borne infections like tularemia and to thus making them to know about all the essential safety and hygienic measures that they need to follow in order to prevent from such diseases.

STATEMENT OF THE PROBLEM :

A study to assess the attitude of farmers towards safe practices against tularemia at thirubuvanai, Puducherry.

OBJECTIVES :

- To assess the level of attitude of farmers towards safe practices against tularemia .
- To associate the level of attitude of farmers towards safe practices against tularemia with their selected demographic variables.

OPERATIONAL DEFINITION :

ASSESS

In this study it refers to the process used to assess the attitude of farmers towards safe practices against tularaemia at thirubhuvanai , puducherry .

ATTITUDE :

In this study it refers to assess the level of attitude of farmers towards safe practices against tularaemia.

FARMERS :

In this study it refers to farmers who are living in thirubhuvanai , puducherry .

SAFE PRACTICES :

In this study it refers to safety measures or precautions followed by the farmers at thirubhuvanai , puducherry

TULAREMIA :

In this study it refers to rabbit fever or deer fly fever which affects the farmers at thirubhuvanai, puducherry .

ASSUMPTION :

It assumes that,

- The farmers may not have sufficient knowledge regarding safe practices against tularaemia .
- The attitude scale helps to determine the attitude towards the safe practices against tularemia.
- The demographic variables helps to evaluate the level of attitude of farmers farmers towards safe practices against tularemia.

LIMITATION :

- The study was limited to Farmers working in agricultural fields .
- Farmers who are all willing to participate in this study at 1 week period of time duration of data collection .
- The sample size is limited to 50 sample .

CHAPTER 2

REVIEW OF LITERATURE

Review of literature is a summary of research on a topic of interest, often prepared to put a research problem in the context or as the basis for an implementation project . A literature review helps to play the foundation for the study, and can also inspire new research studies.

The review of literature is organized and presented under the following headings;

- Review of literature related to tularemia .
- Review of literature related to level of attitude towards safe practices against tularemia.

A.) Review of literature related to tularemia.

Derya Karataş Yeni, et al., (2021,Feb)was conducted a descriptive study on Tularemia: a re-emerging tick-borne infectious disease. The samples are taken from North America and the spread of tularemia was noticed.The study observations shown that the disease spreads through vectors such as mosquitoes, horseflies, deer flies, and ticks. After Statistical analysis regarding the spread of disease, the study concluded that tularemia has been reported mostly from North America, several Scandinavian countries, and certain Asian countries as a re-emerging tick-borne infectious disease .

C Rojas-Moreno ,et. al.,(2021) was conducted a study on Tetracyclines for Treatment of Tularemia. Time series reseach design is used. They selected totally a 48 cases of tularemia at the University of Missouri. The Tetracyclines were given to 24 samples of experimental group and remaining had received non-tetracycline antibiotics active against tularemia after completion of therapy. Retrospective analysis was done in those 17 patients who had underwent treatment with tetracyclines. In results of the study, therapeutic failure was not observed after treatment of tularemia with tetracyclines along with prompt attention to drainage of abscessed lymph nodes. Duration of therapy of 21 days appears to be effective, particularly if aspiration or incision and drainage procedures are needed.

Henrik Eliasson, et. al.,(2019)was conducted Case-Control Study of Risk Factors of tularemia in Endemic and Emergent Areas, Sweden. Cases were defined as tularemia in all persons ages >18 whose illness.Controls matched for age, sex, and place of residence were drawn from the computerized Swedish National Population Register, in which the name, date of birth, personal identifying number, and address of all citizens and residents are stored. Standardized questionaaire mailed to cases and controls. The results from a study were the use of a mailed questionnaire with matched controls from the Population Register had a high response rate even among controls.

Kemalettin Özden et al. Mikrobiyol Bul. (2018) was conducted a study on evaluation of epidemiologic and clinical features of oropharyngeal tularemia patients in the Eastern Anatolia Region of Turkey. The aim of this study was to determine the demographic, clinical and epidemiological characteristics of oropharyngeal tularemia patients. The demographic, clinical, epidemiological and laboratory findings of 26 tularemia patients admitted in hospital from Erzurum and 5 neighbour provinces were analyzed retrospectively.Francisella tularensis microagglutination test (MAT) was performed for all patients whose clinical symptoms were consistent with tularemia and MAT titers ≥ 1/160 were considered positive. The study concluded that tularemia should also be considered in patients who have complaints of sore throat and cervical LAP in non-endemic regions.

Ralph Anthony Stidham ,et. al.,(2018) was conducted a case study in the complications of tularemia. A necropsy was performed on the cat by the Fort Riley veterinarian, DNA extraction and PCR analyses were conducted by FADL microbiologists, histology and immunohistology analyses were conducted by the Kansas State Veterinary Diagnostic Laboratory. Tularemia was identified in the spleen of the cat by the Fort Riley veterinarian and during the histological sampling of the spleen by the Kansas State Veterinary Diagnostic Laboratory.This case study of a dual diagnosis of presumptive F. tularensis and possible rabies exposure transmission from a pet cat to its owner provides insight on how veterinarian staff and laboratory personnel can clinically manage esoteric, unexplained, or post-mortum examinations. This case study also demonstrates the obligation for cooperation between animal health, human health, and public health professionals in the management of zoonotic diseases.

Qingmei Jia,et. al.,(2018)conducted a study on Live Attenuated Tularemia Vaccines for Protection Against Respiratory Challenge With Virulent F. tularensis subsp. tularensis. The study compares the virulence and efficacy of these vaccine candidates with that of LVS and discuss factors that can significantly impact the development and evaluation of live attenuated tularemia vaccines.

Ehsan Mostafavi, et. al.,(2017) conducted a Field Study of Plague and Tularemia in Rodents, Western Iran. The study aimed at assessing the current status of these two foci by studying their rodent reservoir. Rodents were trapped and their ectoparasites were collected. The genus and species of both rodents and ectoparasites were determined. Serological analyses of rodent blood samples were done by enzyme-linked immunosorbent assay for plague and by standard tube agglutination assay for tularemia. Since Meriones persicus is a known reservoir for plague and tularemia, and this rodent carried plague and tularemia vectors in Marivan and Sanandaj districts, the study concluded by recommending educational programs to increase knowledge in order to decrease the potential risk.

B .) Review of literature related to level of attitude towards safe practices against tularemia.

Ram K Raghavan ,et. al.,(2020) was conducted a study on Environmental, climatic, and residential neighborhood determinants of tularemia using Geographic Information Systems (GIS) in a retrospective case-control study.The study included 46 cases identified as positive for tularemia based upon positive immunohistochemistry, isolation of F. tularensis using bacterial culture, and 4-fold or greater change in serum antibody titer for F. tularensis. Patients with a history of fever, malaise, icterus, and

anorexia but no lesions characteristic of tularemia and/or negative immunohistochemistry, no isolation of bacteria in bacterial culture, and less than 4-fold raise in serum antibody titer for F. tularensis were treated as controls. The results of concluded as Living in a residence located in newly urbanized/suburban areas, residences surrounded by areas dominated by grassland vegetation, and mean vapor pressure conditions recorded during the 8(th) week prior to case arrival at the hospital are significant risk factors for tularemia.

Kristal M. Maner-Smith, Johannes B. Goll,et .al.,(2020)was conducted a study on Alterations in the Human Plasma Lipidome in Response to Tularemia Vaccination. For this study, a subset of plasma samples from a tularemia vaccine clinical trial was used In the original trial, healthy subjects aged 18 to 45 years old were recruited and vaccinated with a single, undiluted dose of the Francisella tularensis live vaccine strain. vaccines were administered in the ulnar aspect of the volar surface (palm side) of the forearm midway between the wrist and the elbow.Targeted lipidomics experiments were conducted at two different mass spectrometry facilities using aliquots from the same subject and timepoint as a pilot of a larger consortia study.This analysis showed that vaccination results in significant changes in the lipidome and that peak changes are observed seven days post-vaccination.

Sandra Appelt ,et. al.,(2020) the study was conducted Tularemia is a zoonotic disease caused by Francisella tularensis a small, pleomorphic, facultative intracellular bacterium. In Europe, infections in animals and humans are caused mainly by Francisella tularensis subspecies holarctica. In the last 15 years, the yearly number of notified cases of tularemia has increased steadily in Germany, suggesting that the disease is re-emerging. By sequencing F. tularensis subsp. Holarctica genomes, knowledge has been added to recent findings, completing the picture of genotypic diversity and geographical segregation of Francisella clades in Germany. Here, we also shortly summarize the current knowledge about a new Francisella species (Francisella sp. Strain W12-1067) that has been recently identified in Germany.

Ayşegül Ulu Kılıç, et .al.,(2019) was conducted a study on A water-borne tularemia outbreak caused by Francisella tularensis subspecies holarctica in Central Anatolia region.Active surveillance was conducted to determine clinical characteristics and risk factors of cases after two patients from the same village had been diagnosed as oropharyngeal tularemia. All villagers were examined, and clinical specimens from cases and water samples which may be the source of outbreak in the field investigations were taken. Cases were in the form of oropharyngeal, glandular and pneumonic. Polymerase chain reaction (PCR) and cultures were conducted from lymph node aspirates, throat swabs taken from cases and samples from water sources of epidemic zone. Comparison of characteristics and risk factors for tularemia cases versus controls yielded age and contact with rodent excreta at home as potential risk factors (p= 0.001 and 0.002, respectively). The epidemic was controlled after cleaning the tank collecting spring water and chlorination of the water.

Ingmar Janse, Rozemarijn ,et. al. ,(2019)was conducted a study on Environmental Surveillance of Zoonotic Francisella tularensis in the Netherlands. Two different environmental surveillance approaches wer used to obtain 2 sets of surface water samples.The first set (set I) of 160 samples was collected at 51 locations by Rijkswaterstaat. The second set (set II) consisted of 179 surface water samples collected at 76 locations by 9 Dutch water boards Selection criteria were locations spanning diverse water types, including small water bodies, and locations where sampling was repeated in order to include temporal variation. The selection of sampling sites was unrelated to tularemia. F. tularensis appeared to be present at various locations throughout the Netherlands, including freshwater, brackish water and saltwater. Locations could be identified where occurrence was more prominent, as evidenced from higher levels of F. tularensis DNA detected and recurring detection when sampling was repeated.

Ales Chrdle ,et. al.(2019)was conducted this study on Tularemia caused by Francisella tularensis is a zoonotic infection of the Northern Hemisphere that mainly affects the skin, lymph nodes, bloodstream, and lungs. Other manifestations of tularemia are very rare, especially those with musculoskeletal involvement. Presenting in 2016, we diagnosed two cases of periprosthetic knee joint infections caused by Francisella tularensis in Europe. We found only two other PJI cases in the literature, another knee PJI diagnosed 1999 in Ontario, Canada, and one hip PJI in Illinois, USA, in 2017. Diagnosis was made in all cases by positive microbiological cultures after 3, 4, 7, and 12 days.

***Aurélie* Hennebique ,et.al.,(2019)** was conducted a study on the Netherland is a Gram-negative, intracellular bacterium causing the zoonosis tularemia. Humans are usually infected through direct contact with the animal reservoir and tick bites. However, tularemia cases also occur after contact with a contaminated hydro-telluric environment. Water-borne tularemia outbreaks and sporadic cases have occurred worldwide in the last decades, with specific clinical and epidemiological traits. These infections represent a major public health and military challenge. Human contaminations have occurred through consumption or use of F. tularensis-contaminated water, and various aquatic activities such as swimming, canyoning and fishings. The mechanisms of F. tularensis survival in water may include the formation of biofilms, interactions with free-living amoebae, and the transition to a 'viable but nonculturable' state, but the relative contribution of these possible mechanisms remains unknown. Many new aquatic species of Francisella have been characterized in recent years. F. tularensis likely shares with these species an ability of long-term survival in the aquatic environment, which has to be considered in terms of tularemia surveillance.

Ingmar Janse, et. al .,(2018) was conducted a study on the Netherland, no human tularemia cases were notified for over 60 years until in 2011 an endemic patient was diagnosed, followed by 17 cases in the 6 years since. The re-emergence of tularemia could be caused by changes in reservoirs or transmission routes. We performed environmental surveillance of F. tularensis in surface waters in the Netherlands by using two approaches. Firstly, 339 samples were obtained from routine monitoring -not related to tularemia- at 127 locations that were visited between 1 and 8 times in 2015 and 2016. Secondly, sampling efforts were performed after reported tularemia cases (n = 8) among hares or humans in the period 2013-2017. F. tularensis DNA was detected at 17% of randomly selected surface water locations from different parts of the country. At most of these positive locations, DNA was not detected at each time point and levels were very low, but at two locations contamination was clearly higher. From 7 out of the 8 investigated tularemia cases, F. tularensis DNA was detected in at least one surface water sample collected after the case. By using a protocol tailored for amplification of low amounts of environmental DNA, 10 gene targets were sequenced. Presence of F. tularensis subspecies holarctica was confirmed in 4 samples, and in 2 of these, clades B.12 and B.6 were identified.

Max Maurin, et .al .(2016, Jan) was conducted a study on human and animal infections are caused by F tularensis subspecies tularensis (type A) strains mainly in Canada and USA, and F tularensis subspecies holarctica (type B) strains throughout the northern hemisphere, including Europe .where the disease was first described. Tularaemia has markedly changed in the past decade, and a large number of studies have provided novel data for the disease characteristics in Europe. In this Review we aim to emphasise the specific and variable aspects of tularaemia in different European countries. In particular, two natural lifecycles of F tularensis have been described in this continent, although not fully characterised, which are associated with different modes of transmission, clinical features, and public health burdens of tularaemia.

Saban Gurcan, et .al.,(2007)was conducted the study was conducted Edward Francis.The incubation period is about 3-5 days, but may vary between 1 to 21 days, and symptoms vary based on the mode of infection. Infections by F. tularensis subsp. tularensis are generally presented as ulceroglandular form and cause more severe diseases leading 5-60% mortality in untreated patients. Streptomycin or gentamycin (for 10-14 days) are the first choise antibiotics for the treatment. The first published tularemia epidemic in Turkey had been reported in 1936 from Thrace region (Luleburgaz town), and the second was in 1945 again in the same location. The reliable data were obtained after 2005 because of the inclusion of this infection into Group C of notification system of communicable diseases by Turkish Ministry of Health. A total of 431 confirmed cases were reported from various provinces according to data of the year 2005.

CHAPTER - 3

RESEARCH METHODOLOGY:

Research methodology is the way to solve problem systematically. It is indicates the general pattern of organizing the procedure for gathering the valid and reliable data for the purpose of investigation. Instruments and tools for measuring variables, techniques for data collection and procedure for data collection .A descriptive research design was adopted for the study.

This chapter deals with methodology adapted to assess the attitude of farmers towards safe practices against tularaemia at selected area , puducherry .

This chapter deals with research approach to assess the attitude of farmers towards safe practices against tularaemia at selected area , puducherry .

RESEARCH APPROACH :

Research approach gives a way for solving the research problem .It is based on the objectives of the study . Quantitative approach is used in this study to assess the level of attitude of farmers towards safe practices against tularaemia .

RESEARCH DESIGN :

The research design refers to the researcher overall plan for answering the research question or testing the research hypothesis is preferred to as the research design.The essential question that research design is concerned with is how the study subjects will be brought into the research and how they will be employed within research design.

A descriptive research design was adopted for this study.

RESEARCH SETTING :

Research setting is the physical location and condition in which data collection takes place in a study . The study was conducted at thirubuvanai , puducherry.

POPULATION :

Population is number of people who meet the criteria that the research has established to the study.The population for the study is all farmers of age group of 40 -60 years and who aery all residing at thirubuvanai, Puducherry.

SAMPLE :

Sample is a selected proportion of the defined population. The study consists of all farmers working at agricultural fields of age group of 40-60 years residing at thirubuvanai, Puducherry.

SAMPLE SIZE:

Sample size refers to the number of sampling units included in this study.The sample consists of 50 farmers

SAMPLING TECHNIQUE :

Sampling is the process of selecting a group of people , events , or position of the population to represent the entire population . In this study convenient sampling technique were used for selecting the sample.

Convinent sampling technique were used in this study.

SAMPLING CRITERIA :

INCLUSION CRITERIA :

- All farmers age group of between 40 -60 years .
- Farmers who are willing to participate in the study .

EXCLUSION CRITERIA :

- All farmers who are with severe illness .
- All farmers who are not present at the time of data collection .

SETTING OF THE STUDY:

The setting is the location , where the study was conducted. The study was conducted at thirubuvanai, Puducherry.

STUDY VARIABLES:

The level of attitude towards safe practices against tularemia at thirubuvanai, Puducherry. The attitude scale are selected for the study it was considered to the most appropriate instrument to elicit the response among all farmers residing at thirubuvanai, Puducherry.

DEVELOPMENT AND DESCRIPTION OF THE DATA COLLECTION TOOLS:

Since the objective of the study to assess the attitude towards safe practices against tularemia at thirubuvanai, Puducherry with their selected demographic variables.It would have two sections namely,

SECTION – A : Demographic data

SECTION – B : Assessment of attitude

- **Section A:**

Demographic variables such as age, gender, education status,father occupation,mother occupation, father income,mother income, socioeconomic status, religion,birth order, classification, type of family, place of residence,

- **Section B:**

Likert scale questionnaires to assess the attitude of farmers towards safe practices against tularaemia at thirubuvanai, puducherry . It consists of totally 24 questions.

The percentage = obtain score / total score*100

SCORE INTERPRETATION:

Classification	Unfavourable	**Moderately favourable**	Favourable
Score	**0-6**	7-12	**13-20**

DATA COLLECTION PROCEDURE :

The data collection done with permission obtain from consent authorities, the investigator administer , the tools to 50 farmers residing at thirubuvanai and selected by using convinent sampling technique after introducing and explaining the purpose of the study .For a week of period of time duration selection of 50 samples by using convinent sampling method data collection was done by using Attitude assessment tool.

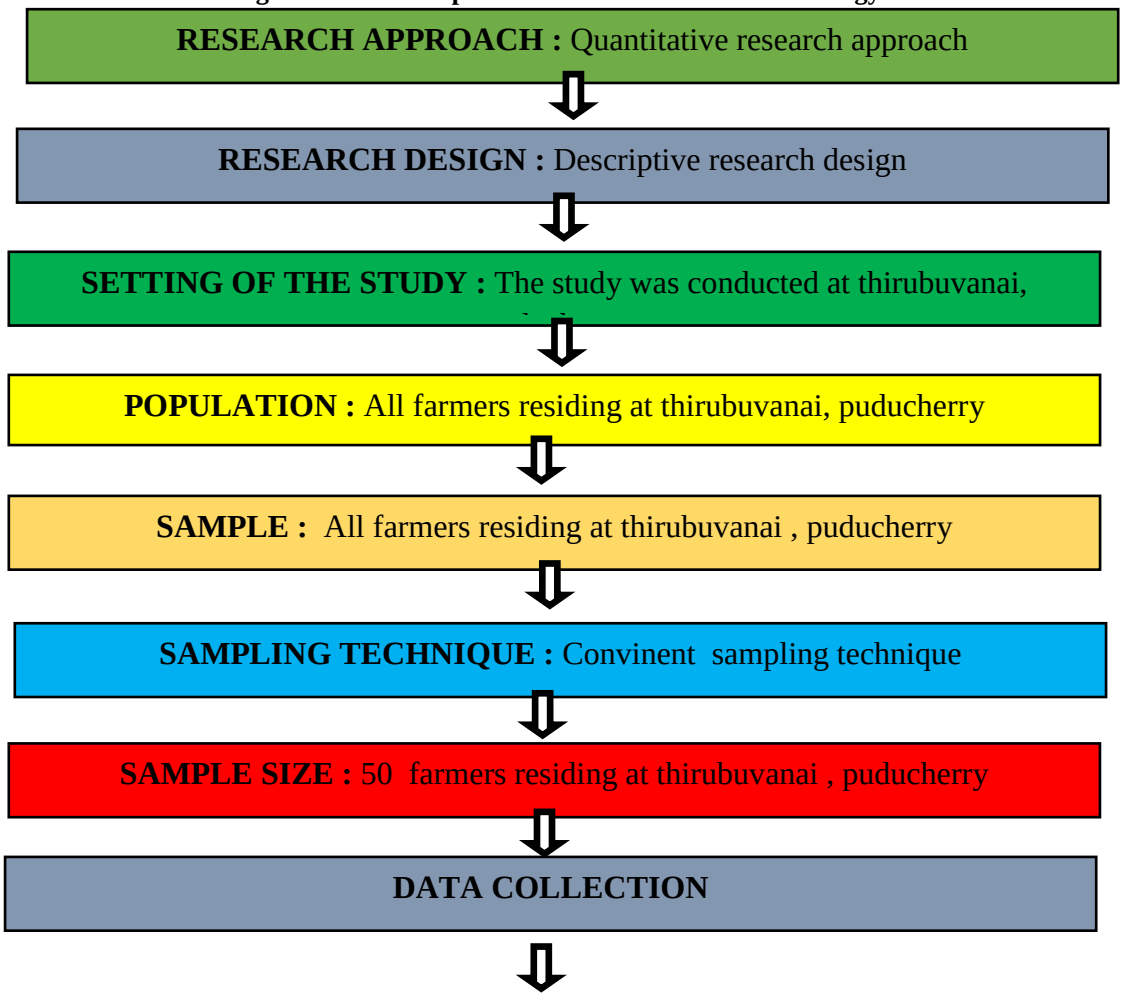
PLAN FOR DATA ANALYSIS :

The data obtained was analyzed in terms of the objective of the study using descriptive and inferential statistics. The plan for data analysis is as follows.

Descriptive statistics : Frequency, percentage distribution, mean and standard deviation.

Inferential statistics : chi square test in the form of tables and figures.

Fig 1: Schematic representation of research methodology



ANALYSIS AND INTERPETATION

⇩

STUDY FINDINGS

CHAPTER – IV
DATA ANALYSIS AND INTERPRETATION

The analysis is a process of organizing and synthesizing the data in such a way that the research questions can be answered and the hypotheses are tested**.** This chapter deals with the analysis and interpretation of the data collected from ***50 farmers to assess the level of*** **attitude of farmers towards safe practices against tularaemia at selected area, *Puducherry.*** The data was organized, tabulated and analyzed according to the objectives. Data analysis begins with description that applies to the study in which the data are numerical with some concepts. Descriptive statistics allows the researcher to organize the data and to examine the quantum of information and inferential statistics is used to determine the relationship.

ORGANISATION OF THE DATA

Data collected were organized under the following sections.

Section A: **Description of the demographic variables among farmers.**
Section B: **Assessment of the level of attitude of farmers towards safe practices against tularaemia.**
Section C: **Association between the level of attitude of farmers towards safe practices against tularaemia with selected demographic variables.**

Section A: Description of the demographic variables among farmers.

Table 1:- Frequency and percentage wise distribution of demographic variables among farmers. (N=50)

SL. NO	DEMOGRAPHIC VARIABLES	FREQUENCY (N)	PERCENTAGE (%)
1	**Age**		
	A) 20-40 years	2	4
	B) 40-50 years	21	42
	C) 50-60 years	24	48
	D) >60 years	3	6
2	**Sex**		
	A) Male	32	64
	B) Female	18	36
3	**Religion**		
	A) Hindu	29	58
	B) Muslim	12	24
	C) Christian	4	8
	D) Others	5	10
4	**Education**		
	A) Illiterate	19	38
	B) Primary schooling	12	24
	C) Secondary schooling	12	24
	D) Graduated	7	14

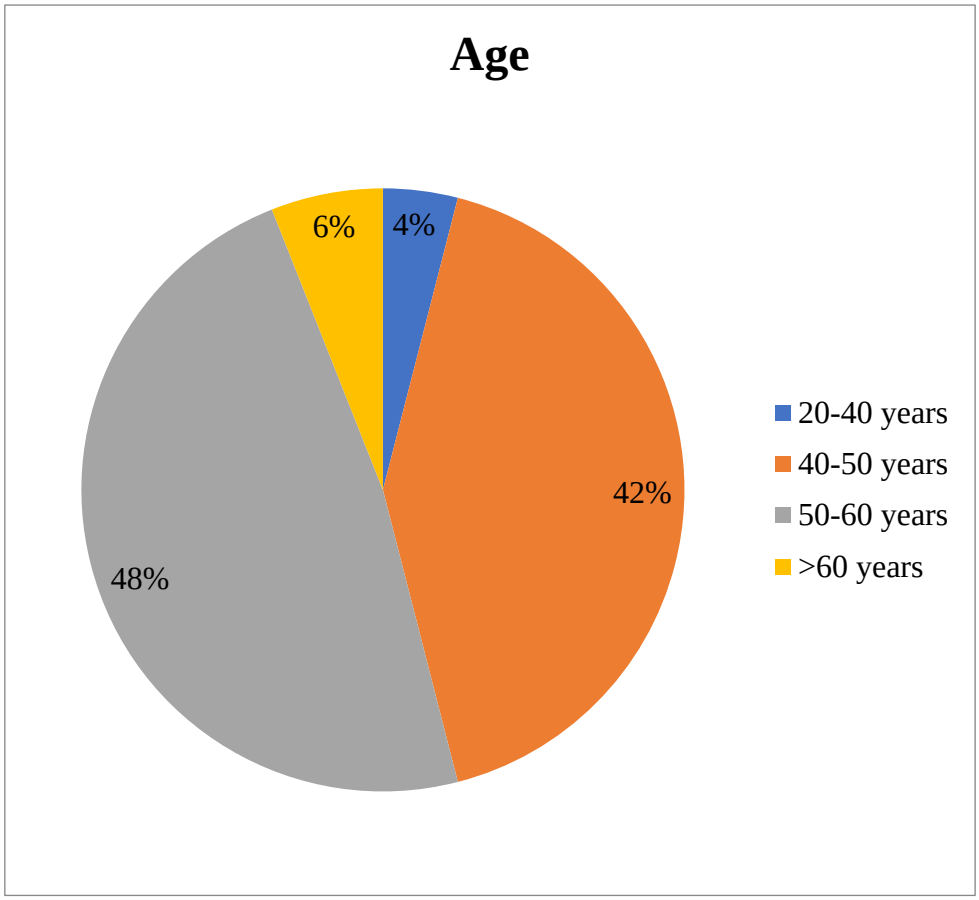
5	**Occupation**		
	A) Government job	4	8
	B) Private job	15	30
	C) Own business	22	44
	D) Unemployed	9	18
6	**Monthly Income**		
	A) Rs1000-5000	18	36
	B) Rs 5000-10,000	18	36
	C) Rs 10,000-15,000	8	16
	D) Rs >20,000	6	12
7	**Socioeconomic status**		
	A) Poor	13	26
	B) Middle Class	28	56
	C) Rich	9	18
8	**Marital status**		
	A) Unmarried	4	8
	B) Married	46	92
9	**Type of family**		
	A) Nuclear family	20	40
	B) Joint family	23	46
	C)Small family	1	2
	D) Joint family	6	12
10	**No. of children**		
	A) One	13	26
	B) Two	17	34
	C) More than two	11	22
	D) No children	9	18

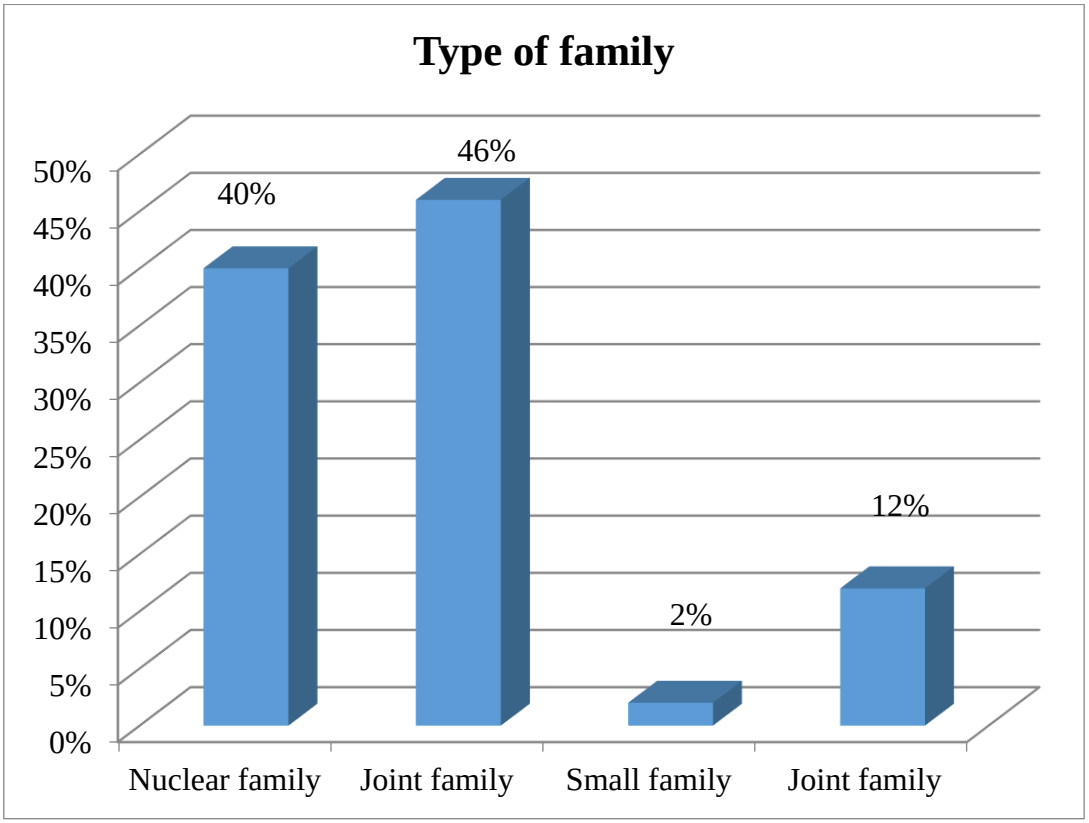
11	**Residential area**		
	A) Rural	28	56
	B) Urban	16	32
	C) Semi-urban	4	8

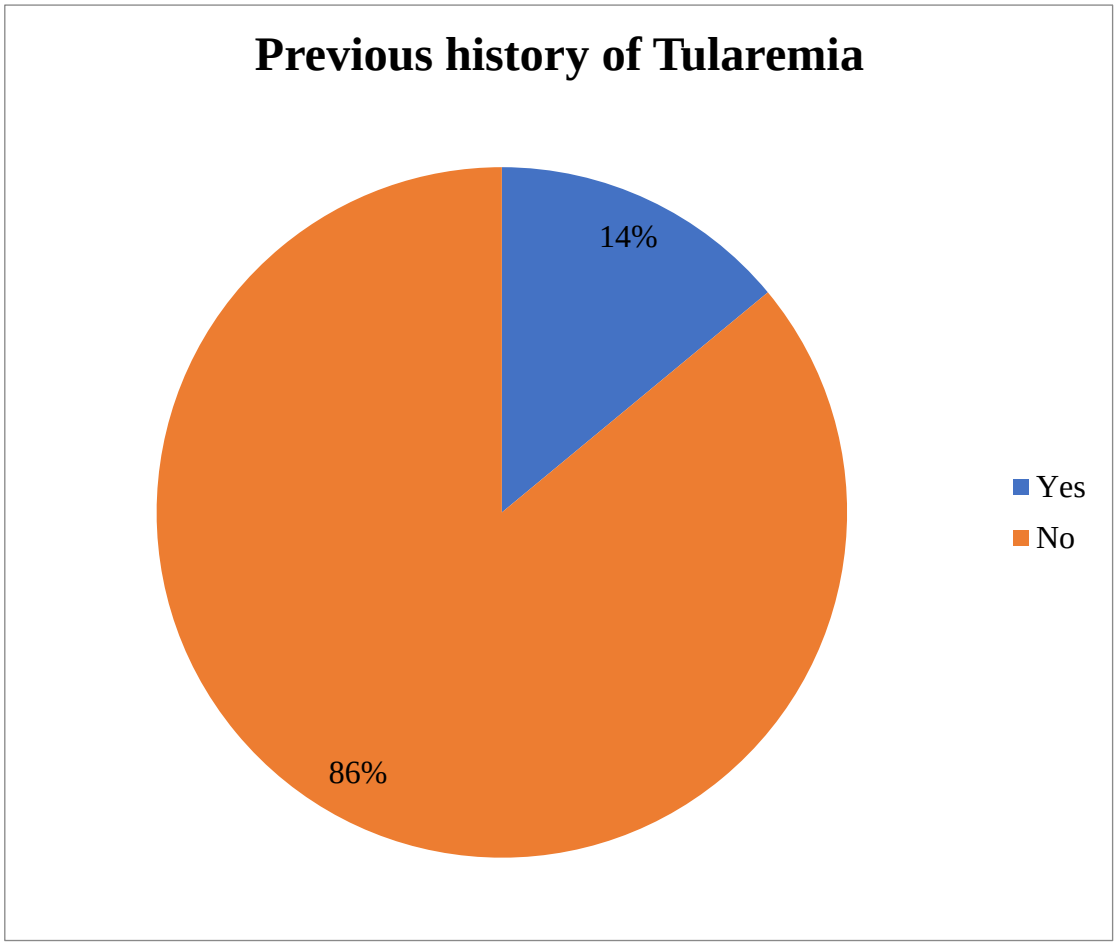
	D) Tribal	2	4
12	**Lifestyle diseases**		
	A) Yes	18	36
	B) No	32	64
13	**Diet**		
	A) Vegetarian	8	16
	B) Non Vegetarian	19	38
	C) Both	23	46
14	**Previous knowledge about Tularemia**		
	A) Yes	10	20
	B) No	40	80
15	**Previous history of Tularemia**		
	A) Yes	7	14
	B) No	43	86
16	**Years of working in the agricultural field**		
	A) 1-5 years	11	22
	B) 5-10 years	27	54
	C) 10-20 years	9	18
	D) >20 years	3	6
17	**Sources and information about Tularemia**		
	A) Newspaper	10	20
	B) Television	17	34
	C) Health Professional	17	34
	D) Family members	6	12

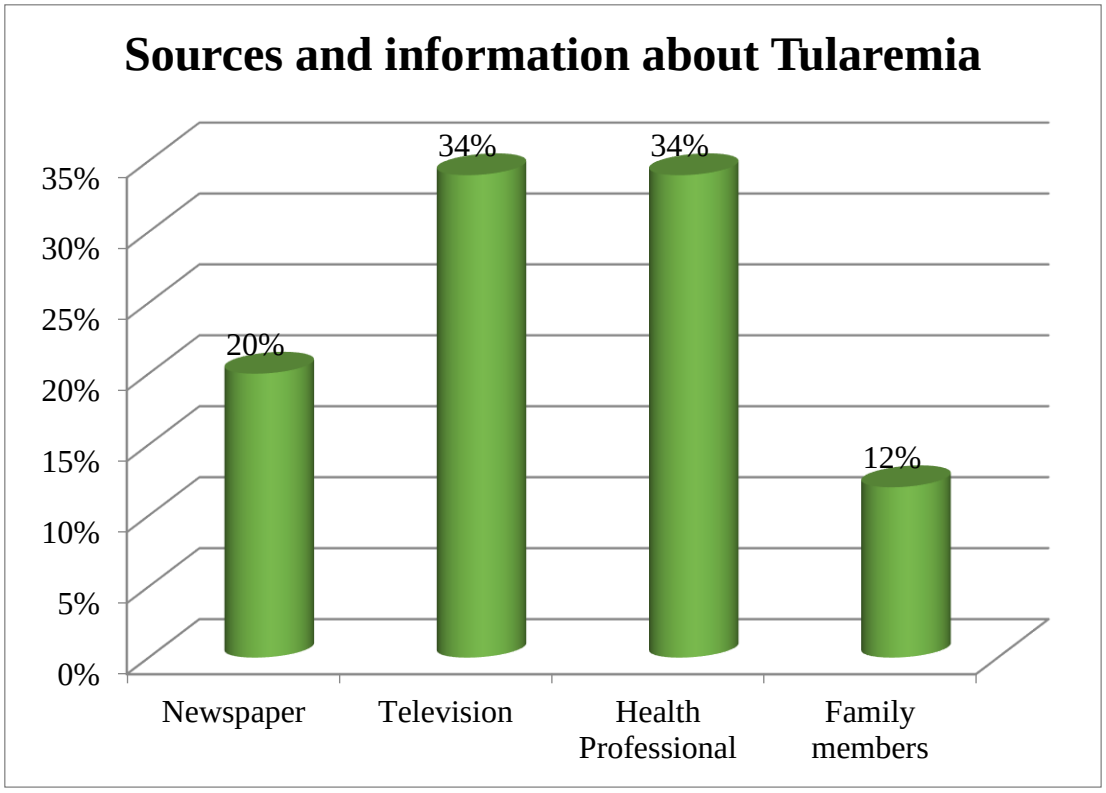
Table 1 shows frequency and Percentage wise distribution of demographic variables among farmers.
Out of the 50 farmers who were interviewed, Majority of the farmers 24(48%) of study population were in the age group are 50-60 years. Majority of the farmers were male 32(64%). Majority of the farmers were Hindu 29(58%). Majority of the farmers were Illiterate 19(38%). Majority of the farmers were Own business 22(44%). Majority of the farmers Monthly Income were 18(36%) Rs1000-5000 and Rs 5000-10,000. Majority of the farmers were Middle Class 28(56%). Majority of the farmers were married 46(92%). Majority of the farmers were Joint family 23(46%). Majority of the farmers were having 2 children 17(34%). Majority of the farmers were Rural 28(56%). Majority of the farmers had not Lifestyle diseases 32(64%).

Majority of the farmers were Both Vegetarian and non-Vegetarian 23(46%). Majority of the farmers had not previous knowledge about Tularemia 40(80%). Majority of the farmers had not previous history of Tularemia 43(86%). Majority of the farmers were 5-10 years of working in the agricultural field 27(54%). Majority of the farmers, Sources and information about Tularemia were Health Professional and Television 17(34%).


Age
6%
4%
42%
48%
20-40 years
40-50 years
50-60 years
>60 years


Type of family
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
40%
46%
2%
12%
Nuclear family
Joint family
Small family
Joint family


Previous history of Tularemia
14%
86%
Yes
No


Sources and information about Tularemia
35%
30%
25%
20%
15%
10%
5%
0%
20%
34%
34%
12%
Newspaper
Television
Health Professional
Family members

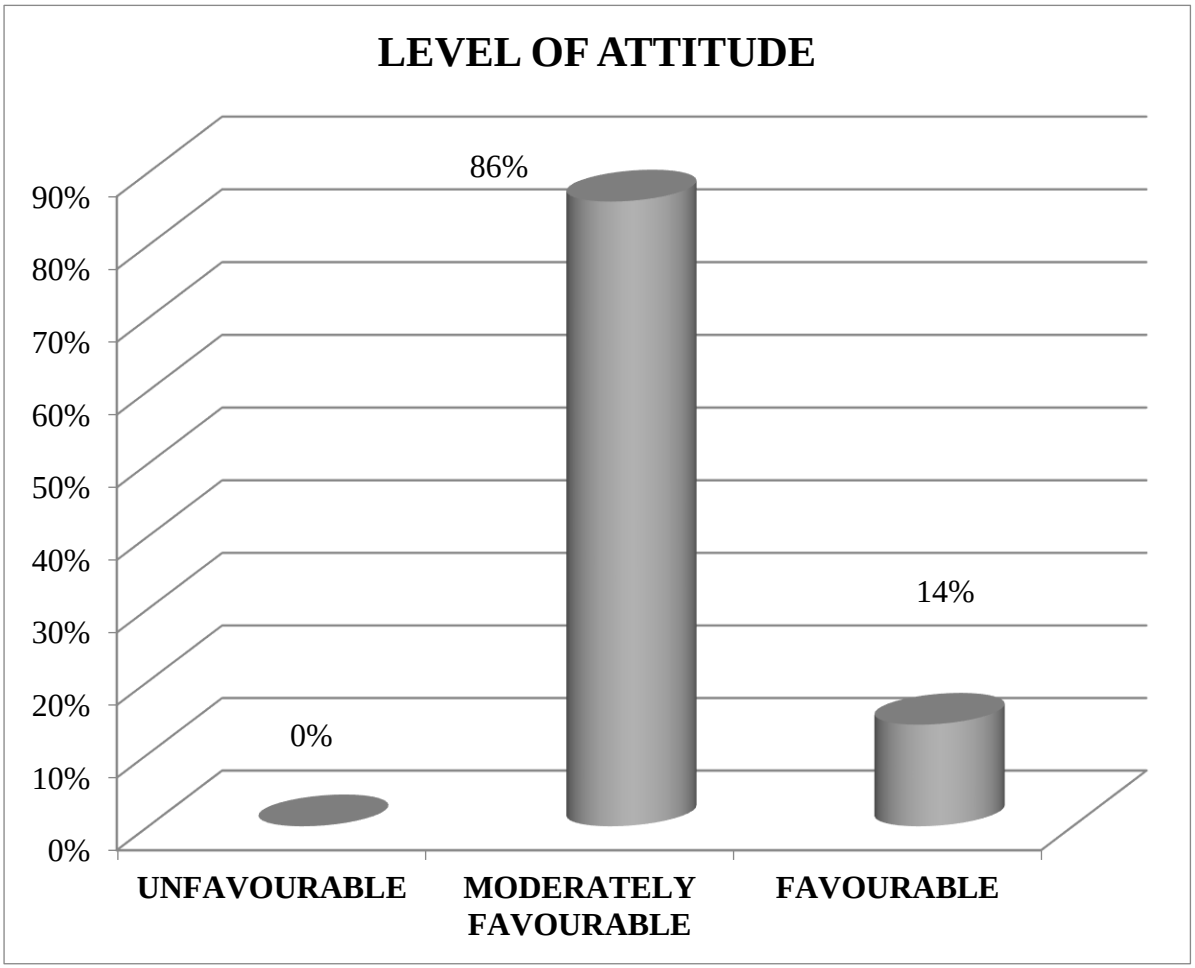
Section B: Assessment of the level of attitude of farmers towards safe practices against tularaemia.

Table 2:- Frequency and percentage wise distribution of level of attitude of farmers towards safe practices against tularaemia.

(N = 50)

LEVEL OF ATTITUDE	FREQUENCY (n)	PERCENTAGE (%)
UNFAVOURABLE	0	0
MODERATELY FAVOURABLE	43	86
FAVOURABLE	7	14
Total	50	100
Mean±Standard deviation	74.58±5.59	

Table –2 shows frequency and percentage wise distribution of level of attitude of farmers towards safe practices against tularaemia. Majority of the farmers 43(86%) had Moderately Favourable level of attitude, and 7(14%) had Favourable level of attitude. The mean and standard deviation of level of attitude of farmers towards safe practices against tularaemia is (74.58±5.59) respectively.



Section C: Association between the level of attitude of farmers towards safe practices against tularaemia with selected demographic variables.

Table –3: Association between the level of attitude of farmers towards safe practices against tularaemia with selected demographic variables.
(N=50)

SL. NO	DEMOGRAPHIC VARIABLES	LEVEL OF ATTITUDE				Chi-square X^2 and P-Value
		MODERATELY FAVOURABLE		FAVOURABLE		
		N	%	N	%	
1	**Age**					X^2=0.957 Df=3 p =0.812 NS
	A) 20-40 years	2	4.7	0	0	
	B) 40-50 years	18	41.9	3	42.9	
	C) 50-60 years	20	46.5	4	57.1	
	D) >60 years	3	7	0	0	
2	**Sex**					X^2=0.195 Df=1 p =0.659 NS
	A) Male	27	62.8	5	71.4	
	B) Female	16	37.2	2	28.6	
3	**Religion**					X^2=5.44 Df=3 p =0.142 NS
	A) Hindu	25	58.1	4	57.1	
	B) Muslim	11	25.6	1	14.3	
	C) Christian	2	4.7	2	28.6	
	D) Others	5	11.6	0	0	
4	**Education**					X^2=1.42 Df=3 p =0.700 NS
	A) Illiterate	15	34.9	4	57.1	
	B) Primary schooling	11	25.6	1	14.3	
	C) Secondary schooling	11	25.6	1	14.3	
	D) Graduated	6	14	1	14.3	
5	**Occupation**					X^2=4.83 Df=3 p =0.184 NS
	A) Government job	3	7	1	14.3	
	B) Private job	13	30.2	2	28.6	
	C) Own business	21	48.8	1	14.3	
	D) Unemployed	6	14	3	42.9	
6	**Monthly Income**					X^2=108 Df=3 p =0.780 NS
	A) Rs1000-5000	16	37.2	2	28.6	
	B) Rs 5000-10,000	16	37.2	2	28.6	
	C) Rs 10,000-15,000	6	14	2	28.6	
	D) Rs >20,000	5	11.6	1	14.2	
7	**Socioeconomic status**					X^2=2.35 Df=3 p =0.502 NS
	A) Poor	10	23.2	3	42.9	
	B) Middle Class	24	55.8	4	57.1	
	C) Rich	9	21	0	0	
8	**Marital status**					X^2=0.915 Df=3 p =0.822 NS
	A) Unmarried	4	9.3	0	0	
	B) Married	39	90.7	7	100	
9	**Type of family**					**X^2=12.34**
	A) Nuclear family	16	37.2	4	57.1	

	B) Joint family	23	53.5	0	0	**Df=3 p =0.006 *S**
	C)Small family	0	0	1	14.3	
	D) Joint family	4	9.3	2	28.6	
10	**No. of children**					
	A) One	11	25.6	2	28.6	X^2=0.313 Df=3 p =0.957 NS
	B) Two	15	34.9	2	28.6	
	C) More than two	9	20.9	2	28.6	
	D) No children	8	18.6	1	14.2	
11	**Residential area**					
	A) Rural	25	58.1	3	42.9	X^2=4.91 Df=3 p =0.178 NS
	B) Urban	14	32.6	2	28.6	
	C) Semi-urban	2	4.7	2	28.6	
	D) Tribal	2	4.7	0	0	
12	**Lifestyle diseases**					X^2=0.935 Df=3 p =0.817 NS
	A) Yes	15	34.9	3	42.9	
	B) No	28	75.1	4	57.1	
13	**Diet**					
	A) Vegetarian	7	16.3	1	14.3	X^2=0.231 Df=3 p =0.972 NS
	B) Non Vegetarian	16	37.2	3	42.9	
	C) Both	20	46.5	3	42.9	
14	**Previous knowledge about Tularemia**					X^2=4.52 Df=3 p =0.210 NS
	A) Yes	7	16.3	3	42.9	
	B) No	36	84.7	4	57.1	
15	**Previous history of Tularemia**					**X^2=6.93 Df=3 p =0.044 *S**
	A) Yes	5	11.6	2	28.6	
	B) No	38	88.4	5	71.4	
16	**Years of working in the agricultural field**					
	A) 1-5 years	9	20.9	2	28.6	X^2=2.57 Df=3 p =0.463 NS
	B) 5-10 years	22	51.2	5	71.4	
	C) 10-20 years	9	20.9	0	0	
	D) >20 years	3	7	0	0	
17	**Sources and information about Tularemia**					
	A) Newspaper	9	20.9	1	14.3	**X^2=8.46 Df=3 p =0.032 *S**
	B) Television	15	34.9	2	28.6	
	C) Health Professional	13	30.2	4	57.1	
	D) Family members	6	14	0	0	

-p < 0.05 significant, *-p < 0.001highly significant, NS-Non significant

The table 3 depicts that the demographic variable, ***type of family, previous history of Tularemia and Sources and information about Tularemia*** had shown statistically

CHAPTER – V

DISCUSSION

The study was conducted to evaluate the attitude of farmers towards safe practices against tularaemia at thirubhuvanai, Puducherry.This chapter deals with discussion. The present study was conducted to assess the level of attitude of farmers towards safe practices against tularaemia to achieve the objectives of the study. Descriptive design was adopted. Convenient sampling technique was used to select the samples. The data was collected from 50 farmers by 5 point likert scale method.

The aim of the present study was to assess the level of attitude of farmers towards safe practices against tularaemia at Thirubuvanai, Puducherry.The study had proved that counselling made farmers towards safe practicing against tularaemia at thirubhuvanai, Puducherry.

DESCRIPTION OF THE DEMOGRAPHIC VARIABLES AMONG FARMERS.

- Out of the 50 farmers who were interviewed,
- Majority of the farmers 24(48%) of study population were in the age group are 50-60 years.
- Majority of the farmers were male 32(64%).
- Majority of the farmers were Hindu 29(58%).
- Majority of the farmers were Illiterate 19(38%).
- Majority of the farmers were Own business 22(44%).
- Majority of the farmers Monthly Income were 18(36%) Rs1000-5000 and Rs 5000-10,000.
- Majority of the farmers were Middle Class 28(56%).
- Majority of the farmers were married 46(92%).
- Majority of the farmers were Joint family 23(46%).
- Majority of the farmers were having 2 children 17(34%).
- Majority of the farmers were Rural 28(56%).
- Majority of the farmers had not Lifestyle diseases 32(64%).
- Majority of the farmers were Both Vegetarian and non-Vegetarian 23(46%).
- Majority of the farmers had not previous knowledge about Tularemia 40(80%).
- Majority of the farmers had not previous history of Tularemia 43(86%).
- Majority of the farmers were 5-10 years of working in the agricultural field 27(54%).
- Majority of the farmers, Sources and information about Tularemia were Health Professional and Television 17(34%).

The first objective of study was to assess the level of attitude of farmers towards safe practices against tularaemia.

It reveals that majority of the farmers 43(86%) had Moderately Favourable level of attitude, and 7(14%) had Favourable level of attitude. The mean and standard deviation of level of attitude of farmers towards safe practices against tularaemia is (74.58+5.59) respectively.

The second objective of the study was to associate the level of attitude of farmers towards safe practices against tularaemia with selected demographic variables.

It reveals that the demographic variable, type of family, previous history of Tularemia and Sources and information about Tularemia had shown statistically significant association between the level of attitude of farmers towards safe practices against tularaemia with selected demographic variables.The other demographic variable had not shown statistically significant association between the level of attitude of farmers towards safe practices against tularaemia with selected demographic variables respectively. significant association between the level of attitude of farmers towards safe practices against tularaemia with selected demographic variables.

The other demographic variable had not shown statistically significant association between the level of attitude of farmers towards safe practices against tularaemia with selected demographic variables respectively.

CHAPTER –VI

SUMMARY AND CONCLUSION

SUMMARY:

The present study was conducted to assess the attitude of farmers towards safe practices against tularaemia at thirubhuvanai ,puducherry. A description research design was selected and quantitative research approach was adopted for this study. The samples were selected by using convenient sampling technique at Thirubuvanai,Puducherry. The data was collected for the period of 1 week after obtaining formal permission from the ethical committee of Sri Manakula Vinayagar Nursing College.

Majority of the farmers 43(86%) had Moderately Favourable level of attitude, and 7(14%) had Favourable level of attitude. The mean and standard deviation of level of attitude of farmers towards safe practices against tularaemia is (74.58+5.59) respectively.

Demographic variable, type of family, previous history of Tularemia and Sources and information about Tularemia had shown statistically significant association between the level of attitude of farmers towards safe practices against tularaemia with selected demographic variables.

The other demographic variable had not shown statistically significant association between the level of attitude of farmers towards safe practices against tularaemia with selected demographic variables respectively.

CONCLUSION:

Part I:

Demographic variables consisting of age, gender, place of residence, education, occupation, family type, type of marriage, number of children, and family income.

Part II:

Assessment of attitude of farmers towards safe practices against tularaemia with attitude assessment tool likert scale questionnaire. It consists of 24 questions 12 postive and 12 negative questions.

IMPLICATIONS OF NURSING RESEARCH:

The findings of the study were empirical in the areas of nursing practice, nursing education, nursing administration and nursing research.

NURSING PRACTICE:

Further studies can be conducted to promote awareness regarding Tularemia. Community mass health education programme can be conducted .

NURSING EDUCATION:

The community health nursing curriculum needs to be strengthened in order to make the nursing students to know about Tularemia.

Students should be provided with adequate opportunities for developing skills in handling such clients and how to identify the difficulties and help them to provide comfort and well being.

NURSING ADMINISTRATION:

Through the research findings , attitude of farmers towards safe practices against tularaemia is inadequate among farmers. The nurse administrator can educate in community area among farmers about the information regarding Tularemia.

NURSING RESEARCH:

The effectiveness of the research study is verified by its utility by the community nurses in the practical field. The findings of the study also help the professional nurses and students to develop enquiry by proverbs by provides a base. This study helps the nurse researchers to develop counseling techniques to teach the safe practices against tularaemia in agricultural fields.

RECOMMENDATIONS:

On the basis of the findings of the present study, following research have been made,

- The same study can be conducted in different settings.
- The study can done to all farmers using safe practices against tularaemia.
- The study can be implemented at the various states of India.
- The same study can be replicated with 100 samples for better generalization.
- The study can be conducted by structure teaching programme.

REFERENCES:

1. A.P.JAIN and co, A text book of introduction to nursing research, 1st edition (2005).ASHISH.K.Atext book of statistical in nursing, 3rd edition.
2. Abdellah,G.Faye, Eugene Levene, Better Patient Care Through Nursing Research London: The Mac Million Publishing Company.
3. American Holistic Nurses Association. Position on the role of Nurses in the Practice of Complementary and Alternative Therapies.
4. Basavanthappa BT – 2006- Community health nursing – First edition – Published by Jaybee brother's medical publishers.
5. Polit FD, Beck CT. Nursing Research: Generating and Assessing Evidence for Nursing Practice. 8th ed. Philadelphia: Lippincott, Williams and Wilkins Publications; 2004.
6. LipponCott (1998) Manual of Nursing Practices 8th edition, Ed.Lippincott, Williams & Wilkins, publications, US.
7. C.R.KOTHARI, text book of research, methodology, 1 st edition
8. Kothari CR ,Research methodology-methods and techniques.2nd edition New.
9. Burns Nancy, Grove k Susane The Practice of Nursing Research-Conduct, Critique and Utilization,2nded.Philadelphia (us);WB Saunders Company.
10. DR.E.Vijay(prof) 2007 – community medicine – Thired edition – published by BI publication pvt.ltd.
11. k.park – 2009 – Prevention and social medicine – 20 th edition- published by M/S Bhasidasbhanot.
12. Kasthurisundara rap – 2005 - Community health nursing – fourth edition - published by BI publication pvt.Ltd .
13. I.Clement – 2009 – Basic concept of Community health nursing – second edition- published by Jaybeebrothers medical publishers.
14. Irene Kamenidow A text book of statistical in nursing,1st edition.
15. Maricastankope – 2004 - Community and public health nursing – Sixth edition- Publisher by Elsevier –Suryakantha AH – 2014 – community medicine with recent advances – Third edition- Jaybee brothers medical publishers.

NET REFERENCES:

1. http://www.google.com
2. http://www.pubmed.com
3. http://www.srjorrnals.com
4. http://www.superbabyonline.com
5. http://www.ncbi.gov
6. http://www.dx.doi.org
7. http://www.ajner.com
8. http://www.medgagate.com

9. http://www.medline.com
10. http://www.healthline.com
11. http://www.clinicaltrial.com
12. http://www.medplus.com
13. http://www.universal.com
14. http://www.nationalimmunization.com
15. http://www.researchgate.com
16. http://www.frontierline.com
17. http://www.jhsph.edu
18. http://www.journals.com

JOURNAL REFERENCES:

1. Indian journal of community medicine
2. The American journal of nursing
3. Journal of BMC Public Health
4. Journal of Nursing Research Society of India
5. Journal of Nursing Research Gate
6. Journal of Science Director
7. Journal of Education and Health Promotion
8. Pakistan journal of nutrition 2009
9. Online Journal of Health and Allied Sciences
10. Nitte University Journal of Health Science
11. Global Journal of Pharmacy & Pharmaceutical Sciences
12. International Journal of Recent Scientific Research

ANNEXURE

A study to assess the attitude of farmer towards safe practices against Tularemia at Thirubuvanai,Puducherry

SECTION-A

DEMOGRAPHIC DATA

1) Age

A) 20-40 years
B) 40-50 years
C) 50-60 years
D) >60 years

2) Sex

A) Male
B) Female

3) Religion

A) Hindu
B) Muslim
C) Christian
D) Others

4) Education

A) Illiterate
B) Primary schooling
C) Secondary schooling
D) Graduated

5) Occupation

A) Government job
B) Private job
C) Own business
D) Unemployed

6) Monthly Income

A) Rs1000-5000
B) Rs 5000-10,000
C) Rs 10,000-15,000
D) Rs>20,000

7) Socioeconomic status

A) Poor
B) Middle Class
C) Rich

8) Marital status

A) Unmarried

B) Married
9) Type of family
A) Nuclear family
B) Joint family
C) Small family
D) Joint family
10) No. Of children
A) One
B) Two
C) More than two
D) No children
11) Residential area
A) Rural
B) Urban
C) Semi-urban
D) Tribal
12) Lifestyle diseases
A) Yes
B) No
13) Diet
A) Vegetarian
B)Non Vegetarian
C) Both
14) Previous knowledge about Tularemia
A) Yes
B) No
15) Previous history of Tularemia
A) Yes
B) No
16) Years of working in the agricultural field
A) 1-5 years
B) 5-10 years
C) 10-20 years
D) >20 years
17) Sources and information about Tularemia
A) Newspaper
B) Television
C) Health Professional
D) Family members

SECTION B
ATTITUDE ASSESSMENT TOOL:

S.NO	QUESTION	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE
1.	Handwashin g must be followed by every farmers after visiting agricultural fields .					

2.	Tularemia is also called as rabbit fever or deer fly fever .					
3.	Taking bath after visiting agricultural fields make farmers hygienic.					
4.	Do you think tularemia is more dangerous than corona?					
5.	Tularemia can be prevented by applying insect repellent containing 25 - 35 % diethyltolua mide to exposed skin.					
6.	Tularemia typically attacks the skin , eyes,lungs and lymph nodes .					
7.	Wearing gloves while working in agricultural fields is must .					
8.	Protecting our own pets from infected animals to avoid spreading of infections.					
9.	Treatment of choice for tularemia is cetirizine.					

10.	Tularemia mainly affects the rabbit, hares, rodents through those animals infection are spread .					
11.	Farmers usually don't wear masks while working in fields .					
12.	Tularemia mainly not seen in farmers .					
13.	Tularemia is spread through indirect transmission					
14.	Farmers do not give much importance to wash their hands before or after eating foods.					
15.	Fever and sepsis are not signs of tularemia .					
16.	Farmers used to keep contact with infected animals or dead animals					

17.	Farmers wash hands or bath in contaminate d water or stagnated things					
18.	Tularemia caused by shared things .					
19.	Farmers don't clean or treat the wound or scars properly .					
20.	Have you seen that farmers wearing protective things while working in agricultural fields ?					
21.	Do you think mosquito bites causes tularemia ?					
22.	Do you think that going to temple is treatment for tularemia ?					
23.	Prevention is better than cure .					
24.	Tularemia can be treated by streptomycin .					

PHOTOGRAPHS OF DATA COLLECTION