

**KNOWLEDGE, ATTITUDE AND PRACTICES
REGARDING DENGUE FEVER AND THE
ENTOMOLOGICAL INDICES IN A RURAL
COMMUNITY OF COIMBATORE, TAMIL NADU**

**DISSERTATION SUBMITTED TO
THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY,
CHENNAI
IN PARTIAL FULFILLMENT OF THE REGULATIONS FOR
THE AWARD OF THE DEGREE OF
M.D. DEGREE IN COMMUNITY MEDICINE**



**DEPARTMENT OF COMMUNITY MEDICINE
PSG INSTITUTE OF MEDICAL SCIENCES & RESEARCH
PEELAMEDU, COIMBATORE-641004
TAMILNADU, INDIA**

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DECLARATION

I, **Dr. S. Darshan Manoj**, do hereby declaration that the dissertation entitled “**KNOWLEDGE, ATTITUDE AND PRACTICES REGARDING DENGUE FEVER AND THE ENTOMOLOGICAL INDICES IN A RURAL COMMUNITY OF COIMBATORE, TAMIL NADU**” is a bonafide work done by me under the guidance of **Dr.S.L.Ravishankar**, Professor and Head of Department of Community Medicine, PSG Institute of Medical Sciences and Research. This study was performed in the catchment area of RHTC, PSG Institute of Medical Sciences & Research, Coimbatore, under the aegis of the Tamil Nadu Dr MGR Medical University, Chennai, as part of the requirement for the award of the MD degree in Community Medicine.

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This is to certify that the Dissertation work entitled “**KNOWLEDGE, ATTITUDE AND PRACTICES REGARDING DENGUE FEVER AND THE ENTOMOLOGICAL INDICES IN A RURAL COMMUNITY OF COIMBATORE, TAMIL NADU**” is the bonafide work of **Dr.S.Darshan Manoj** done by him in the Department of Community Medicine, PSG Institute of Medical Sciences and Research, Coimbatore in partial fulfillment of the regulations for the award of the degree of M.D. Degree in Community Medicine.

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ABBREVIATIONS

| | |
|---------|---|
| DF | Dengue Fever |
| DENV | Dengue Virus |
| DEN1 | Dengue virus type 1 |
| DEN2 | Dengue virus type 2 |
| DEN3 | Dengue virus type 3 |
| DEN4 | Dengue virus type 4 |
| WHO | World Health Organization |
| NVBDCP | National Vector Borne Disease Control Programme |
| IDSP | Integrated Disease Surveillance Project |
| HI | House Index |
| CI | Container Index |
| BI | Breteau Index |
| RHTC | Rural Health Training Centre |
| CDC | Centers for Disease Control and Prevention |
| NIV | National Institute of Virology |
| DSS | Dengue Shock Syndrome |
| KAP | Knowledge, Attitude and Practice |
| DHF | Dengue Hemorrhagic Fever |
| HBM | Health Belief Model |
| IHEC | Institutional Human Ethics Committee |
| SPSS | Statistical Package for Social Sciences |
| CI | Confidence Interval |
| aOR | Adjusted Odds Ratio |
| SES | Socioeconomic status |
| IEC/BCC | Information Education Communication/Behavior Change Communication |

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Knowledge, Attitude and Practices regarding Dengue Fever and the entomological indices in a rural community of Coimbatore, Tamil Nadu

CHAPTER 1

INTRODUCTION

Dengue Fever (DF) an outbreak prone viral disease is transmitted by *Aedes aegypti*, *Aedes albopictus* & *Aedes vittatus* mosquitoes^[1]. *Aedes aegypti* is the main vector species of DF in India in most of the urban areas on account of deficient water management, presence of non-degradable tyres and long lasting plastic containers as well as increasing urban agglomerations and in many instances the inability of the community to respond to the need to eliminate mosquito breeding sites. *Aedes aegypti* breeds almost entirely in manmade water receptacles found in and around households, construction sites and factories. Natural larval habitats are rare, but include tree holes, leaf axles and coconut shells. The population of *Aedes aegypti* fluctuates with the rain fall and humidity. During the rainy season, the survival is longer, the risk of virus transmission is greater. Like most arboviruses, dengue virus is found in the natural environment where the vector is a blood sucking one and that which involves vertebrate hosts.^[1]

Relatively recent occurrence of rural spread of *Aedes* is associated with increase in breeding sites. Dengue fever (also known as break bone

fever) may progress into Dengue Hemorrhagic Fever and Dengue Shock Syndrome^[2] and these conditions are fatal causing hemorrhages and leakage of plasma respectively^[2]. Four antigenically similar viruses DEN1, DEN2, DEN3 and DEN4 cause dengue fever and dengue haemorrhagic fever^[5]. Although many researchers are working on discovery of dengue vaccines, the best prevention strategy is to reduce the breeding sites.^[6] WHO also insists on the need that the best way to prevent dengue epidemic is by source reduction measures.

1.1 Global extent of the problem

According to the WHO report in 2012, there has been increase in the number of case over the last ten years with around 50 to 100 million cases occurring annually^[7]. More than 40 percent of the world's population, with more than hundred countries endemic to dengue, are at risk with increase in the number of fatal outbreaks of dengue^[8].

Although epidemics of Dengue Fever first occurred in 1779–1780 in continents like North America, Asia and Africa, the occurrence of outbreaks in these continents suggests that these viruses and the vector have had a very wide distribution in the tropical region for more than 200 years. After World War II, dengue pandemic began in Southeast Asia and later spread around the globe^[10]. Rising global trends in urbanization, poor housing conditions, improper water storage patterns, and population

expansion have created suitable environments that favour the transmission of Dengue Fever. The incidence and geographical distribution of dengue fever has increased dramatically in the last twenty years with fatal epidemics occurring yearly^[11,12]. Dengue virus infection causes significant morbidity and mortality worldwide. Initially it was believed that dengue would affect only the paediatric age groups but later on it was found it affected all age groups. In South east Asia, dengue epidemic first occurred in the 1950s but later on by 1970s it became the frequent cause of hospitalization and death among the paediatric age group^[10].

1.2 Extent of the problem in India

Almost all states in India are endemic to dengue fever, which was first virologically proved during an epidemic of dengue fever which occurred in India in 1963 where more than 10 lakh people were affected in Kolkata^[2]. Delhi had its largest outbreak of Dengue Haemorrhagic Fever/Dengue Shock Syndrome in 1996. The outbreak started in the last week of August and continued until the end of November, peaking in mid-October^[13,14]. A total of 8,900 cases were reported, with a death rate of 4.2%^[14]. Punjab is another major region which showed serious dengue outbreaks every year. Majority of the dengue cases have been reported from the urban areas of the state. In 2012, there were 770 cases and 9

deaths due to dengue fever as reported by department of health and family welfare, Punjab, Chandigarh. In 2017 dengue virus had attacked South India. When compared to 2016, dengue fever has increased ten fold in 2016 in some states in India, with the number of dengue cases in Tamil Nadu as on November was 20,945 and the Union territory of Puducherry accounting for 4,507 cases. Other southern states such as Kerala and Karnataka were also badly affected by this vast spread of this mosquito-borne tropical disease. Kerala and Karnataka also showed a very steep rise in the number of cases in 2017 with each of the states contributing 19,638 and 16,209 respectively. This is more than 260% higher as compared to 2016.

Rapid and unplanned urbanization and low socioeconomic areas and slums not only contribute to the spread of disease but also make it difficult to curb the vector population effectively in urban areas ^[15].

1.3 Extent of the problem in Tamil Nadu

Tamil Nadu is the seventh largest state in India. Though there sporadic cases of dengue occurring over the last two centuries, the first confirmed case of dengue in Tamil Nadu virologically was at Vellore in 1956^[6]. Though dengue had been diagnosed clinically in Vellore for many years, scientific interest in the activities of its etiologic agent was aroused only in 1956 when type 2 viruses was isolated fortuitously, and

for first time in Vellore, at the start of a pilot study orientated towards detection of infection with Japanese Encephalitis virus^[16,17]. In Tamil Nadu, for diagnosis of the disease, the Government of India has identified 30 Sentinel Surveillance Hospitals including Medical College Hospitals, Zonal Entomological Teams, Institute of Vector Control and Zoonoses, Hosur, and District Headquarters Hospitals-Cuddalore and Ramanathapuram and 1 Apex laboratory (King Institute of Preventive Medicine and Research, Guindy) for diagnosis of Dengue and Chikungunya. The Public Health department in coordination with the local bodies and other departments regularly undertake anti larval measures by source reduction of vector breeding places like artificial containers such as broken utensils, discarded tyres, plastic waste cups and broken bottles for the control of Aedes mosquitoes which spread dengue fever.

The State which had reported 13204 cases in 2012 was able to reduce it to 6,122 cases in 2013. According to the National Vector Borne Disease Control Programme (NVBDCP) data in 2018, the number of dengue cases in Tamil Nadu was 4,486 cases with 13 deaths and in 2019 till September there were 2,542 cases with only 1 death being reported.

1.4 Extent of the problem in Coimbatore

Coimbatore, a district in Tamil Nadu, covers a population of around 34 lakhs. In the year 1998, there were as many as twenty patients hospitalised for dengue fever among which many belonged to the paediatric age group. The disease was present both in the urban as well as the rural areas. Over the period of years there has been a steady increase in the number of cases in Coimbatore district.

According to the Integrated Disease Surveillance Project (IDSP) data, there were 350 confirmed cases of dengue in Coimbatore in 2018.

1.5 Risk Factors associated with Dengue

Various epidemiological studies have shown the risk factors associated with dengue which includes gender, age, religion, education, socioeconomic status, occupation, knowledge regarding dengue fever, attitude towards dengue and practices that are undertaken for the prevention of dengue.

Major factors that are responsible for dengue fever or a more severe form of disease include

- I. Travelling or living in dengue endemic areas
- II. Previous infection with a different strain of dengue fever virus

- III. Due to rapid urbanisation and population explosion there will be an increase in the interaction between mosquito and humans.
- IV. Air travel increase the risk of acquiring the infectious diseases among various population
- V. Improper removal of breeding sites like water holding containers can lead to disease transmission
- VI. The most common risk factor associated with the emergence of Dengue Haemorrhagic Fever is hyperendemicity.

1.6 Knowledge, Attitude & Practices regarding Dengue Fever among the community

Among the Aedes species, Aedes aegypti and Aedes albopictus are responsible for transmitting the Dengue virus infection. Initially the infection was confined to the urban and peri urban areas only, but now the trend has changed with rural areas also contributing to the cases worldwide which makes dengue fever the rapidly spreading disease among the arboviral diseases around the world. Though the advancements in mass media and educational approaches are taking place, community participation is very poor and also that depends on the public's knowledge and attitude towards the disease

1.7 Vector Survey

The main purpose of vector surveys for surveillance is to obtain information that can be used to control the *Aedes* vector which transmits the dengue virus to humans.

Surveillance activities are to:

- Determine the key containers in the domestic environments so that larval source reduction by community participation may be carried out through health education.
- Pinpoint high-risk areas, especially those with high vector density, by plotting vector distribution and numbers of DHF cases on maps. These areas serve as priority areas for control during normal conditions especially during epidemics.
- Determine seasonal population fluctuations for special emphasis on control and alertness during peak vector periods.
- Monitor the impact of vector control interventions including community participation and insecticidal space spraying on vector population.
- Recognize significant changes in vector density, distribution, insecticide susceptibility and vectorial capacity to plan control strategy

Larval surveys are important in the containment of transmission of dengue virus. The common indices used are House index, Container index and Breteau index which can be represented as HI, CI and BI respectively

CHAPTER 2

NEED FOR THE STUDY

Dengue is a clinically important anthropod borne viral disease with increasing global incidence. Dengue is considered as a serious public health problem, with about 2.5 billion people at risk globally^[21]. World Health Organization (WHO) classifies dengue as an important disease in public health. In the past decade, the significance of dengue as a threat to the health and its burden on health services and economies has increased substantially. Compared with the situation 50 years ago, the worldwide incidence of dengue has risen 30-fold^[22]. More countries are reporting their first outbreaks^[22]. More outbreaks are explosive in ways that severely disrupt societies and drain their economies. The geographical distribution is around the equator. Of the 2.5 billion people living in areas where it is common 70% are from Asia and the Pacific. An infection with dengue is second only to malaria as a diagnosed cause of fever among travellers returning from the developing world.^[23]

In Asian and American countries where dengue is endemic, the burden of dengue is approximately 1300 disability-adjusted life years per million population; this burden is highly similar to the disease burden of related childhood and tropical diseases, including tuberculosis.

Dengue fever, which was once confined to Southeast Asia, has now spread to Southern China, countries in the Pacific Ocean and America, and might pose a threat to Europe.^[24]

Infections are most commonly acquired in the urban environment.^[16] In recent decades, the expansion of villages have increased the mobility of people and have increased the number of epidemics and circulating viruses.

Prevalence studies are essential requirement as baseline information to formulate control strategies. Estimates of prevalence of risk factors are valuable because they allow us to control dengue status among high risk regions, and also help to monitor how effective the current strategies are functioning to control dengue. Various Health Organizations strongly recommend community educational campaigns that aims at reducing the breeding areas of vectors thereby achieving dengue prevention^[25,26]. This recommendation is supported by various researches showing that community education can be more effective in reducing dengue vector breeding sites than chemicals alone^[27].

In TamilNadu in the year 2017, 20,945 cases of dengue were reported out of which 52 cases died. To prevent and control the spread of dengue fever, various approaches have been attempted and most of them have produced useful results, with vector control method proving to be

the best one until specific treatment for dengue is developed. The knowledge, attitude and practices of communities regarding Dengue fever has an impact on Dengue prevention and control. Lack of knowledge regarding mode of transmission, symptoms, warning signs along with inadequate health education and utilization of health services are some of the most important factors which act as barriers for successful control and prevention of dengue in India. It is essential to know what people have understood about Dengue fever, how they feel about dengue fever and their practices towards Dengue fever to enable policy makers to improve diagnosis and treatment. Dengue surveillance includes three major components which are monitoring of environmental and social risks , vector surveillance and disease surveillance. Among these components, entomological surveillance is used to determine changes in the geographical distribution and density of the vector, evaluate control programs and facilitate appropriate and timely decisions regarding interventions ^[3]

Coimbatore being an endemic region to dengue fever, larval investigation will be useful to detect Aedes larval breeding and study the level of infestation of high risk areas.

There is paucity of studies regarding Knowledge, Attitude and Practices of the people regarding dengue fever and also the entomological indices in Tamil Nadu. So this study will help to determine the

Knowledge, Attitude and Practices on dengue fever prevention in a rural community in Coimbatore and also help to find out the entomological indices in the area. The information that could be gained in this investigation would help to plan, design and initiate programs related to dengue prevention.

CHAPTER 3

OBJECTIVES

1. To assess the Knowledge, Attitude & Practices regarding dengue fever among the adults in field Practice Area of Rural Health Training Centre (RHTC) ,Vedapatti, Coimbatore, Tamil Nadu.
2. To determine the entomological indices in the field Practice Area of RHTC, Vedapatti, Coimbatore, Tamil Nadu.
3. To find the association between the socio demographic factors of the study population and the overall knowledge and practices regarding dengue and its prevention in the study area.

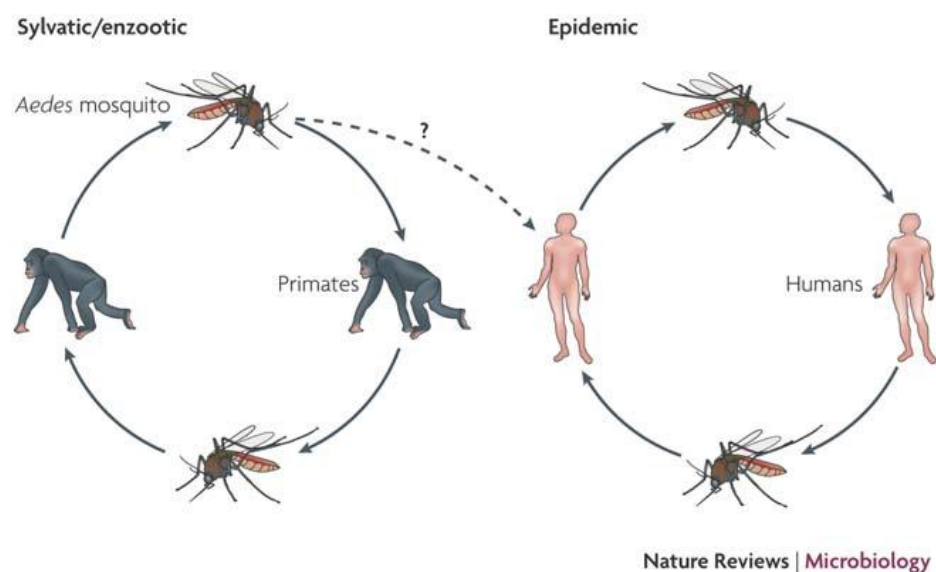
CHAPTER 4

REVIEW OF LITERATURE

4.1 Dengue Fever

Dengue is a rapidly emerging pandemic disease in many parts of the world, which is a major health problem in the tropics with possibilities of extension to other geographic areas^[29]. Dengue fever is a viral infection spread by *Aedes aegypti* or *Aedes albopictus* mosquitoes that may first be suspected if someone was bitten and suddenly spikes a very high fever. It is sometimes referred to as break bone fever because of the severe muscle, bone, and joint pain it can cause. Dengue mostly affects people living in tropical and subtropical parts of the world and is usually spread in urban areas.

Figure 1: Life cycle of Aedes mosquito



The disease originated in monkeys and was passed to humans in Africa or Southeast Asia between 100 and 800 years ago, according to the Centers for Disease Control and Prevention (CDC). In 265–420 AD during the reign of the Jin Dynasty the first probable case of dengue was reported which was referred to a "water poison" associated with flying insects^[18]

In the 15th to the 19th centuries the vector spread out of Africa due to industrialisation and slave trade to other countries^[19]. Dengue was first reported in the country of Philippines in 1953 and later on emerged as a disease which causes increased child mortality.^[30]

Presently, dengue is endemic in 100 countries in Asia, the Pacific, the Americas and Africa. Dengue is rare in the continental United States, but there have been a few outbreaks, including one in Key West, Florida in 2009. The U.S.-Mexico border is also a focus of public health officials looking to prevent dengue infections. Americans who contract dengue, however, typically contract the disease while traveling to countries where it is common. The World Health Organization (WHO) notes that the incidence of dengue worldwide has grown tremendously in the past few decades.

4.2 Definition of Dengue

According to IDSP manual, dengue is defined as an acute febrile illness of 2-7 day duration with two or more of the following symptoms: head ache, myalgia, rash, haemorrhagic manifestations, retro-orbital pain, arthralgia, and leucopenia.

4.3 Causes and risk factors of dengue

All four types of Dengue Virus (DENV) were isolated from sylvatic strains of South East Asia with all four of them (DEN 1, DEN 2, DEN 3, DEN 4) causing dengue fever^[32]. Dengue is spread by a type of infected mosquito called the *Aedes aegypti* mosquito. The mosquito bites during daytime hours, particularly around the hours of dawn and dusk. The mosquitoes that carry the dengue virus are infected females of the species *Aedes aegypti* or *Aedes albopictus*, which can also harbour the Zika virus.

Rapid urbanisation and increase in travel leads to increase in number of cases. The transmission from mosquito to human works like this: A mosquito bites and feeds on a person (the ankle region and neck are common targets). After incubating in the mosquito's body for four to 10 days, the virus can be passed along to a healthy person who the mosquito bites. A mosquito that's carrying the dengue virus can continue to infect other people for as long as it lives.

The risk of developing dengue hemorrhagic fever, actually increases if a person is infected for a second, third or fourth time.

An estimated 400 million dengue infections occur worldwide annually, with about 96 million resulting in dengue illness. Most cases occur in tropical areas of the world, with the greatest risk occurring in the Indian subcontinent, Southeast Asia , Taiwan, Pacific Islands, Africa, Caribbean (except Cuba and the Cayman Islands), Central and South America (except Chile, Paraguay, and Argentina), Mexico and Northern parts of Australia.

4.4 Symptoms of Dengue

According to the CDC, as many as half of people who became infected with one of the four serotypes of dengue virus won't become infected with dengue again^[33]. In many cases, symptoms will be mild.

Symptoms generally last for about 10 days and can include:

- sudden, high fever (up to 106 degrees Fahrenheit)
- severe headache
- Severe pain behind the eyes
- swollen lymph glands
- severe joint and muscle pains
- mild to severe nausea

- mild to severe vomiting
- mild bleeding from the nose or gums
- mild bruising on the skin
- febrile convulsions
- Skin rashes
- Mild bleeding of the nose and gums

These symptoms usually begin four to seven days after a person becomes infected with the virus and can last for up to two weeks before resolving.

4.5 Complications of Dengue

Most people recover within seven days and in some the symptoms worsen and can become life threatening. Dengue fever can result in the following complications:

- dengue haemorrhagic fever
- dengue shock syndrome

These two conditions are rare in occasional travellers to endemic areas, being more common in people who live in an area affected by Dengue and have been repeatedly exposed to the virus. About 1 in 20 people who get sick with dengue will develop severe dengue. Severe dengue is a more serious form of disease that can result in shock, internal

bleeding, and even death. Infants and pregnant women are at increased risk for developing severe dengue.

The alarming signs of dengue fever are often noted after the fever subsides.

Some of those include:

- Heavy bleeding from nose or mouth
- Bleeding under the skin or bruising like red spots on skin
- Persistent vomiting and severe abdominal pain
- Black stools with blood
- Difficulty in breathing and other respiratory problems
- Pale and cold skin
- Excessive fatigue, drowsiness, and irritability

This is the most critical stage of dengue infection and may last for 1 or 2 days.

The children who are below the age of 10 years get affected with regard to the functioning of circulatory system during the dengue fever. The mortality rate lies in between 6 to 30% and it is found that most of the death occurred in the patients of dengue who were children. Infants who are less than the age of one year are prone to death due to dengue fever.

4.6 Prevention of Dengue

In 2019, the FDA approved a vaccine called Dengvaxia^[26] (CYD-TDV), which was registered in late 2015 and early 2016 in several countries. It is only given to people between 9 years and 45 years of age who live in endemic areas. The vaccine is given over the course of 1 year in three doses. There is currently no vaccine to prevent the people from getting the disease. As the vaccinated younger children(2 years after vaccination) are at risk of getting the dengue fever, the vaccine is advisable only to older children . The World Health Organization stresses that in areas where the dengue is common the vaccine cannot be used.

4.7 Diagnosis and Treatment

In endemic areas, the diagnosis of dengue is based on the clinical symptoms and physical examination .A case of probable dengue fever can be diagnosed if the patient has fever and any of the two following symptoms like vomiting, nausea, rash, generalised body pain, low platelet count and a positive tourniquet test.

If laboratory tests are not available, then a tourniquet test is used to find out dengue fever. Microbiologically dengue can be detected for dengue virus-specific antibodies, types IgG and IgM, which can be useful

in confirming a diagnosis. In a person with symptoms suggestive of dengue, the detection of IgM is considered to be diagnostic.

4.8 National Programme to control dengue

4.8.1 National Vector Borne Disease Control Program (NVBDCP)

NVBDCP is an umbrella programme for prevention and control of vector borne diseases. It reviews the dengue situation in India in different states and at different time intervals and maintains the data systematically. Periodic reviews and field visits are made by the concerned health officials to review the dengue situation and record the data. Government of India reviews these data and provides technical assistance, funding, and commodities to the endemic states and Union Territories accordingly. The programme has 347 sentinel centres in 35 states and 14 apex referral laboratories, which are supplied with DENV- and CHIKV-specific IgM detection kits produced by the National Institute of Virology (NIV). The data on the web site of NVBDCP and earlier publications by NIV show that dengue has been endemic in 16 states since the beginning: Madhya Pradesh, Andhra Pradesh, Karnataka, Goa, Gujarat, Haryana, Kerala, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, Maharashtra, West Bengal, Puducherry, Chandigarh and Delhi. During 2010– 2012, dengue encroached into the remaining states. The

overall mortality rate of 1.2% in 2007 dropped to 0.25% in 2013. This reduction is probably the result of the cumulative effects of better patient management, increased diagnostic capabilities and better reporting. Compared with the rest of South-East Asia, the number of dengue shock syndrome (DSS) cases in India remains low.

4.8.2 Dengue Net

WHO started an internet based central data management system to improve dengue surveillance program. Initially, it was implemented in the USA; however, the efforts for using Dengue Net in India have been started since 2003. Major attention of this project is on strengthening laboratory networking, training, disease and vector surveillance, quality assurance, and information sharing and reporting.

4.9 Dengue in India

The history of dengue outbreaks in India has been recently reviewed. There have been a few longitudinal studies based on single/multiple hospital data. A study on samples received at the All India Institute of Medical Sciences, New Delhi, during 2003–2005 reported 44.56% positivity in 1820 samples. The maximum number of cases belonged to the 21–30 years age group and the peak was in October. Co-circulation of all four serotypes was observed in 2003 and emergence of

DENV-3 as the dominant serotype in 2005. Another study from a tertiary care hospital in Delhi covering 7 years (2002–2008), reported 30.15% positivity in 7846 samples and circulation of all four serotypes in 2003 followed by DENV-3 in 2004–2006, DENV2 in 2007 and DENV-1 in 2008. A longitudinal study which was conducted for a period of 6 years (2005–2010) in Pune city involving 24 private and government clinics/hospitals, in which 5106 samples were tested showed a positivity of 48.45%. The 21–30 years age group was most affected by dengue throughout the 6 years. The cumulative number of cases observed per month during the 6-year period showed that the largest numbers were observed in the month of October with a positivity of 57.9%. All four serotypes were found to be circulating in Pune. Each year was characterized by the predominance of one of three serotypes. DENV-1 was dominant in 2005 and 2007, DENV-2 was dominant in 2008 and DENV-3 was dominant in 2009. In 2010 both DENV-2 and DENV-3 were co-dominant. DENV-4 was poorly represented with just one case each in 2009 and 2010; both cases were dengue haemorrhagic fever (DHF). Based on the symptoms presented, the cases were classified into DF, DHF or DSS according to World Health Organization (WHO) 2007 criteria. During the 5-year period, 90.5% (n=2239) of the patients were classified as DF and 9.5% (n=235) cases were categorized as DHF. Year-wise analysis revealed that the proportion of DHF cases was about 20%

in 2005, 2006 and 2008; the proportion dropped to 6.8% in 2007, 2009 and 2010. This fall probably reflected improved diagnosis and better reporting of non-hospitalized dengue cases. DHF was seen with low severity despite the circulation of multiple serotypes.

4.10 Dengue Infection in Tamil Nadu

In Tamil Nadu, the outbreaks of dengue were noticed in Vellore, North Arcot district in 1961 by Carey et al^[34]. Kader et al.^[35] in 1997 and Victor et al^[36]; in 2002 proved that there were dengue fever cases in certain villages of Tamil Nadu. Singh et al^[24] (2000) showed the presence of dengue in Coimbatore and Erode districts of Tamil Nadu. Kabilan et al^[37] proved the outbreak of dengue fever in Chennai caused by dengue strains 2 and 3.

Narayanan et al^[39]., (2002) conducted a study among the children during the dengue outbreak in Chennai which showed that those children with complications had more fever, body pain and bleeding than those without complications with the mean age of the study population being 6.07 years (with shock) and 6.96 years (without shock).

Kabilan et al.^[37], (2003), conducted a study among the infants aged 1 to 11 months with the mean age being 7 months and they found out that

fever, hepatomegaly and rash were present in 100 %, 93.1 % and 55.2 % of the infants respectively.

4.11 Knowledge, Attitude & Practices of the people regarding dengue fever

Jeelani et al^[16] conducted a cross sectional study in Puducherry with an objective to find out the knowledge, attitudes and practices of adult population regarding Dengue Fever after the outbreak which occurred in 2012. Using a pre-tested questionnaire, the knowledge and practice component was tested and Logistic regression analysis was done to look for any significant association between income, education and knowledge of dengue fever. The results showed that 86% of the participants had heard of dengue. As many as 68% thought that garbage and drains were responsible for breeding sites of dengue fever and only 25% know that clean water was a breeding area of Aedes mosquito. There was also insufficient knowledge regarding disease symptoms with fever (59%) being the most common symptom

Vinoth Gnana Chellaiyan et al^[40]. made a cross sectional study on awareness towards dengue infection and its prevention in Kadambadi village of Kanchipuram district, Tamil Nadu. The study was conducted among 224 study participants from June - August 2016. Systematic random sampling was followed for selecting the houses. Structured questionnaire was used for the

study participants in their study among which 210 (93.7%) heard about dengue infection. Fifty percent of participants responded correctly regarding the symptoms of dengue infection. Majority replied that dengue is caused by Aedes mosquito. The breeding places and biting habitat was known only to 40% of the study participants . Study participants use various methods like mosquito coils (63.4%), mosquito nets (14.7%) for mosquito bite prevention. 24.1% did not follow any method of mosquito bite prevention.

Ashok Kumar, et al.,^[41] (2001) conducted a study on community knowledge and behaviour following a dengue outbreak in Chennai. A Knowledge, Attitude and Practice survey was carried out to assess the community knowledge, attitude and practice on dengue fever (DF) with 737 cases (90%) while the total number of cases reported during the outbreak being 861 . 640 households were surveyed using multistage cluster sampling method. Among the surveyed households, only 34.5 % of the households were aware of dengue with only 3.3 % knowing that it was transmitted by a virus. 86.5 % of the households practiced water storage with only 3% storing water for more than five days. Nearly 65% of the households did not practice any measures to prevent mosquito breeding in water holding containers. Most of them did not know about the biting behaviour of the mosquitoes. Half of the study participants (49.7%) had low knowledge regarding fever.

Abedi et al^[42] conducted a cross sectional study in Aligarh, India, in peri urban area from October to November 2010 to assess knowledge, attitude and preventive practices on dengue. Randomly 120 adults were recruited and a standardised oral questionnaire was used to collect information on demographic and dengue related KAP after taking informed consent. Knowledge and practices were graded good, fair and poor using Bloom's cut-off point and attitude was classified as positive, neutral and negative using Likert's scale. Reliability of questionnaire was analysed by using Cronbach's Coefficient. 42% respondents had low knowledge, 44.2% had positive attitude and 10.2% respondents followed good practices. Significant positive correlation was found between knowledge and practice ($p < 0.05$). But no significant association was found between attitude and knowledge or practice.

4.12 Entomological indices of dengue fever

Among the above three indices, the house index(HI) has been widely used to calculate the presence and distribution of Aedes population in a given locality. However the HI does not take into consideration the number of positive containers per house. Likewise, the container index provides information on the proportion of water holding containers that are positive. On the other hand, the BI establishes a relationship between positive containers and the number of houses. Hence

the BI is considered the most useful single index for estimating Aedes density in a location. The BI and HI are commonly used for the determination of priority risk areas for control measures. Generally, a HI greater than 5% and/or BI greater than 20 for any locality is an indication that the locality is dengue-sensitive. For epidemiological purposes, the HI is extremely important and indicates potential spread of virus through an area once an infected area becomes established.

The sampling size in larval surveys for the number of houses to be inspected depends on the precision. Although the more houses inspected, the greater the precision, is usually impractical to inspect a large percentage of houses because of limited human resources.

The priorities for conducting the surveys can be allocated as follows:

Priority 1: Localities where an outbreak of DF/DHF has been recorded in the past

Priority 2: Localities in urban areas with high HI and/or BI eg; HI greater than or equal to 5% and breteau index greater than or equal to 20%

Priority 3: Localities in urban areas with relatively low larval indices

eg; HI less than or equal to 5% and Breteau index less than or equal to 20%

Priority 4: Rural areas where there are no dengue cases and low Aedes indices.

With respect to human bare leg (landing) catch of Aedes adult females, areas with vector density greater than two per human hour are considered high risk, whereas those less than 0.2 are the low risk. However, outbreaks can occur at even lower vector densities in congested areas where isolated pockets of heavy breeding occur.

Vijayakumar et al.^[43] conducted a study on container breeding mosquitoes with special reference to Aedes (*Stegomyia*) *aegypti* and *Aedes albopictus* in Thiruvananthapuram district. A cross-sectional larval survey was done in the domestic and peri-domestic areas of 1750 houses, using the WHO standard techniques. The larval indices were calculated, and the larvae were identified by using taxonomic keys. Urban and rural differences and the variations during pre-monsoon and monsoon seasons were also studied. In the surveyed houses, 15% had mosquito breeding, with 88% having Aedes larvae. The house index, container index and the Breteau index were 13.08, 13.28 and 16.57%, respectively. About 86% of the clusters were found positive for *Aedes albopictus* and 11% for *Ae. aegypti*.

MohdAyoubBhat et al., (2014)^[44] conducted a study on Entomological surveillance of dengue vectors, in different districts of Tamil Nadu to detect the dengue prevalence and transmission by analysing the major breeding sources and abundance of *Aedes* mosquitoes. The larval indices analysed included in their study were HI, CI, BI, and PI varied from 2.50 – 18.26, 0.83 – 9.03, 5.00– 31.71 and 0.00 – 46.15 respectively. The Pupae Per Container and Pupae Per Positive Container varied from 0.00 – 0.33 and 0.00 – 5.50 respectively. The Container Positivity varied from 25.93 (Earthen Pots) –0.46 (Plastic Buckets). The Adult Premise Index showed variation from 1.82– 18.26. Whereas females per house inspected varied from 0.07-0.33 and Females Per Positive House (for *Aedes* mosquitoes) showed variation from 1.00 – 13.00. The *Aedes aegypti* followed by *Aedes vittatus* and *Aedes albopictus* were abundantly reported.

G. Rajendran et al^[45]., made a study on the epidemiological and entomological investigation of dengue fever in Sullurpet, Andhra Pradesh. This study was about an outbreak of fever with viremic syndrome which occurred in Sullurpet, Andhra Pradesh during September 2000 and lasted up to the fourth week of November 2000. Out of 262 fever cases reported, 60 (22.9%) conformed to the clinical definition of dengue. In their study entomological investigations carried out during the outbreak in residential colonies showed that the house index , container index and breteau index

were 9.45%, 23.61% and 13.39% respectively. *Aedes aegypti* was the predominant vector species (52%), followed by *Aedes albopictus* (47%).

J Nandia et al.^[46], conducted a study on epidemiological importance of container pupal index (CPI) for control of dengue and vector surveillance in Delhi. A total of 7,667 cases of dengue fever was reported during 2012-2013. During the months of January till April there was a steady increase in the number of cases. The incidence of Dengue fever increased from 0.2% in May-June to 5.3% during July-August with a total of 404 cases during the monsoon months. Dengue fever reached its peak with 6093 cases in post monsoon months. In the beginning of winter the incidence came down to 15% in the months of November. The CI was 0.3% during the months of March with 0.05% of the cases. When the dengue infection was high during September-October period with 79.4% the CI was 3.9.

Natarajan Arunachalam et al.^[47], conducted study on community-based control of *Aedes aegypti* by adoption of eco-health methods in Chennai city. They have studied ten intervention clusters with a total of 1000 houses and 4639 inhabitants received the intervention while the ten control clusters with a total of 1000 houses and 4439 inhabitants received only the routine government services and some of the information education and communication project materials. There were also significant reductions in the *Stegomyia* indices: the house index was reduced to 4.2%, the container

index to 1.05%, and the Breteau index to 4.3 from the baseline values of 19.6, 8.91, and 30.8 in the intervention arm.

4.13 Conceptual Framework: The Health Belief Model:

The Health Belief Model (HBM)^[48] was developed in the early 1950s by social scientists at the U.S. Public Health Service in order to understand the failure of people to adopt disease prevention strategies or screening tests for the early detection of disease. Later uses of HBM were for patients' responses to symptoms and compliance with medical treatments. The HBM suggests that a person's belief in a personal threat of an illness or disease together with a person's belief in the effectiveness of the recommended health behavior or action will predict the likelihood the person will adopt the behavior.

The HBM derives from psychological and behavioral theory. The four constructs of HBM are as follows.

1. **Perceived susceptibility** - This refers to a person's subjective perception of the risk of acquiring an illness or disease. There is wide variation in a person's feelings of personal vulnerability to an illness or disease.
2. **Perceived severity** - This refers to a person's feelings on the seriousness of contracting an illness or disease (or leaving the

illness or disease untreated). There is wide variation in a person's feelings of severity, and often a person considers the medical consequences (e.g., death, disability) and social consequences (e.g., family life, social relationships) when evaluating the severity.

3. **Perceived benefits** - This refers to a person's perception of the effectiveness of various actions available to reduce the threat of illness or disease (or to cure illness or disease). The course of action a person takes in preventing (or curing) illness or disease relies on consideration and evaluation of both perceived susceptibility and perceived benefit, such that the person would accept the recommended health action if it was perceived as beneficial.
4. **Perceived barriers** - This refers to a person's feelings on the obstacles to performing a recommended health action. There is wide variation in a person's feelings of barriers, or impediments, which lead to a cost/benefit analysis. The person weighs the effectiveness of the actions against the perceptions that it may be expensive, dangerous (e.g., side effects), unpleasant (e.g., painful), time-consuming, or inconvenient.

CHAPTER 5

METHODOLOGY

5.1 Study Population:

The study was conducted in the field practice area of the Rural Health Training Centre (RHTC), Vedapatti, under Department of Community Medicine, PSG Institute of Medical Sciences & Research, Coimbatore. RHTC caters to a population of 25,886 distributed in 14 villages. The number of families/households in each of the villages was obtained from the data collected by household survey conducted by the RHTC field workers

5.2 Sampling Method:

The sample population for the study was obtained by cluster sampling method. Each of the 14 villages in the field practice area of Vedapatti was considered as a cluster. From these 14 clusters, 3 clusters (villages) were chosen randomly. The three clusters chosen were Nambialaganpalayam, Ulliyampalayam and Vanniyampalayam. All households in Nambialaganpalayam, Ulliyampalayam and Vanniyampalayam villages were to be included in the study.

5.2.1 Inclusion Criteria

- Adults greater than 18 years in the selected 3 villages in the field practice area of RHTC, Vedapatti, Coimbatore, Tamil Nadu.

- If more than one member of the household is present in the household, the head of the family was included as the study participant.
- Resident of the village for greater than 6 months

5.2.2 Exclusion Criteria

- Adults not willing to participate in the study

5.3 Study Design

A cross sectional study design was used.

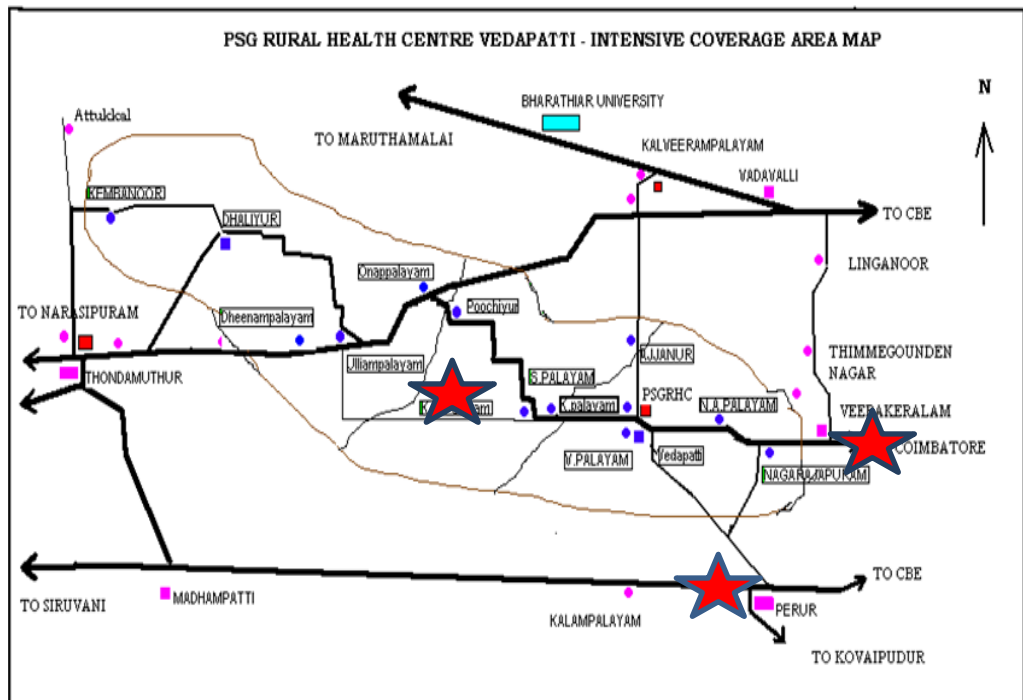
5.4 Study Period

Community based study was carried out from December 2018 to February 2019.

5.5 Study Area

Selected three villages (Nambialaganpalayam, Ulliyampalayam and Vanniyampalayam) located in the field practice area of PSG Rural Health Training Centre, Vedapatti.

Figure 2: Map of the rural field practice area – Vedapatti



★ - Shows the three villages which were included in the or study

5.6 SAMPLE SIZE DETERMINATION

With an estimated 42% inadequate knowledge from Abedi et al. study and 5% allowable error, sample size was calculated using the formula,

$$n = \frac{(1.96^2)pq}{d^2}$$

$$= \frac{3.84 \times 42 \times 58}{5 \times 5}$$

$$n = 374$$

where,

n = Number of samples required

p = Prevalence

q = 100 – p

d = allowable error (5 % - absolute precision)

With expectation of non-response rate of 10 % the total sample required is

$$= 374 \times 100 / 90$$

$$= 415$$

Keeping an effect size of 1.5,

$$415 \times 1.5 = 622.$$

Thus, the total sample size required is 622.

5.7 Data collection Tools

Questionnaire:

The questionnaire was designed (having both closed and open ended questions) to elicit the following details from the head of the households

5.7.1 Demographic Factors:

Name, Age, Gender, Education, Occupation, Religion

5.7.2 Socio-Economic Factors:

Types of Family, Total number of family members, Total monthly family income.

5.7.3 Knowledge regarding dengue:

Knowledge on modes of transmission of dengue, symptoms of dengue and measures for prevention of dengue.

5.7.4 Attitude towards dengue:

Necessity for doctor consultation for dengue fever, risk of getting dengue, prevention and control of dengue in community and personal protective measures.

5.7.5 Practices against dengue:

Disposal of unused containers, elimination of mosquito breeding sites and visits by public health department staff

5.7.6 Larval Surveys

The Entomological indices that are measured includes⁶

1. House Index or Aedes index:

Percentage of houses found positive for Aedes Larvae. This is calculated as:

House Index= No of houses positive for Aedes larvae/ Total number of houses inspected*100

2. Container Index:

Percentage of water holding containers found positive for Aedes Larvae.

This is calculated as:

Container Index= No of containers positive for Aedes larvae/ Total number of containers inspected*100

3. Breteau Index:

Number of positive containers per 100 houses in a specific location

Breteau index= No of containers positive for Aedes larvae/ Total number of Houses inspected*100.

5.8 Steps in data collection

The study was started after getting approval from the Institutional Human Ethics Committee (IHEC).

5.8.1 Pilot study

Pilot study was carried out in one of the villages in the field practice area of the Rural Health Training Centre of the Community Medicine department other than the selected three villages to identify problems in eliciting the data and to make necessary modifications in the questionnaire. A village named Dhaliyur was selected purposively for pilot study. Pilot study was conducted among 31 households in this

village in our field practice area after explaining the purpose of the study & getting their informed consent. A questionnaire was used to collect the required information about knowledge, attitude and practices regarding dengue fever. Entomological indices were assessed by checking for the larval breeding sites

5.8.2 Data collection for study

This Cross Sectional study on Knowledge, Attitude and Practices on dengue fever and entomological indices was carried out in the field practice area of PSG RHTC, Vedapatti. The knowledge, attitude and practices was assessed among the community through a semi structured and content validated questionnaire.

For finding out the entomological indices like House Index (HI), Container Index (CI) and Breteau Index (BI), the investigator initially underwent field training along with the Zonal Entomologist team from Coimbatore. The investigator accompanied the team for four days and learnt about how to collect the larvae and check for breeding sites in various places. The investigator also went to the Institute of Vector Control and Zoonoses at Hosur and underwent training on larval identification and entomological indices.

The sample size was estimated to be 622. The Field practice area of RHTC Vedapatti consisted of 14 villages. Each of the 14 villages in the

field practice area of Vedapatti were considered as a cluster. From these 14 clusters, three villages were chosen randomly by lottery method. The three clusters chosen were Nambialaganpalayam, Ulliyampalayam and Vanniyampalayam. The total number of households in the 3 villages was 700. All the households in Nambialaganpalayam, Ulliyampalayam and Vanniyampalayam were selected for the study. Individual houses were visited and informed consent for the participation in the study was obtained. Questionnaire was filled by the investigator after eliciting the response to the questions from the head of the household. If the head of the household was not present, the eldest person present at the time of interview was interviewed. Out of the 700 households in all the three villages, 623 households were included in the study in the three villages. In Nambialaganpalayam 215 households were studied out of 242 households. Similarly in Ulliyampalayam 258 households were studied out of 300 households and in Vanniyampalayam 150 households were studied out of 158 households. The number of households not included were 77, the reasons being houses were locked at the time of visit during three visits or the people were residents in the village for less than 6 months. The number of houses found locked were 55 (8 houses in Vanniyampalayam, 18 houses in Nambialaganpalayam, 29 houses in Ulliyampalayam). The number of households whose members were

residing in that village for less than 6 months was 22 (9 houses in Nambialaganpalayam and 13 houses in Ulliyampalayam).

5.9 Operational definitions

5.9.1 Dependent variables

5.9.1.1 Knowledge

There were nine questions regarding knowledge. The first question was whether they had heard about dengue and the next question was regarding the sources of knowledge regarding dengue. The next seven questions in the questionnaire were used to assess the knowledge regarding various aspects of dengue fever. They were regarding the modes of dengue transmission, breeding sites of mosquito causing dengue, the time of the day the dengue mosquitoes bite, symptoms of dengue fever, fatality of dengue, the vulnerable age groups who can be severely affected by dengue fever and the means that can be adopted to prevent dengue fever transmission. Each correct answer for these 7 questions carries 1 mark, with total score of 7. If there are more than one correct response for a question, the weightage for the correct responses is divided in such a way that the maximum score for that particular question is 1. Those with a score of less than 3.5 were grouped as those having inadequate knowledge and more than or equal to 3.5 were considered to have adequate knowledge. For statistical analysis regarding association of

socio-demographic factors with knowledge, Knowledge was expressed as binomial variables as the proportion of those with adequate knowledge and proportion of those with inadequate knowledge.

5.9.1.2 Attitude

There were eight questions regarding attitude in the questionnaire. . Response to each question is classified as 3 categories in accordance with the Likert's Scale (agree, disagree and not sure) and carries one mark each. These eight questions were regarding doctor consultation, the risk of getting dengue fever is high if any person in the surrounding area gets dengue fever, removal of breeding sites is necessary for dengue prevention, seeking immediate treatment for dengue fever, importance of role of every individual in dengue fever control, joining any activity for mosquito control when requested by the local health authority, willingness to spend some amount of money for and use personal protective measures against mosquitoes and accepting the application of abate in water holding containers.

5.9.1.3 Practice

There were eight questions about practices regarding prevention of dengue fever. One question cleaning of overhead tanks in the house was not taken. The remaining seven questions were taken. Each correct

answer carries 1 mark with a total score of 7marks. The seven questions in the questionnaire were about emptying the unused water in the container in the house, turning unused containers upside down to prevent water stagnation in the last one week, checking around the house for any disposed containers/ tyres that could collect water, allowing the health inspectors/public health department staff to check the house & its premises for mosquito breeding sites and informing the local authorities if they notice any potential mosquito breeding sites in public places in the neighbourhood or community in the last one month, using mosquito control measures at home and drinking of Nilavembu Kudineer as a part of dengue fever prevention as advertised by the government. Those with a score of less than 3.5 were grouped as those having inadequate practice and more than or equal to 3.5 were considered to have adequate practice. For statistical analysis regarding association of socio-demographic factors with practices for prevention of dengue, practices was expressed as binomial variables as the proportion of those with adequate practice and proportion of those with inadequate practice.

5.9.2 Independent variables

5.9.2.1 Socioeconomic status

The assessment of socioeconomic status based on income was done using Modified B G Prasad's classification. This is based on the per capita monthly income of the family. The calculation of per capita income was done by dividing the total income of all earning members in the family by the total number of members in the family. Based on the consumer price index determined by the Labour Bureau of India for Coimbatore for December 2018, Socioeconomic status was classified as per Modified Prasad's classification. ^[49]

Table : 1 Modified BG Prasad's Socioeconomic status classification

| Socioeconomic status | Per capita income in 1961 | Per capita income in December 2018 |
|-----------------------------|----------------------------------|---|
| Class I | Rs. 100.00 and above | Rs.6200.00 and above |
| Class II | Rs.50.00- Rs.99.00 | Rs.3100.00 -Rs.6199.00 |
| Class III | Rs.30.00- Rs.49.00 | Rs.1860.00-Rs. 3099.00 |
| Class IV | Rs.15.00- Rs.29.00 | Rs. 930.00-Rs. 1859.00 |
| Class V | Less than Rs.14.00 | Below Rs. 930.00 |

5.9.2.2 Age, Gender, Education, Family & Socio economic status

The factors considered as risk factors in this study includes age (More than 45 years Vs up-to 45 years),gender (Male Vs Female),education (up-to middle school Vs high school and above),family (extended Vs nuclear family) and socioeconomic status (Class II and III Vs class I) according to modified BG Prasad's classification.

5.10 Data Analysis

Data was entered and analyzed using Statistical Packages for Social Sciences (SPSS) version 24. The descriptive data were expressed as percentages.The associations between independent variables and knowledge, attitudes and practices were tested for significance using chi square test and odds ratio with 95% Confidence interval (CI) was estimated. Adjusted odds ratio (with 95% CI) was also calculated using multivariate logistic regression analysis to find the associations between independent variables and knowledge, attitudes and practices . P value <0.05 was considered as statistically significant.

CHAPTER 6

RESULTS

6.1 SOCIO DEMOGRAPHIC CHARACTERISTICS OF THE STUDY POPULATION

The socio demographic details of the study population are given in Table 2. A total of 623 respondents were interviewed and their houses were visited in 3 villages (Nambialaganpalayam, Ulliyampalayam and Vanniyampalayam) and the data so obtained was used for primary analysis. A majority of them were females (70.3%), nuclear family (93.3%), Hindu (98.2%), Housewife (52.5%), and nearly one-third (31.1%) had education up to middle school. According to modified B.G.Prasad classification for socio-economic status, 51.4% of the people were in class I, 44.6% were in class II and 4% were in class III.

Table 2: Socio Demographic Characteristics of the study population

| S.No. | Variable | Category | Number | Percentage |
|-------|--------------|--------------------|--------|------------|
| 1. | Village | Nambialaganpalayam | 215 | 34.5 |
| | | Ulliyampalayam | 258 | 41.4 |
| | | Vanniyampalayam | 150 | 24.1 |
| 2. | Age in years | Upto 30 | 139 | 22.3 |
| | | 31-40 | 123 | 19.7 |
| | | 41-50 | 153 | 24.6 |
| | | 51-60 | 126 | 20.2 |
| | | More than 60 | 82 | 13.2 |
| 3. | Gender | Male | 185 | 29.7 |
| | | Female | 438 | 70.3 |
| 4. | Family | Nuclear | 581 | 93.3 |

| | | | | |
|----|-----------------------|----------------|-----|------|
| | | Extended | 42 | 6.7 |
| 5. | Religion | Hindu | 612 | 98.2 |
| | | Muslim | 2 | 0.3 |
| | | Christian | 9 | 1.4 |
| 6. | Education | Graduate | 117 | 18.8 |
| | | High school | 134 | 21.5 |
| | | Middle school | 194 | 31.1 |
| | | Primary school | 96 | 15.4 |
| | | Illiterate | 82 | 13.2 |
| 7. | Occupation | Professional | 30 | 4.8 |
| | | Officer | 3 | 0.5 |
| | | Business | 137 | 22.0 |
| | | Clerk | 16 | 2.6 |
| | | Coolie | 86 | 13.8 |
| | | Housewife | 327 | 52.5 |
| | | Unemployed | 24 | 3.9 |
| 8. | Socio-economic status | Class I | 320 | 51.4 |
| | | Class II | 278 | 44.6 |
| | | Class III | 25 | 4.0 |

6.2 DENGUE RELATED KNOWLEDGE:

The outcome of the survey pertaining to knowledge on dengue transmission, its symptoms and prevention are shown in Table 3. Among the total respondents, 72.2% have heard about dengue fever, the source of information for majority of them is by Television (58.4%).

About 85% of the people were aware that it is transmitted through mosquito bites. Only 37.4% were aware that the breeding site of mosquito (transmitting dengue) is artificial water holding containers and 71.3% were aware that mosquitoes transmitting dengue bite in day time.

The participants were asked about the common symptoms for which fever was the most consistent response (46.9%) followed by headache (10.9%) and body pain (4.7%). 41.4% were aware that dengue can be fatal. Adopting measures such as eliminating places with stagnant water (40%), fogging (33%) and putting abate (20.2%) can prevent dengue fever transmission. 364 (58.4%) had adequate knowledge and 259 (41.6%) had inadequate knowledge.

Table 3: Knowledge of the study participants regarding dengue

| S.No. | Question | Response | Number (n=623) | Frequency |
|-------|--|-------------------------------------|----------------|-----------|
| 1. | Heard about dengue fever | Yes | 450 | 72.2 |
| | | No | 173 | 27.8 |
| 2. | Sources by which you had come to know about dengue | Television | 263 | 58.4 |
| | | Radio | 23 | 5.1 |
| | | Newspapers | 34 | 7.5 |
| | | Health Education | 44 | 9.7 |
| | | Relatives & Friends | 84 | 18.6 |
| | | Others | 2 | 0.4 |
| 3. | Modes of Dengue transmission | Mosquito bite | 383 | 85.1 |
| | | Person to person transmission | 2 | 0.4 |
| | | Contaminated food | 3 | 0.6 |
| | | Dirty drinking water | 45 | 10 |
| | | Don't know | 3 | 0.6 |
| | | Others | 14 | 3.1 |
| 4. | Breeding Sites Of Mosquito causing dengue | Drainages | 215 | 47.7 |
| | | Ponds | 17 | 3.7 |
| | | Standing water in roads | 31 | 6.8 |
| | | Artificial water holding containers | 168 | 37.4 |
| | | Others | 19 | 4.3 |

| | | | | |
|----|--|--|-----|------|
| 5. | Time of the day that the dengue mosquitoes bite | Day time | 321 | 71.3 |
| | | Night time | 26 | 5.7 |
| | | All time | 43 | 9.5 |
| | | Don't know | 10 | 2.2 |
| | | Others | 50 | 11.1 |
| 6. | Symptoms of Dengue fever | Fever | 292 | 64.9 |
| | | Headache | 68 | 15.1 |
| | | Rashes | 5 | 1.1 |
| | | Nausea | 5 | 1.1 |
| | | Vomitting | 26 | 5.8 |
| | | Body pain | 29 | 6.4 |
| | | Muscle pain | 1 | 0.2 |
| | | Don't know | 24 | 5.3 |
| 7. | Dengue is Fatal | Yes | 382 | 84.8 |
| | | No | 31 | 6.9 |
| | | Don't Know | 37 | 8.2 |
| 8. | Vulnerable age groups who can be severely affected by dengue fever | Children < 12 years | 259 | 57.6 |
| | | Adults (18-60 years) | 13 | 2.8 |
| | | Older population(> 60 years) | 53 | 11.7 |
| | | Don't know | 100 | 22.2 |
| | | Others | 25 | 5.6 |
| 9. | Means adopted to prevent dengue fever transmission | Fogging | 152 | 33.8 |
| | | Eliminating places with stagnant water | 180 | 40.0 |
| | | Abate | 91 | 20.2 |
| | | Biological control | 4 | 0.8 |
| | | Don't know | 17 | 3.8 |
| | | Others | 6 | 1.3 |

6.3 ASSOCIATION OF SOCIODEMOGRAPHIC FACTORS WITH KNOWLEDGE REGARDING DENGUE:

In univariate analysis (Table 4), socio-demographic factors like age up to 45 years ($p < 0.001$) and class I socio economic status (according to modified BG Prasad's classification) ($p < 0.001$) showed significant association with adequate knowledge.

Table 4: Association of sociodemographic factors with knowledge regarding dengue by univariate analysis

| S.No. | Variable | Category | Adequate Knowledge No (%) | Inadequate Knowledge No (%) | Odds ratio(95 %C.I) | P value |
|-------|-----------|-----------------------|---------------------------|-----------------------------|----------------------------|------------------|
| 1. | Age | More than 45 years | 140 (42.2%) | 192 (57.8%) | 1 | |
| | | Upto 45 years | 224 (77%) | 67 (23%) | 4.585(3.23 4-6.501) | <0.001 |
| 2. | Gender | Male | 104 (56.2%) | 81 (43.8%) | 1 | |
| | | Female | 260 (59.4%) | 178 (40.6%) | 1.138(0.80 4-1.160) | 0.478 |
| 3. | Family | Extended | 20 (47.6%) | 22 (52.4%) | 1 | |
| | | Nuclear | 344 (59.2%) | 237 (40.8%) | 1.597(0.85 2-2.991) | 0.148 |
| 4. | Education | Upto Middle school | 189 (89.6%) | 22 (10.4%) | 1 | |
| | | High school and above | 218 (91.2%) | 21 (8.8%) | 1.279(0.98 5-1.289) | 0.555 |
| 5. | SES | Class II & III | 135 (44.6%) | 168 (55.4%) | 1 | |
| | | Class I | 229 (71.6%) | 91 (28.4%) | 3.132(2.24 7-4.365) | <0.001 |

In multiple logistic regression analysis (Table 5), it was observed that age up-to 45 years (aOR= 3.540, 95% confidence interval=2.402-5.218, with $p<0.001$) and SES (class I) (aOR= 1.628, 95% confidence interval= 1.098-2.413, with $p<0.001$) were found to be significantly independent predictor of knowledge regarding dengue fever.

Table 5: Association of socio demographic factors with knowledge regarding dengue by multivariate logistic regression analysis

| S.No. | Variable | Category | Adjusted Odds ratio(95%C.I) | p value |
|-------|-----------|-----------------------|-----------------------------|---------|
| 1. | Age | More than 45 years | 1 | <0.001 |
| | | Upto 45 years | 3.540(2.402-5.218) | |
| 2. | Gender | Male | 1 | 0.793 |
| | | Female | 1.057(0.699-1.597) | |
| 3. | Family | Extended | 1 | 0.054 |
| | | Nuclear | 2.006(0.988-4.073) | |
| 4. | Education | Upto Middle school | 1 | 0.197 |
| | | High school and above | 1.128(0.728-3.272) | |
| 5. | SES | Class II & III | 1 | <0.001 |
| | | Class I | 1.628(1.098-2.413) | |

6.4 ATTITUDE TOWARDS DENGUE:

In Table 6 results regarding attitude towards dengue is shown. Among the total respondents, 76.6% agree that doctor consultation is a must for dengue and most of them (70.5%) also agreed that public has an important role in dengue control. When they were asked about willingness to spend some amount of money in personal protective measures for protecting themselves from being bitten by mosquitoes, 44.8% of the respondents agreed to this, while 69.7% of the people accepted to allow putting chemical solution (abate) in water holding containers to prevent dengue and 37.2% were willing to join mosquito control activities.

Table 6 : Attitude towards dengue among study population:

| S.No | Attitude | Agree | Disagree | Not Sure |
|------|---|------------|------------|------------|
| 1. | Doctor consultation is a must | 477(76.6%) | 124(19.9%) | 22(3.4%) |
| 2. | Risk of getting dengue high if neighbour gets dengue | 380(61.0%) | 149(23.9%) | 94(15.4%) |
| 3. | Removal of breeding site is necessary for dengue prevention | 172(27.6%) | 311(49.9%) | 140(22.5%) |

| | | | | |
|----|--|------------|------------|------------|
| 4. | Not necessary to seek immediate treatment for dengue fever | 167(26.8%) | 339(54.4%) | 117(18.8%) |
| 5. | Public has important role in dengue control | 439(70.5%) | 81(13.0%) | 103(16.5%) |
| 6. | Join for mosquito control activity | 232(37.2%) | 129(20.7%) | 262(42.1%) |
| 7. | Willing to spend money on mosquito control | 279(44.8%) | 198(31.8%) | 146(23.4%) |
| 8. | Accept to put Abate | 434(69.7%) | 77(12.4%) | 112(18.0%) |

6.5 PRACTICES REGARDING PREVENTION OF DENGUE AMONG STUDY POPULATION:

Table 7 shows the practices regarding prevention of dengue among study population. 73.4% empty water in unused container, 45.7% turn unused containers upside down, 63.9% look for disposed container around house, 76.7% allow Health Inspector (from Department of Public Health) to inspect for any breeding site of mosquito, 44.5% inform local authority if they find any breeding site around their house, 68.2% use mosquito control measures in their home and 59.4% drank nilavembu juice as part of dengue prevention. 68.7% had adequate practice and 31.3% had inadequate practice.

Table 7: Practices regarding prevention of dengue among study population

| S.No. | Practice | Adequate Practice No. (%) | Inadequate Practice No. (%) |
|--------------|---|--------------------------------------|--|
| 1. | Empty the containers | 457(73.4%) | 166(26.6%) |
| 2. | Turn unused Containers upside down | 285(45.7%) | 338(54.3%) |
| 3. | Checking for Disposed Containers nearby | 398(63.9%) | 225(36.1%) |
| 4. | Allowing the health inspectors to check for breeding | 478(76.7%) | 145(23.3%) |
| 5. | Informing Local authorities if breeding sites are found | 277(44.5%) | 346(55.5%) |
| 6. | Using Mosquito Control Measures at home | 425(68.2%) | 198(31.8%) |
| 7. | Drink Nilavembu kudineer | 370(59.4%) | 253(40.6%) |

6.6 ASSOCIATION OF SOCIO DEMOGRAPHIC FACTORS WITH PRACTICES REGARDING PREVENTION OF DENGUE:

In univariate analysis (Table 8), socio demographic factors like age upto 45 years ($p < 0.001$), those who are females ($p < 0.001$), educational qualification of high school and above ($p < 0.001$) and socio economic

status of class I ($p < 0.001$) were found to be significant predictors of adequate practices that are taken against dengue fever.

Table 8: Association of sociodemographic factors with adequate practices regarding prevention of dengue by univariate analysis

| S.No | Variable | Category | Adequate Practice | Inadequate Practice | Odds ratio(95%C.I) | P value |
|------|-----------|-----------------------|-------------------|---------------------|---------------------------|------------------|
| 1 | Age | More than 45 years | 184 (55.4%) | 148 (44.65) | 1 | |
| | | Upto 45 years | 244 (83.8%) | 47 (16.2%) | 4.176(2.856-6.105) | <0.001 |
| 2 | Gender | Male | 111 (60%) | 74 (40%) | 1 | |
| | | Female | 317 (72.4%) | 121 (27.6%) | 1.747(1.217-2.506) | <0.001 |
| 3 | Family | Extended | 20 (47.6%) | 22 (52.4%) | 1 | |
| | | Nuclear | 344 (59.2%) | 237 (40.8%) | 1.105(0.568-2.149) | 0.734 |
| 4 | Education | Upto Middle school | 202 (54.3%) | 170 (45.7%) | 1 | |
| | | High school and above | 226 (90%) | 25 (10%) | 1.156(1.083-1.208) | <0.001 |
| 5 | SES | Class II & III | 133 (43.9%) | 170 (56.1%) | 1 | |
| | | Class I | 258 (80.6%) | 62 (19.4%) | 3.256(2.275-4.658) | <0.001 |

In multiple logistic regression analysis (Table 9) , it was observed that age up to 45 years (aOR= 2.819, 95% confidence interval= 1.86-

4.263, with $p < 0.001$), females (aOR= 1.867, 95% confidence interval= 1.22-2.83, with $p < 0.001$), had education high school and above (aOR= 1.191, 95% confidence interval= (1.115-1.317), with $p < 0.001$) and SES (class I) (aOR= 1.8, 95% confidence interval= 1.192-2.716, with $p < 0.001$) were found to be significant independent predictors of adequate practices that taken against dengue fever.

Table 9: Association of socio demographic factors with adequate practices regarding prevention of dengue by multi variate logistic regression

| S.No. | Variable | Category | Adjusted Odds ratio(95%C.I) | p value |
|-------|-----------|-----------------------|-----------------------------|------------------|
| 1. | Age | More than 45 years | 1 | |
| | | Upto 45 years | 2.819(1.864-4.263) | <0.001 |
| 2. | Gender | Male | 1 | |
| | | Female | 1.867(1.228-2.839) | <0.001 |
| 3. | Family | Extended | 1 | |
| | | Nuclear | 1.303(0.627-2.709) | 0.479 |
| 4. | Education | Upto Middle school | 1 | |
| | | High school and above | 1.091(1.115-1.317) | <0.001 |
| 5. | SES | Class II & III | 1 | |
| | | Class I | 1.800(1.192-2.716) | <0.001 |

6.7 Entomological Indices

By using the larval dipping method, 623 houses in the three cluster (villages) were surveyed and checked for any water holding containers and also for the presence of Aedes larvae.

A total of 215 houses and 546 containers were examined in Nambialaganpalayam out of which 46 houses and 84 containers were found to have Aedes larvae. A total of 258 houses and 652 containers were examined in Ulliyampalayam out of which 90 houses and 130 containers were found to have Aedes larvae. Similarly a total of 150 houses and 401 containers were examined in Vanniyampalayam out of which 54 houses and 91 containers were found to have Aedes larvae.

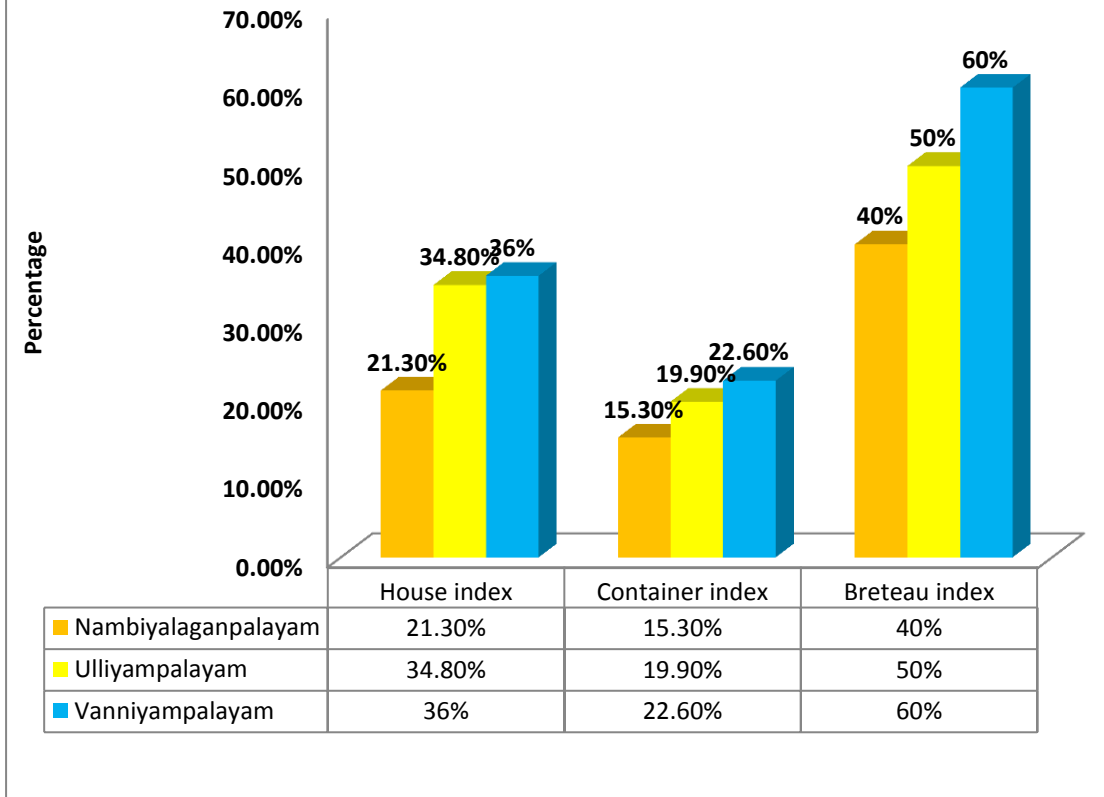
Based on the houses and containers examined with their positivity rate, the House Index (HI) ,Container Index (CI) and Breteau Index (BI) were calculated.

The results are as follows (Table 10 & Figure 3):

Table 10: Houses and containers examined for Aedes larvae in the three study villages:

| S.No | Village name | No of houses examined | No of containers examined | Houses positive | Containers positive |
|-------------|---------------------|------------------------------|----------------------------------|------------------------|----------------------------|
| 1 | Nambialaganpalayam | 215 | 546 | 46 | 84 |
| 2 | Uliyampalayam | 258 | 652 | 90 | 130 |
| 3 | Vanniyampalayam | 150 | 401 | 54 | 91 |
| | TOTAL | 623 | 1599 | 190 | 305 |

Figure 3: House Index, Container Index, Breteau Index



Overall for the three villages, the house index (HI), container index (CI) and breteau index (BI) was found to be 30.4%, 19.07% and 48.9% respectively. These indices show that larval breeding is high in the region.

CHAPTER 7

DISCUSSION

In the recent years with the outbreak of dengue in many parts of India, it has become a major public health problem, one reason being, lack of adequate knowledge and practices for prevention of dengue among the public. Thus the current study was carried out to assess the Knowledge, Attitude & Practices regarding dengue fever among the adults and its association with socio demographic factors of the study population and to determine the entomological indices in the field Practice Area of Rural Health Training Centre (RHTC), Vedapatti, Coimbatore, Tamil Nadu.

Of the selected 700 households from the three villages of field practice area of RHTC attached to the Department of Community Medicine, PSG Institute of Medical Sciences and Research, Coimbatore, 77 of them did not participate since some of them were not present in home during the time of visit even after 3 visits and some were residents in the village for less than 6 months. A predesigned semi-structured questionnaire was used to collect the data pertaining to the Knowledge, Attitude & Practices regarding dengue fever among the adults and the entomological survey was done in houses to identify the

entomological indices in the field Practice Area of Rural Health Training Centre (RHTC), Vedapatti, Coimbatore, Tamil Nadu.

7.1 Sociodemographic Characteristics of the study population:

Majority of the study population were females (70.3%), Housewives (52.5%), and nearly one-third had education up to middle school (31.1%). Study done by Jeelani S et al.^[16] also had similar study population with majority of them female (67.3%), and home makers (53.7%).

Whereas the education status of the present study population is low when compared to the study done by F Shuaib et al^[53] which showed 35.9% had education up to middle school.

7.2 Knowledge of the study participants regarding dengue:

Among the study population in the present study, 72.2% have heard about dengue which is lower when compared to the study done by Jeelani^[16] et al as that study showed 86% of them knew about dengue fever, conducted in rural area of Puducherry where dengue is prevalent and prevention programmes were actively conducted either by government or non-government agencies . Higher levels have also been found in the study done by VG Chellaiyan et al.^[40] in Kadambadi village, Kanchipuram where 93.7% have heard about dengue fever .Whereas our

study had better result than the study done by Ashok kumar V et al ^[41] in Chennai where only 34.5% were aware about dengue fever.

The major source of information is Television (58.4%). This finding is consistent with various other studies done by S Jeelani et al ^[16] and VG Chellaiyan et al ^[40]. This shows the importance of mass media in educating the public.

The present study showed that majority of the study population were aware about the mode of transmission of dengue fever, the biting time of the mosquitoes transmitting dengue, the symptoms and severity of dengue and the preventive practices adopted, whereas only few (37.4%) were aware about the breeding site of mosquito transmitting dengue. These findings are consistent with the findings from other studies done by S Jeelani et al ^[16] Vishal Malhotra et al ^[1] and VG Chellaiyan et al ^[40]. Whereas the study done by Ashok kumar et al ^[41] in Chennai showed only few were aware about the mode of transmission of dengue fever and preventive measures of dengue since this was done in areas where the incidence of dengue cases were high. Overall in all these studies majority of the people were not aware about the breeding site of Aedes mosquitoes. Thus emphasis should also be made on educating the public about the bionomics of Aedes mosquito to ensure prevention.

Our study showed that 259 (41.6%) had inadequate knowledge which is slightly better compared to the study done by Ashok kumar et al^[41] which showed that 49.7% of them were having low knowledge.

7.3 Association of Socio demographic factors with knowledge regarding dengue:

7.3.1 Age Vs Knowledge:

In present study there is a statistically significant association between age and knowledge. Most of them in the age category greater than 45 years (57.8%) had inadequate knowledge .While majority(77%) of them in the age category less than 45 years had adequate knowledge .This can be attributed to the fact that these persons could have better access to mass media which could have enhanced their knowledge . Hence they are having better knowledge about dengue fever than people aged more than 45 years. This finding is similar to study done by Al-Dubai SA et al^[58] but is in contrast to study done by VG Chellaiyan et al^[40] where there is no significant association between age and knowledge.

7.3.2 Gender Vs Knowledge

In the present study there was no association between gender and knowledge which was similar to the study findings of VG Chellaiyan et al^[40] and F Shuaib et al^[53].

7.3.3 Type of family Vs Knowledge:

The present study did not show any association between type of family and knowledge whereas study done by VG Chellaiyan et al ^[40] showed that there was statistically significant association between type of family and knowledge in which people of joint family were aware of atleast one method of dengue prevention.

7.3.4 Education Vs Knowledge :

There was no significant association between educational level of the study participants and knowledge regarding dengue fever in the present study. VG Chellaiyan et al. ^[40] ,Morrison et al.^[54] and Alves et al.^[55] found that there exists a relationship between education and level of knowledge regarding dengue transmission. Castro et al.^[56] postulated that higher education level might assure a better understanding and comprehension of information on dengue fever; therefore, better knowledge regarding dengue fever would be achieved.

7.3.5 Socioeconomic Status Vs Knowledge:

In the present study there is statistically significant association between socioeconomic status and knowledge. One of the possible reason for the association between Socio-Economic Status and better knowledge regarding dengue fever is that people with a higher economic status might

have better access to information sources on dengue fever. Castro et al.^[66] postulated that the combination of better access to information about dengue fever and higher education level might assure a better understanding and comprehension of information on dengue fever when accessed; therefore, better knowledge regarding dengue fever would be achieved. But study done by S Jeelani et al^[16] and VG Chellaiyan et al^[40] did not show significant association between SES and knowledge.

7.4 Attitude towards dengue among study population:

Our study found that most of the people agreed that doctor consultation is must for dengue fever, they are at risk of getting dengue if neighbours have dengue, Public have important role in dengue control, willing to spend money on mosquito control and accepting to put abate. Majority of them disagree that removal of breeding site is necessary for dengue prevention. Only about one-third of them agreed to join for mosquito control measure. Overall majority of them had good attitude towards dengue except for removal of breeding site which is important in preventing dengue. Valantine B et al^[56] study done in Puducherry showed that most of them feel that hospital care is necessary and public has a major role along with government in vector control which is similar to our study and most of them agree that environmental modification is needed to control dengue which is in contrast to our study. The present

study finding was similar to study done by Al-Dubai SA et al ^[58] except that most of them disagreed that public has a major role in dengue prevention.

7.5 Practices towards dengue prevention among study population:

In present study 68.7% had adequate practice towards dengue prevention. Majority of them empty water in unused container, look for disposed container around house, allow Health Inspector to inspect for any breeding site of mosquito, use mosquito control measures in their home and drank nilavembu as part of dengue prevention. Whereas only few turn unused containers upside down and inform local authority if they find any breeding site around their house. This finding is similar to Al-Dubai SA et al ^[58] and Vishal Malhotra et al ^[1]. In our study, 68.7% of the participants had adequate practice and 31.3% had inadequate practice which shows that there is a need for health education to improve the practices further.

7.6 Association of Socio demographic factors with practices regarding prevention of dengue:

In multiple logistic regression analysis, socio demographic factors associated with adequate practice towards dengue fever were female gender, higher level of education, age up to 45 years, and high socio economic status. Among 70.3% of females in our study, 52.5% were

house wives and this might be due to the fact that house wives are the ones who are present most of the times.

7.6.1 Age Vs Practice

Our study found that there were association between age up-to 45 years and practice towards dengue fever which was similar to the study done by Al-Dubai SA et al ^[58] .Population of age up to 45 years have good knowledge on what practices are essential for avoiding dengue fever through social media, mass media etc. It helps them to take measures to prevent dengue. However, there were studies with opposite findings as ours. Niang et al.^[59] found that older age group has better practice compared to younger age.

7.6.2 Gender Vs Practice

In our study there was statistically significant association between females and adequate practice. Koenraad et al^[60] and Leong et al^[61] in a study also reported that females were more knowledgeable than males regarding dengue and women have very good practice towards dengue prevention compared to men. This may be due to the customs of the community whereby women are mostly involved in house cleaning and maintenance.

7.6.3 Education Vs Practice

Present study has shown a strong association between education above middle school and practice towards dengue fever. This suggests that level of education could be related to degree of empowerment of the population to integrate and combine efforts to control dengue transmission. Dhimal et al.^[62] and Lugova et al.^[63] also found a similar result in which the level of education was shown to be an independent predictor of attitudes and practice regarding dengue.

7.6.4 Socioeconomic Status Vs Practice

In this study, people of high socioeconomic class showed a better practice regarding dengue by rating it as a more severe problem while those of low socioeconomic status regarded dengue as less of a problem. Khan et al.^[64] and Donlisio et al.^[65] in their studies reported that the poor living conditions in the low socioeconomic areas and slums not only contribute to the spread of the disease but also make it difficult for health services to curtail the vector population effectively in these areas. It is possible that the high SES group was more likely than the lower SES group to use relatively expensive insecticide aerosol spray, which can reduce dengue transmission, because they could afford them. For this reason, under emergency condition, the feasibility of subsidizing costs of effective consumer product interventions merits further examination as an

alternative rapid response to city-wide adulticide spray campaigns led by the regional health authority that are often delayed due to government budget constraints and implementation logistics.

7.7 Entomological indices:

The BI and HI are commonly used for the determination of priority risk areas for control measures. Generally, a HI greater than 5% and/or BI greater than 20 for any locality is an indication that the locality is dengue-sensitive. For epidemiological purposes, the HI is extremely important and indicates potential spread of virus through an area once an infected area becomes established.

Our study showed that House index, Container index and the Breteau index in the three villages were 21.3%, 15.3% and 40% in Nambialaganpalayam, 34.8%, 19.9 % and 50% in Ulliyampalayam and 36%, 22.6% and 60% in Vanniyampalyam respectively.

Overall for the three villages in our study, the house index(HI), container index(CI) and Breteau index(BI) was found to be 30.4%, 19.07% and 48.9% respectively.

In the present study, the house index (30.4%) was higher than that in the study done by Vijayakumar et al.^[43] in Trivandrum which showed the house index(HI) to be 13.08%. Study done by Bhat MA et al^[44] in the

districts of Tamil Nadu during dengue outbreak and Rajendran et al^[45] in Sulurpet Andhra Pradesh showed that the house index in their studies were 18.26 % and 9.45% respectively, which were lower than the present study.

The container index (CI) in our study was found to be 19.07 % which was high when compared to the study done by Vijayakumar et al with CI 13.28% and Bhat et al with CI 9.03% . But the study done by Rajendran et al showed CI to be 23.61 which is higher than in our study.

The Breteau index in our study was calculated as 48.9% which is high when compared to the studies done by Vijayakumar et al, Bhat et al and Rajendran et al which showed 16.57%, 31.71% and 13.39% respectively.

7.8 STRENGTH AND LIMITATION

The strength of our study was that the containers in every house were inspected for Aedes larvae to find the House index, Container index and Breteau index by larval collection method along with assessing their practices regarding dengue fever. Various statistical analytical approaches such as chi square test, multiple logistic regression, etc. have been used to determine the possible influence of socio demographic factors on Knowledge, Attitude, Practice regarding dengue in Tamil Nadu. The

present study is one of the few studies that have been done on the entomological indices in Tamil Nadu.

The limitation of the study is that the questionnaire was administered to the adults who were at home at the time of the visit, who were mostly women. This selection strategy could cause a selection bias that affects the representativeness of the survey.

CHAPTER 8

RECOMMENDATIONS

The majority of the subjects had adequate knowledge and practices on dengue. The study reveals that there was a significant association between demographic variables such as age and socio economic status with knowledge and association between demographic variables such as age, gender, education and socio economic status with practice.

The entomological indices in the area showed the presence of *Aedes* larvae breeding. So if effective and stringent measures are not taken, there is a possibility for the occurrence of dengue outbreaks in the area.

To achieve success in dengue fever prevention, health education programs should be designed to increase knowledge, attitude and practices regarding dengue. To disseminate the dengue fever information to the public, educational materials such as posters, booklets and brochures must be distributed to schools, universities and various other public administrative offices.

To enhance the awareness, simple and educating dengue fever posters could be posted in public areas that everyone from different education levels can understand.

The development of IEC/BCC programs on dengue fever and the use of radio and television for broadcasting messages on dengue vector control and orienting more health professionals, school teachers and community leaders and also mobilization of female community health volunteers will play a huge role in dengue prevention in the long run.

Most importantly, the inclusion of dengue fever and its prevention and control should be promoted in school and university curricula to raise awareness among students and use them as multipliers.

Thus measures to improve the community participation in dengue prevention control and management has to be reinforced periodically through health education campaigns and mass media.

Other departments of the government like education department, public works department and also the town panchayat and village administrations should work in coalition with the public health department in controlling dengue.

Thus, there is a need for an integrated multifactorial and multisectoral approach to combat this public health problem.

CHAPTER 9

SUMMARY

Dengue is a mosquito- borne viral infection. The infection causes flu-like illness, and occasionally develops into a potentially lethal complication called severe dengue (dengue hemorrhagic fever and dengue shock syndrome). The global incidence of dengue has grown dramatically in recent decades. There is no specific treatment for dengue/ severe dengue, but early detection and access to proper medical care lowers fatality rates below 1%. Dengue prevention and control depends on effective vector control measures.

WHO recommends local studies for each region to provide base line information about DF^[42]. Though there are many studies regarding Knowledge, Attitude and Practices regarding dengue fever in India, only few studies have been done in Tamil Nadu regarding these aspects and also the entomological indices. This study will help to determine the Knowledge, Attitude and Practices on dengue fever prevention in the rural community and also help to find out the entomological indices in the area and also find out the association of socio-demographic factors with Knowledge, attitude and practices. The knowledge that could be gained in this investigation would guide public administrators to plan, design and initiate programs related to dengue prevention.

The cross sectional study was conducted in the field practice area of the Rural Health Training Centre (RHTC), Vedapatti, under Department of Community Medicine, PSG Institute of Medical Sciences and Research, Coimbatore. RHTC caters to a population of 25,886 distributed in 14 villages. The sample population for the study was obtained by cluster sampling method. Each of the 14 villages in the field practice area of Vedapatti were considered as a cluster. From these 14 clusters, three villages were chosen randomly by lottery method. The three clusters chosen were Nambialaganpalayam, Ulliyampalayam and Vanniyampalayam. All households (total number is 700) in these three villages were considered for inclusion in the study. Adults greater than 18 years in the rural field practice area of Vedapatti and resident of the village for greater than 6 months were included in the study. Adults not willing to participate were excluded from the study.

The study was approved by Institutional Human Ethics Committee. A pilot study was carried out to find the operational feasibility of the study and to pre-test the questionnaire. Pilot study was conducted among 31 households in a village other than the above three study villages in our field practice area, Vedapatti. The sample size required for the actual study was estimated to be 622. For the actual study, individual houses were visited in the 3 selected villages, the purpose of the study was explained and informed consent was obtained. Then, a predesigned semi-

structured questionnaire was used to collect the data. Questionnaire was filled by the principal investigator after eliciting the response to the questions. Out of the 700 households in the three villages, 623 households were included in the study .The number of households not included were 77, the reasons being houses were locked during the time of visit during three visits or the people were residents in the village for less than 6 months. The entomological indices in these villages were estimated by thoroughly inspecting both inside and outside the house and also the water holding containers were inspected for any larval breeding areas by the dipping method. The factors considered as risk factors in this study includes age (More than 45 Vs up-to 45 years), gender (Male Vs female) , education (up-to middle school Vs high school and above), family (extended Vs nuclear family) and socioeconomic status (Class II and III Vs Class I by modified B G Prasad Classification).

A total of 623 respondents were interviewed and the data so obtained was used for primary analysis. 51.5% of the people were from class I, 44.6% were from class II and 4% were from class III. A majority of them were female (70.3%), housewife (52.5%), nuclear family (93.3%) and hindu religion (98.3%).Nearly one-third (31.1%) had education up to middle school. Among the total respondents, 72.2% have heard about dengue fever. Among them, 61.5% were aware that it is transmitted

through mosquito bites. When asked about the common symptoms, fever was the most consistent response (46.9%) followed by headache (10.9%) and body pain (4.7%). Among the study participants, 364 (58.4%) had adequate knowledge regarding dengue fever. In multiple logistic regression analysis, it was observed that age up-to 45 years and SES class I were found to be significant predictors of adequate knowledge regarding dengue fever. Among the people who had heard about dengue fever, 76.6% agree that doctor consultation is a must and most (70.5%) of them also agreed that public has an important role in dengue control. Most (69.7%) of them accept that they would allow abate to be put in water holding containers to prevent dengue followed by spending some amount of money in personal measures for protecting themselves from being bitten by mosquitoes (44.8%) and join mosquito control activities(37.2%). Among the study population, 428 (68.7%) had adequate practice regarding dengue prevention. In multiple logistic regression analysis , it was observed that age up to 45 years, females, education of high school and above and SES class I were found to be significant predictors of adequate practices that are taken against dengue fever.

The House index, Container index and the Breteau index in the three villages were 21.3%, 15.3% and 40% in Nambialaganpalayam, 34.8%, 19.9 % and 50% in Ulliyampalayam and 36%, 22.6% and 60% in Vanniyampalyam respectively. Overall, the house index (HI), container index (CI) and breteau index (BI) for the three villages was found to be 30.4%, 19.07% and 48.9% respectively. These indices show that larval breeding is high in the region and preventive measures need to be adopted to prevent dengue fever transmission.

To achieve success in dengue fever prevention, health education programs should be designed to increase knowledge, attitude and practices regarding dengue. There is a need for an integrated multifactorial and multisectoral approach to combat this public health problem.

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ANNEXURE – 1

PLAGIARISM URKUND RECEIPT



Urkund Analysis Result

Analysed Document: Thesis master 22.10.2019 .docx (D57412507)
Submitted: 10/22/2019 8:47:00 AM
Submitted By: drdarshan90@gmail.com
Significance: 8 %

Sources included in the report:

A STUDY ON RISK FACTORS FACED BY THE DENGUE AFFECTED PATIENTS WITH SPECIAL REFERENCE TO ERODE DISTRICT.docx (D41919120)
Identification of prevailing dengue virus serotypes of adult dengue infection.docx (D41961674)
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3050821/>
<https://emedicine.medscape.com/article/215840-overview>
https://www.researchgate.net/publication/287536657_Awareness_of_dengue_fever_among_school_children_A_comparison_between_private_and_government_schools
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3759171/>
https://www.researchgate.net/publication/274737223_Community_knowledge_awareness_and_preventive_practices_regarding_dengue_fever_in_Puducherry_-_South_India
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3126728/>
<https://www.ncbi.nlm.nih.gov/pubmed/11057977>
https://www.researchgate.net/publication/11594691_An_investigation_into_the_cyclical_incidence_of_dengue_fever
https://www.researchgate.net/publication/230741846_Dengue_An_Emerging_Disease_in_Nepal

Instances where selected sources appear:

22

ANNEXURE – 2

INSTITUTIONAL HUMAN ETHICS COMMITTEE APPROVAL FORM



PSG Institute of Medical Sciences & Research Institutional Human Ethics Committee

Recognized by The Strategic Initiative for Developing Capacity in Ethical Review (SIDCER)

POST BOX NO. 1674, PEELAMEDU, COIMBATORE 641 004, TAMIL NADU, INDIA

Phone : 91 422 - 2598822, 2570170, Fax : 91 422 - 2594400, Email : ihec@psgimsr.ac.in

To
Dr S Darshan Manoj
Postgraduate
Department of Community Medicine
Guide: Dr S L Ravishankar / Dr G M Muhammad
PSG IMS & R
Coimbatore

Ref: Project No. 17/382

Date: December 18, 2017

Dear Dr Darshan Manoj,

Institutional Human Ethics Committee, PSG IMS&R reviewed and discussed your application dated 07.12.2017 to conduct the research study entitled "*Knowledge, Attitude & Practices regarding dengue fever and the entomological indices in a rural area of Coimbatore, Tamil Nadu*" during the IHEC meeting held on 15.12.2017.

The following documents were reviewed and approved:

1. Project submission form
2. Study protocol (Version 1 dated 07.12.2017)
3. Informed consent forms (Version 1 dated 07.12.2017)
4. Data collection tool (Version 1 dated 07.12.2017)
5. Current CVs of Principal investigator, Co-investigator
6. Budget

The following members of the Institutional Human Ethics Committee (IHEC) were present at the meeting held on 15.12.2017 at IHEC Secretariat, PSG IMS & R between 10.00 am and 11.00 am:

| Sl. No. | Name of the Member of IHEC | Qualification | Area of Expertise | Gender | Affiliation to the Institution Yes/No | Present at the meeting Yes/No |
|---------|--|---------------|---|--------|---------------------------------------|-------------------------------|
| 1 | Mr R Nandakumar (Chairperson, IHEC) | BA., BL | Legal Expert | Male | No | Yes |
| 2 | Dr D Vijaya (Member – Secretary, IHEC) | M Sc., Ph D | Basic Medical Sciences (Biochemistry) | Female | Yes | Yes |
| 3 | Dr S Shanthakumari | MD | Pathology, Ethicist | Female | Yes | Yes |
| 4 | Dr Sudha Ramalingam | MD | Epidemiologist, Ethicist Alt. member-Secretary | Female | Yes | Yes |
| 5 | Dr G Subhashini | MD | Epidemiologist | Female | Yes | Yes |

The study is approved in its presented form. The decision was arrived at through consensus. Neither PI nor any of proposed study team members were present during the decision making of the IHEC. The IHEC functions in accordance with the ICH-GCP/ICMR/Schedule Y guidelines. The approval is valid until one year from the date of sanction. You may make a written request for renewal / extension of the validity, along with the submission of status report as decided by the IHEC.

Proposal No. 17/382 dt. 18.12.2017, Title: *Knowledge, Attitude & Practices regarding dengue fever and the entomological indices in a rural area of Coimbatore, Tamil Nadu*

Page 1 of 2



PSG Institute of Medical Sciences & Research Institutional Human Ethics Committee

Recognized by The Strategic Initiative for Developing Capacity in Ethical Review (SIDCER)

POST BOX NO. 1674, PEELAMEDU, COIMBATORE 641 004, TAMIL NADU, INDIA

Phone : 91 422 - 2598822, 2570170, Fax : 91 422 - 2594400, Email : ihec@psgimsr.ac.in

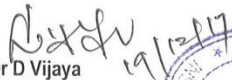
Following points must be noted:

1. IHEC should be informed of the date of initiation of the study
2. Status report of the study should be submitted to the IHEC every 12 months
3. PI and other investigators should co-operate fully with IHEC, who will monitor the trial from time to time
4. At the time of PI's retirement/intention to leave the institute, study responsibility should be transferred to a colleague after obtaining clearance from HOD, Status report, including accounts details should be submitted to IHEC and extramural sponsors
5. In case of any new information or any SAE, which could affect any study, must be informed to IHEC and sponsors. The PI should report SAEs occurred for IHEC approved studies within 7 days of the occurrence of the SAE. If the SAE is 'Death', the IHEC Secretariat will receive the SAE reporting form within 24 hours of the occurrence
6. In the event of any protocol amendments, IHEC must be informed and the amendments should be highlighted in clear terms as follows:
 - a. The exact alteration/amendment should be specified and indicated where the amendment occurred in the original project. (Page no. Clause no. etc.)
 - b. Alteration in the budgetary status should be clearly indicated and the revised budget form should be submitted
 - c. If the amendments require a change in the consent form, the copy of revised Consent Form should be submitted to Ethics Committee for approval
 - d. If the amendment demands a re-look at the toxicity or side effects to patients, the same should be documented
 - e. If there are any amendments in the trial design, these must be incorporated in the protocol, and other study documents. These revised documents should be submitted for approval of the IHEC and only then can they be implemented
 - f. Any deviation-Violation/waiver in the protocol must be informed to the IHEC within the stipulated period for review
7. Final report along with summary of findings and presentations/publications if any on closure of the study should be submitted to IHEC

Kindly note this approval is subject to ratification in the forthcoming full board review meeting of the IHEC.

Thanking You,

Yours Sincerely,


Dr D Vijaya
Member - Secretary
Institutional Human Ethics Committee



ANNEXURE – 3

INFORMED CONSENT FORM ENGLISH

**PSG Institute of Medical Science and Research, Coimbatore
Institutional Human Ethics Committee
INFORMED CONSENT FORMAT FOR RESEARCH PROJECTS**

I Dr.S.Darshan Manoj am carrying out a study on the topic: **“Knowledge, Attitude & Practices Regarding Dengue Fever And The Entomological Indices In A Rural Community Of Coimbatore, Tamil Nadu”**as part of my research project being carried out under the aegis of the Department of Community Medicine

My research guide is: Dr Ravishankar SL

The justification for this study is:

In TamilNadu, 20,945 cases of dengue were reported out of which 52 cases died .Since Dengue fever cases are on the surge in recent times in Coimbatore, the communities' knowledge, attitude and practices on Dengue fever has an impact on Dengue prevention and control. Lack of knowledge and awareness of mode of transmission, symptoms, warning signs along with inadequate health education and utilisation of health services are some of the most important factors which act as barriers for successful control and prevention of dengue in India. It is essential to know what people have understood about Dengue fever, how they feel about dengue fever and their practices towards Dengue fever to enable policy makers to improve diagnosis and treatment.

Though there are a many studies regarding Knowledge, Attitude and Practices, only few studies have been done in Tamil Nadu regarding these aspects and also the entomological indices. This study will help to determine the Knowledge, Attitude and Practices on dengue fever prevention in the rural community and also help to find out the entomological indices in the area. The knowledge that could be gained in this investigation would guide public administrators to plan, design and initiate initiatives, programs, and policies related to dengue prevention.

The objectives of this study are:

1. To Assess the Knowledge, Attitude & Practices regarding dengue fever among the adults in field Practice Area of RHTC, Vedapatti Coimbatore, Tamil Nadu
2. To determine the entomological indices in the field Practice Area of RHTC, Vedapatti Coimbatore, Tamil Nadu.

3. To find the association between the socio demographic factors of the study population and the overall awareness on dengue and its prevention in the study area.

Sample size: 700

Study volunteers / participants are (specify population group & age group): Adults greater than 18 years in the rural community area of Vedapatti, Coimbatore, Tamil Nadu

We request you to kindly cooperate with us in this study. We propose collect background information and other relevant details related to this study. We will be carrying out:

Initial interview (specify approximate duration): 10 minutes.

Data collected will be stored for a period of 3 years. We will not use the data as part of another study.

Health education sessions: Number of sessions:1. Approximate **duration** of each session:

10 minutes.

Clinical examination (Specify details and purpose):

Blood sample collection: Specify quantity of blood being drawn: .NOT APPLICABLE

No. of times it will be collected: NOT APPLICABLE

Whether blood sample collection is part of routine procedure or for research (study) purpose: NOT APPLICABLE

1. Routine procedure
2. Research purpose

Specify **purpose**, discomfort likely to be felt and side effects, if any: NOT APPLICABLE

Whether blood sample collected will be stored after study period: NOT APPLICABLE

Whether blood sample collected will be sold: NOT APPLICABLE

Whether blood sample collected will be shared with persons from another institution: NOT APPLICABLE

Medication given, if any, duration, side effects, purpose, benefits: NOT APPLICABLE

Whether medication given is part of routine procedure: NOT APPLICABLE

Whether alternatives are available for medication given: NOT APPLICABLE

Final interview (specify approximate duration):10 minutes. If **photograph** is taken, purpose:

Benefits from this study: People will be benefitted by knowing more on dengue prevention

Risks involved by participating in this study: No risks

How the **results** will be used:

If you are uncomfortable in answering any of our questions during the course of the interview / biological sample collection, **you have the right to withdraw from the interview / study at anytime**. You have the freedom to withdraw from the study at any point of time. Kindly be assured that your refusal to participate or withdrawal at any stage, if you so decide, will not result in any form of compromise or discrimination in the services offered nor would it attract any penalty. You will continue to have access to the regular services offered to a patient. You will **NOT** be paid any remuneration for the time you spend with us for this interview / study. The information provided by you will be kept in strict confidence. Under no circumstances shall we reveal the identity of the respondent or their families to anyone. The information that we collect shall be used for approved research purposes only. You will be informed about any significant new findings- including adverse events, if any, – whether directly related to you or to other participants of this study, developed during the course of this research which may relate to your willingness to continue participation.

Consent: The above information regarding the study, has been read by me/ read to me, and has been explained to me by the investigator/s. Having understood the same, I hereby give my consent to them to interview me. I am affixing my signature / left thumb impression to indicate my consent and willingness to participate in this study (i.e., willingly abide by the project requirements).

Signature / Left thumb impression of the Study Volunteer / Legal Representative:

Signature of the Interviewer with date:

Witness:

Contact number of PI : 9840377520

Contact number of Ethics Committee Office: 0422 4345818

ANNEXURE – 4

INFORMED CONSENT FORM TAMIL

பூ சா கோ மருத்துவக் கல்லூரி மற்றும் ஆராய்ச்சி நிறுவனம், கோவை

மனித நெறிமுறைக் குழு

ஒப்புதல் படிவம்

தேதி:

டாக்டர் தர்ஷன் மனோஜ் ஆகிய நான், தமிழ்நாடு கோவை கிராம புறங்களின் டெங்கு காய்ச்சல் சம்பந்தமான அறிவு, மனப்பான்மை மற்றும் நடை முறையில் கொண்டு வரும் பயிற்சி மற்றும் பூச்சிகளின் அறிகுறிகளின் தலைப்பில் ஆய்வு செய்கிறேன். இந்த ஆய்வு/ஆராய்ச்சி சமுதாய மருத்துவத்துறை ஆதரவு மனுவின் அடிப்படையில் ஒரு பாகமாக மேற்கொள்கிறேன்.

என் ஆய்வு வழிகாட்டி (மாணவர்களுக்கு மட்டும்): டாக்டர் S.L.ரவிசங்கர்

ஆய்வு மேற்கொள்வதன் அடிப்படை:

தமிழ் நாட்டில் 20,945 டெங்கு நோய் காய்ச்சல் உள்ளதாக அறிவிக்கப்பட்டது. அதில் 52 பேர் இறந்தனர். சமீப காலத்தில் கோவையில் டெங்கு காய்ச்சல் மேலும் மேலும் ஓயாது இருப்பதால் சமுதாயத்தில் நோய் பற்றிய அறிவு மனப்பான்மை மற்றும் பயிற்சி முறைக்கு வருவதால் டெங்கு நோயை தடுப்பதையும் கட்டுப்படுத்துவதும் பயன் உள்ளதாக உள்ளது. இந்தியாவில் நோயைப் பற்றி அறிவின்மை மற்றும் பரவும் விதம் பற்றி விழிப்புணர்வு இன்மையும், அறிகுறிகள் எச்சரிக்கைப் பற்றி அறிகுறிகள் பற்றாத நலக்கல்வி, நலப்பணிகளை பயன்படுத்தாமை ஆகியவை முக்கிய காரணிகள் இவைகளால் வெற்றிகரமாக கட்டுப்படுத்தவும், தடுப்பதற்கும் இடையூறாக உள்ளது.

மக்கள் டெங்கு காய்ச்சலைப் பற்றி என்ன புரிந்து கொண்டார்கள் என்படி டெங்கு காய்ச்சல் உணர்கிறார்கள் மற்றும் பயிற்சி நடைமுறைக்கு கொண்டு வருவத அவற்றை நோய் கண்டுபிடிப்பதற்கும் சிகிச்சை முன்னேற்றமடைய செயல் திட்டம் உருவாக்குபவர்களுக்கு சாத்தியமாகும் என்பதை தெரிந்து கொள்வது அவசியமாகின்றது.

அநேக ஆய்வுகள் /ஆராய்ச்சிகள் சம்பந்தமாக அறிவு, மனப்பான்மை மற்றும் பூச்சிகளைப் பற்றி அறிகுறிகள் இது சம்பந்தமாக ஒரு சில ஆய்வுகள் மட்டும். தமிழ்நாட்டில் செய்யப்பட்டுள்ளது. கிராம சமுதாயத்தில் டெங்கு காய்ச்சலை

:2:

தடுப்பதற்கும் டெங்கு பற்றி அறிவு, மனப்பான்மை மற்றும் பயிற்சி அளிப்பதற்கு தீர்மானிப்பதற்கு பூச்சிகளின் அறிகுறிகள் உதவுகிறது.

இந்த ஆய்வால் பெற்ற அறிவு பொது நிர்வாகிகளும் திட்டம், திட்டமிடுதல் திட்டங்களை மற்றும் ஏற்று கொள்வதற்கு தொடங்கவும் மற்றும் டெங்குவை தடுப்பதற்காக சம்பந்தப்பட்ட கொள்கைகளுக்கு வழிகாட்டும்.

ஆய்வின் நோக்கம்:

1. வேடப்பட்டி கிராம சுகாதார பயிற்சி மையத்திற்குட்பட்ட, கிராம களப்பயிற்சி பகுதியில் முதியோர்கள் இடையில் டெங்கு சம்பந்தமான அறிவு, மனப்பான்மை மற்றும் நடைமுறையில் கொண்டு வரும் பயிற்சியைப் பற்றி மதிப்பீடுவது.
2. ஆய்வு கொள்ளும் மக்கள் தொகையில் டெங்கு தடுப்பின் விழிப்புணர்வும் சமூக மக்கள் தொகைக்கு இடையே காணப்படும் காரணிப்பற்றி சம்பந்தத்தை காணுதல்.
3. தமிழ்நாடு கோவை வேடப்பட்டி கிராமிய சமுதாயத்தின் 18 வயதை காட்டில் அதிகமுள்ள ஆய்வுக்காக எடுத்துக் கொள்ளப்படுவது.

ஆய்வில் பங்கும் பெறும் நபர்களின் எண்ணிக்கை: 700

ஆய்வில் பங்கு பெறுவோர் மற்றும் வயது : வேடப்பட்டி கிராமத்தில் வசிக்கும் 18 வயதிற்கு மேல் ரூக்கும் பெரியவர்கள்

இந்த ஆய்வில் எங்களுடன் ஒத்துழைக்குமாறு கேட்டுக் கொள்கிறோம். நாங்கள் சில தகவல்களை இந்த ஆய்விற்காக சேகரிக்க உள்ளோம்.

ஆய்வில் மேற்கொள்ளும் இடம்: பூ.சா.கோ.மருத்துவக் கல்லூரியின் கிராமப்புற சுகாதார நிலையம், வேடப்பட்டி

ஆய்வு செய்யப்படும் முறை:

வேடப்பட்டி கிராமத்தில் வசிக்கும் 18 வயதிற்கு மேல் இருக்கும் பெரியவர்களிடம் கேள்விகள் கேட்டு மற்றும் அப்பகுதியில் பூச்சிகளின் அறிகுறிகள் ஆய்வு செய்யப்படும்.

:3:

முதன்மை நோக்கங்கள்: 10 நிமிடங்கள்

இந்த ஆய்வில் கிடைக்கும் தகவல்கள் 3 வருடங்கள் பாதுகாக்கப்படும், இந்தத் தகவல்கள் வேறு ஆய்விற்குப் பயன்படுத்தப்படும் /பயன்படுத்தப்பட மாட்டாது.

சுகாதாரக்கல்வி அமர்வுகள்: 1 முறை ஒரு அமர்வுக்கான நேரம் 10 நிமிடங்கள்

மருத்துவ பரிசோதனைகள்: பொருந்தாது

இரத்த மாதிரி சேகரிப்பு மிலி முறை: பொருந்தாது

இரத்த மாதிரி எடுப்பது வழக்கமான சிகிச்சைக்கான அல்லது இந்த ஆய்விற்காகவா?

1. வழக்கமான சிகிச்சைக்காக 2. குறிப்பிட்ட ஆய்விற்காக : பொருந்தாது

இதனால் ஏற்படக்கூடிய அசௌரியங்கள் /பக்க விளைவுகள்: பொருந்தாது

இரத்த மாதிரிகள் ஆய்விற்குப் பின் பாதுகாத்து வைக்கப்படுமா?

ஆம்/இல்லை, அழிக்கப்படும் : பொருந்தாது

சேகரிக்கப்பட்ட இரத்தம் விற்கப்படுமா? ஆம் /இல்லை : பொருந்தாது

சேகரிக்கப்பட்ட இரத்தம் வேறு நிறுவனத்துடன் பகிர்ந்து கொள்ளப்படுமா?

ஆம் /இல்லை: பொருந்தாது

மருந்துகள் ஏதேனும் கொடுக்கப்படவிருந்தால் அவை பற்றிய விவரம் (கொடுக்கப்படும் காரணம், காலம், பக்க விளைவுகள், பயன்கள்): பொருந்தாது

மருந்துகள் கொடுக்கப்படுவது வழக்கமான சிகிச்சை முறையா ? ஆம் /இல்லை (இல்லை என்றால் கொடுக்கப்படும் காரணம்): பொருந்தாது

கொடுக்கப்படும் மருந்துகளுக்கு மாற்று உள்ளதா? ஆம் /இல்லை(ஆம் என்றால் இந்த குறிப்பிட்ட மருந்து கொடுக்கப்படும் காரணம்) : பொருந்தாது

ஆய்வில் பங்கு பெறுவதால் ஏற்படும் பலன்கள் : டெங்கு காய்ச்சல் மற்றும் தடுப்பு முறைகளை பற்றி அதிகம் தெரிந்து கொள்வீர்கள்.

:4:

ஆய்வில் பங்கேற்பதால் ஏற்படும் அசௌகரியங்கள் /பக்கவிளைவுகள்: ஒன்றுமில்லை
ஆய்வின் முடிவுகள் எந்த முறையில் பயன்படுத்தப்படும்?

இந்த ஆய்வின் கேள்விகளுக்கு பதிலளிப்பதிலோ, இரத்த மாதிரிகள் அல்லது திசு மாதிரிகள் எடுப்பதிலோ உங்களுக்கு ஏதேனும் அசௌகரியங்கள் இருந்தால், எந்த நேரத்தில் வேண்டுமானாலும் ஆய்விலிருந்து விலகிக்கொள்ளும் உரிமை உங்களுக்கு உண்டு. எப்பொழுது வேண்டுமானாலும் ஆய்விலிருந்து விலகும் உரிமை உங்களுக்கு உள்ளது. ஆய்விலிருந்து விலகிக்கொள்வதால் உங்களுக்கு அளிக்கப்படும் சிகிச்சை முறையில் எந்தவித பாதிப்பும் இருக்காது என்று உங்களுக்கு உறுதியளிக்கிறோம். மருத்து மனையில் நோயாளிகளுக்கு அளிக்கப்படும் சேவைகளை நீங்கள் தொடர்ந்து பெறலாம். இந்த ஆய்வில் பங்கேற்க ஒப்புக்கொள்ளுவதால் வேறு எந்த விதமான கூடுதலான பலனும் உங்களுக்குக் கிடைக்காது. நீங்கள் அளிக்கும் தகவல்கள் இரகசியமாக வைக்கப்படும். ஆய்வில் பங்கேற்பவர்கள் பற்றியோ அவர்கள் குடும்பத்தைப் பற்றியோ எந்தத் தகவலும் எக்காரணம் கொண்டும் வெளியிடப்படாது என்று உறுதியளிக்கிறோம். நீங்கள் அளிக்கும் தகவல்கள் /இரத்த மாதிரிகள் /திசு மாதிரிகள் அங்கீகரிக்கப்பட்ட ஆய்விற்கு மட்டுமே பயன்படுத்தப்படும் . இந்த ஆய்வு நடைபெறும் காலத்தில் குறிப்பிடத்தகுந்த புதிய கண்டுபிடிப்புகள் அல்லது பக்க விளைவுகள் ஏதும் ஏற்பட்டால் உங்களுக்குத் தெரிவிக்கப்படும் .இதனால் ஆய்வில் தொடர்ந்து பங்கு பெறுவது பற்றிய உங்கள் நிலைப்பாட்டை நீங்கள் தெரிவிக்க ஏதுவாகும்.

ஆய்வுக்குட்படுபவரின் ஒப்புதல் இந்த ஆய்வைப் பற்றிய மேற்கூறிய தகவல்களை நான் படித்து அறிந்து கொண்டேன் /ஆய்வாளர் படிக்கக் கேட்டுத் தெரிந்து கொண்டேன். ஆய்வைப் பற்றி நன்றாகப் புரிந்து கொண்டு இந்த ஆய்வில் பங்கு பெற ஒப்புக் கொள்கிறேன். இந்த ஆய்வில் பங்கேற்பதற்கான எனது ஒப்புதலை கீழே கையொப்பமிட்டு/ கைரேகை பதித்து நான் தெரிவித்துக் கொள்கிறேன்.

பங்கேற்பாளரின் பெயர் , முகவரி :

பங்கேற்பாளரின் கையொப்பம் /கைரேகை /சட்டபூர்வ பிரதிநிதியின் கையொப்பம்:

தேதி :

ஆய்வாளரின் கையொப்பம் :

தேதி :

ஆய்வாளரின் தொலைபேசிஎண். :98403 77520

மனித நெறிமுறைக்குழு அலுவலகத்தின் தொலைபேசி எண்.:0422 4345818

ANNEXURE – 5

INTERVIEW QUESTIONNAIRE IN ENGLISH

Knowledge, Attitude & Practices regarding Dengue Fever and the Entomological indices in a rural community of Coimbatore, Tamil Nadu

Name of the Respondent:

Name of the locality / Address with

Type of Family: Nuclear / Extended

Religion: Hindu / Muslim / Christian / Other (specify)

| Sl. No. | Name | Age | Sex | Education ^c | Occupation ^d | Income per Month ^e ₹ |
|---------|------|-----|-----|------------------------|-------------------------|---------------------------------|
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |

Education: 1 Illiterate / 2 Read Only / 3 Elementary School / 4 Middle School / 5 HigherSecondary School / 6 College

Occupation: 1 Professional/ 2 Officer/ 3 Business/ 4 Clerk/ 5 Coolie/ 6 Housewife/ 7 Unemployed/ 8 other (specify)

Total Monthly income of the family (₹):

Per capita income of the family per month (₹):

^cThis family belongs to: Class: I II III IV V

(Circle the appropriate class)

Knowledge Questions

(On Dengue spread,symptoms,vector breeding & preventive practices)

Answer according to the options given. Some questions may carry multiple answers.

1. Have you heard about dengue fever? a. Yes b. No
2. What are the sources by which you had come to know about dengue?(
Multiple response)
 - a. Television b. Radio c. Newspapers d. Health Education by the government
 - e. Relatives & friends f. Others.
3. What are the Modes of Dengue transmission
 - a. Mosquito bite b. Person to person transmission c. Contaminated food d.
 - Dirty drinking water e. Don't know f. Others please specify
4. What are the Breeding Sites Of Mosquito causing dengue
 - a. Drainages b. Ponds c. Standing water in roads d. Artificial water holding
 - containers e. Don't know f. Others please specify
5. At what time of the day does the dengue mosquitoes bite?
 - a. Day time b. Night time c. All time d. Don't know e. Others please specify
6. What are the Symptoms of Dengue fever?(Multiple responses)
 - a. Fever b. Headache c. Rashes d. Nausea e. Vomiting f. Body pain g. muscle
 - pain h. Don't know
7. Can Dengue be fatal?
 - a. Yes b. No c. Don't know

8. Who are the vulnerable age groups who can be severely affected by dengue fever?
 - a. Children < 12 years
 - b. Adults (18-60 years)
 - c. Older population(> 60 years)
 - d. Don't know
 - e. Others please specify
9. What are all the means that can be adopted to prevent dengue fever transmission?(Multiple response)
 - a. Fogging
 - b. Eliminating places with stagnant water
 - c. Abate
 - d. Biological control
 - e. Don't know
 - f. Others please specify

Attitude Questions

1. Doctor Consultation is a must for dengue fever
 - a. Agree
 - b. Disagree
 - c. Not sure
2. The risk of getting dengue fever is high if your neighbour gets dengue fever
 - a. Agree
 - b. Disagree
 - c. Not sure
3. Removal of breeding site is useful for dengue prevention
 - a. Agree
 - b. Disagree
 - c. Not sure
4. It is not necessary to seek immediate treatment for dengue fever
 - a. Agree
 - b. Disagree
 - c. Not sure
5. The public has the most important role in dengue control.
 - a. Agree
 - b. Disagree
 - c. Not sure
6. You will join any activity for mosquito control when requested by your local health authority
 - a. Agree
 - b. Disagree
 - c. Not sure
7. You are willing to spend some amount of money to buy mosquito repellants and use them to protect yourself from being bitten by mosquitoes?
 - a. Agree
 - b. Disagree
 - c. Not sure

8. You accept the local health authority to put chemical solution(Abate) in water holding containers in your house to prevent dengue
- a. Agree b. Disagree c. Not sure

Practices Questions

1. Do you empty the unused water in the container in your house? (Yes/No)
- If Yes,
- a. Once a week b. Twice a month c. Once a month d. Once in six months e. Others please specify...
2. Did you turn unused containers upside down to prevent water stagnation in the last one week? (Yes/No)
3. Do you have Overhead tanks in your house? (Yes/No)
- If Yes, How often do you clean it
- a. Once a week b. Twice a month c. Once a month d. Once in six months e. Others please specify...
4. Did you check around your house for any disposed containers/ tyres that could collect water? (Yes/No)
- If Yes,
- a. Once a week b. Twice a month c. Once a month d. Once in six months e. Others please specify..
5. Did you allow health inspectors to check your house for mosquito breeding sites in last one year ? (Yes/No)
6. Did you inform the local authorities if you notice any potential mosquito breeding sites in public places in the neighbourhood or community in the last one month? (Yes/No)
7. Do you use mosquito control measures at your home in the day time? (Yes/No)

If Yes, what

a.Creams b. Nets/Screens c.Mats d. Coils E.Vapourisers

8. Did you drink Nilavembu Kudineer as a part of dengue fever prevention as advertised by the government?

(Yes/No)

If Yes, How often did you take?

a. Once a week b. Twice a month c. Once a month d.Once in six months e.
Others please specify.....

ANNEXURE – 6

INTERVIEW QUESTIONNAIRE TAMIL

பெயர் :
ஊர் :
குடும்பம் வகை :
மதம் :
கல்வி தகுதி :
வேலை :
மாத வருமானம் :

- குடும்பத்தில் ஏதேனும் நபர்களுக்கு டெங்கு காய்ச்சல் ஆறு மாதத்திற்குள் வந்துள்ளதா?
- எத்தனை நாட்களுக்கு ஒரு முறை குடிநீர் வரும் ?
- எந்த வகையில் குடிநீர் கிடைக்கும் ?

அறிவு சார் கேள்விகள்

- 1) டெங்கு காய்ச்சல் பற்றி கேள்விபட்டுள்ளீர்களா?
(a) ஆம் (b) இல்லை
- 2) டெங்கு நோய் பற்றிய விழிப்புணர்வு எதன் மூலமாக தாங்கள் அறிந்தீர்கள்?
(a) தொலைக்காட்சி (b) வானொலி (c) பத்திரிக்கைகள்
(d) அரசின் ஊரக மற்றும் சுகாதார கல்வி திட்டத்தின் மூலம்
(e) சொந்தங்கள் மற்றும் நண்பர்கள் வாயிலாக (f) மற்றவை
- 3) டெங்கு நோய் பரவுவதற்கான காரணங்கள் இதில் எவை?
(a) கொசுக்கடி (b) ஒருவரிடமிருந்து மற்றவருக்கு பரவுதல்
(c) சுகாதாரமற்ற உணவு (d) எல்லா காரணங்களும்
(e) மற்றவை (f) தெரியவில்லை

- 4) டெங்கு கொசு உற்பத்தியாகும் இடங்கள் இதில் எவை?
 (a)தேங்கிய பள்ளம் நீர் நிலைகள்/சாக்கடை(b)குளங்கள் மற்றும் குட்டைகள்
 (c)கழிவுநீர் அகற்றப்படாத சாலைகள் (d)செயற்கையாக தண்ணீர் தேங்கும்
 இடங்கள் (e) மற்றவை (f) தெரியவில்லை
- 5) டெங்கு கொசுகள் எப்பொழுது கடிக்கின்றன?
 (a)காலை நேரம் (b)இரவு நேரம் (c)எல்லா நேரம்
 (d) மற்றவை (e)தெரியவில்லை
- 6) டெங்கு காய்ச்சலின் அறிகுறிகள் யாவை?
 (a)காய்ச்சல் (b)தலைவலி (c)தடிப்புகள் (d)பித்தம்
 (e) வாந்தி (f)உடம்பு வலி (g)தசை வலி (h)தெரியவில்லை
- 7) டெங்கு நோய் உயிருக்கு ஆபத்தானதா?
 (a)ஆம் (b)இல்லை (c) தெரியவில்லை
- 8) எந்த வயதிற்குள் உள்ளவர்கள் டெங்கு காய்ச்சலால் கடுமையாக பாதிக்கப்படுவார்கள்?
 (a) 12 வயதிற்குள் (b) 18 – 60 வயது (c)60வயதிற்கு மேல்
 (d) தெரியவில்லை(e) மற்றவை
- 9) டெங்கு காய்ச்சலை எப்படி தடுக்கலாம்?
 (a)கொசு மருந்து அடித்தல் (b)நீர் தேங்கியுள்ள பகுதிகளை சுத்தம்
 செய்து அகற்றுவது மூலமாக (c)அபேட் என்னும் இரசாயன மருந்து
 தெளிப்பது மூலமாக (d)உயிர்க்கொல்லி மருந்து மற்றும் முறைகள்
 மூலம் தடுப்பது (e)தெரியவில்லை(f) மற்றவை

மனம் சார் கேள்விகள்

1. டெங்கு காய்ச்சலுக்கு மருத்துவர் ஆலோசனை அவசியம்?
(a)சரி (b)தவறு (c)உறுதியாக கூற இயலாது
- 2) அண்டை வீட்டார் டெங்கு நோய்வாய்ப்படும் போது தாங்களும் அந்நோய் பாதிப்புக்கு வழி அதிகம் உண்டு?
(a)சரி (b)தவறு (c)உறுதியாக கூற இயலாது
- 3) கொசு முட்டை உற்பத்தியை அழிப்பது என்பது முற்றிலும் கால விரையமான செயல்?
(a)சரி (b)தவறு (c)உறுதியாக கூற இயலாது
- 4) டெங்கு காய்ச்சலுக்கு நிரந்திர நோய் தீர்வு என்பது கிடையாது அதனால் டெங்கு காய்ச்சலுக்கு அவசர சிகிச்சை தேவையற்றது ?
(a)சரி (b)தவறு (c)உறுதியாக கூற இயலாது
- 5) டெங்கு நோய் கட்டுப்பாட்டிற்கு பொது மக்களின் பங்களிப்பு மிக முக்கியமானது?
(a)சரி (b)தவறு (c)உறுதியாக கூற இயலாது
- 6) தங்களது பகுதி சுகாதார அதிகாரிகள் கொசுவை கட்டுப்படுத்தும் நடவடிக்கைகளுக்கு தங்களை ஈடுபட சொல்லி கேட்டுக் கொண்டால் தாங்கள் இனங்குவீர்களா?
(a)சரி (b)தவறு (c)உறுதியாக கூற இயலாது
- 7) கொசுக்கடியிலிருந்து தங்களை பாதுகாத்துக் கொள்ள கொசு எதிர்ப்பு மருந்துகளை வாங்கி பயன்படுத்த சிறிதளவு பணம் செலவு செய்ய உடன்படுவீர்களா?
(a)சரி (b)தவறு (c)உறுதியாக கூற இயலாது
- 8) தங்களது பகுதி சுகாதார அதிகாரிகள் கொசுவை கட்டுப்படுத்தும் நடவடிக்கையாக அபேட் என்னும் மருந்தை தொட்டிகள் மற்றும் நீர் தேக்கமுள்ள மற்ற பகுதிகளில் தெளிப்பதற்கு உடன்படுவீர்களா?
(a)சரி (b)தவறு (c)உறுதியாக கூற இயலாது

நடைமுறை கேள்விகள்

- 1) உபயோகமற்ற பாத்திரங்களில் தேங்கியுள்ள தண்ணீரை அகற்ற அப்பாத்திரங்களை தலைகீழாக கவிழ்த்திவீர்களா?
(a)ஆம் (b)இல்லை
ஆம் என்றால்
(i)வாரம் ஒரு முறை (ii) மாதம் இரண்டு முறை (iii) மாதம் ஒரு முறை
(iv) ஆறு மாதங்களில் ஒரு முறை (v) மற்றவை கூறுக.
- 2) உபயோகமற்ற பாத்திரங்களை தண்ணீர் தேங்காமல் இருக்க பாத்திரங்களை தலைகீழாக கடந்த வாரம் கவிழ்த்திவீர்களா?
(a)ஆம் (b)இல்லை
- 3) தங்களது வீட்டை சுற்றி உபயோகமற்ற பாத்திரங்கள் அல்லது டயர்கள் உள்ளதா என்று ஆய்வு செய்வீர்களா ?
(a)ஆம் (b)இல்லை
ஆம் என்றால்
(i)வாரம் ஒரு முறை (ii) மாதம் இரண்டு முறை (iii) மாதம் ஒரு முறை
(iv) ஆறு மாதங்களுக்கு ஒரு முறை (v) மற்றவை கூறுக
- 4) தங்களது வீட்டின் அருகே கொசு உற்பத்தி மையங்கள் ஏதேனும் ஏற்பட்டுள்ளதா என்பதை சுகாதாரத்துறை ஆய்வாளர்களை உள்ளே அனுமதிப்பீர்களா?
(a)ஆம் (b)இல்லை
- 5) எத்தனை முறை பொது சுகாதாரத்துறை ஊழியர்கள் தங்களது வீட்டிற்கு கொசு ஒழிப்பு நடவடிக்கைக்கு வந்துள்ளனர்?
(a)மாதம் ஒரு முறை (b) மூன்று மாதங்களில் ஒரு முறை
(c) ஆறு மாதங்களுக்கு ஒரு முறை (d) ஆறு மாதங்களுக்கு மேல் ஒரு முறை

7) ஏதேனும் கொசு உற்பத்தி மையங்கள் நீங்கள் தங்கியிருக்கும் இடத்திற்கு அருகே கண்டறிந்தால் சுகாதாரத்துறை ஆய்வாளர்களுக்கு தெரிவிப்பீர்களா?

(a)ஆம்

(b)இல்லை

8) கொசு உற்பத்தியை தடுக்கும் முயற்சிகள் தங்களது வீட்டில் செய்து உள்ளீர்களா?

(a)ஆம்

(b)இல்லை

ஆம் என்றால் எப்படி

(i) கொசு கிரிம்

(ii) கொசு வலை

(iii) கொசு மாட்

(iv)கொசு வத்தி

(v) கொசு ஆவியாக்கி (குட் நைட், ஆல் அவுட்)

9) டெங்கு காய்ச்சல் தடுப்பதற்கு , அரசு விளம்பரம் செய்த நிலவேம்பு குடிநீர் அருந்தி உள்ளீர்களா?

(a)ஆம்

(b)இல்லை

ஆம் என்றால்

(i)வாரம் ஒரு முறை

(ii) மாதம் இரண்டு முறை

(iii) மாதம் ஒரு முறை

(iv) ஆறு மாதங்களுக்கு ஒரு முறை

(v) மற்றவை கூறுக

10)தொட்டிகள் மற்றும் நீர்த்தேக்கமுள்ள மற்ற பகுதிகளில் எப்போது எல்லாம், தங்கள் பகுதி சுகாதார மையம் ஊழியர்கள் அபேட் என்ற இரசாயன மருந்தை பயன்படுத்துவீர்களா?

(i) வாரம் ஒரு முறை

(ii) இரண்டு வாரங்களுக்கு ஒரு முறை

(iii)மாதம் ஒரு முறை

(iv) அதற்கு மேல்

ANNEXURE – 7

MODIFIED PRASAD'S SOCIO ECONOMIC STATUS SCALE DECEMBER 2018

Conversion equation: $((CPI \times 4.49) \times 4.93) \div 100$ 4.93 links 1981 to 1961

CPI [IW] for Coimbatore for December 2018 is **280** 4.49 links 2001 to 1981 and is specific to Coimbatore Centre.

$((280 \times 4.49) \times 4.93) \div 100$
= 61.98

Multiply the starting classes
(of original scale by BG Prasad) with 61.98

| Class | Prasad's Classification (1961) In Rupees | New Starting classes before they are rounded off | Round off to the nearest Rs. 10 | Modified Prasad's Classification after rounding off to the nearest Rs. 10/= and closing the gap |
|-------|--|--|---------------------------------|---|
| I | 100 & above | 6198 | 6200 | 6200 & above |
| II | 50 - 99 | 3099 | 3100 | 3100 – 6199 |
| III | 30 - 49 | 1859 | 1860 | 1860 – 3099 |
| IV | 15 - 29 | 930 | 930 | 930 – 1859 |
| V | Below 15 | Below 930 | Below 930 | Below 930 |

ANNEXURE – 8

CODING SHEET FOR MASTER CHART

1. Sex:

| | |
|--------|---|
| Male | 1 |
| Female | 2 |

2. Type of Family:

| | |
|----------|---|
| Nuclear | 1 |
| Extended | 2 |

3. Religion:

| | |
|-----------|---|
| Hindu | 1 |
| Christian | 2 |
| Muslim | 3 |

4. Education:

| | |
|-------------|---|
| Graduate | 1 |
| High school | 2 |
| Middle | 3 |
| Primary | 4 |
| Illiterate | 5 |

5. Occupation:

| | |
|--------------|---|
| Professional | 1 |
| Officer | 2 |
| Business | 3 |
| Clerk | 4 |
| Coolie | 5 |
| Housewife | 6 |
| Unemployed | 7 |
| Other | 8 |

6. Socioeconomic status:

| | |
|-----------|------------------------|
| Class I | Rs.6200.00 and above |
| Class II | Rs.3100.00 -Rs.6199.00 |
| Class III | Rs.1860.00-Rs. 3099.00 |
| Class IV | Rs. 930.00-Rs. 1859.00 |
| Class V | Below Rs. 930.00 |

Knowledge Questions

7. Heard about dengue fever

| | |
|-----|---|
| Yes | 1 |
| No | 2 |

8. Sources by which you had come to know about dengue

| | |
|------------------------------------|---|
| Television | 1 |
| Radio | 2 |
| Newspapers | 3 |
| Health Education by the government | 4 |
| Relatives & friends | 5 |
| Others | 6 |

9. Modes of Dengue transmission

| | |
|-------------------------------|---|
| Mosquito bite | 1 |
| Person to person transmission | 2 |
| Contaminated food | 3 |
| Dirty drinking water | 4 |
| Don't know | 5 |
| Others | 6 |

10. Breeding Sites of Mosquito causing dengue

| | |
|-------------------------------------|---|
| Drainages | 1 |
| Ponds | 2 |
| Standing water in roads | 3 |
| Artificial water holding containers | 4 |
| Don't know | 5 |
| Others | 6 |

11. Time of the day the dengue mosquitoes bite

| | |
|------------|---|
| Day time | 1 |
| Night time | 2 |
| All time | 3 |
| Don't know | 4 |
| Others | 5 |

12. Symptoms of Dengue fever

| | |
|-------------|---|
| Fever | 1 |
| Headache | 2 |
| Rashes | 3 |
| Nausea | 4 |
| Vomiting | 5 |
| Body pain | 6 |
| muscle pain | 7 |
| Don't know | 8 |

13. Dengue be fatal

| | |
|------------|---|
| Yes | 1 |
| No | 2 |
| Don't know | 3 |

14. Vulnerable age groups severely affected by dengue fever

| | |
|------------------------------|---|
| Children < 12 years | 1 |
| Adults (18-60 years) | 2 |
| Older population(> 60 years) | 3 |
| Don't know | 4 |
| Others | 5 |

15. Means adopted to prevent dengue fever transmission

| | |
|--|---|
| Fogging | 1 |
| Eliminating places with stagnant water | 2 |
| Abate | 3 |
| Biological control | 4 |
| Don't know | 5 |
| Others | 6 |

Attitude Questions**16. Doctor Consultation is a must for dengue fever**

| | |
|----------|---|
| Agree | 1 |
| Disagree | 2 |
| Not sure | 3 |

17. The risk of getting dengue fever is high if neighbour gets dengue fever

| | |
|----------|---|
| Agree | 1 |
| Disagree | 2 |
| Not sure | 3 |

18. Removal of breeding site is useful for dengue prevention

| | |
|----------|---|
| Agree | 1 |
| Disagree | 2 |
| Not sure | 3 |

19. It is not necessary to seek immediate treatment for dengue fever

| | |
|----------|---|
| Agree | 1 |
| Disagree | 2 |
| Not sure | 3 |

20. The public has the most important role in dengue control.

| | |
|----------|---|
| Agree | 1 |
| Disagree | 2 |
| Not sure | 3 |

21. Join any activity for mosquito control

| | |
|----------|---|
| Agree | 1 |
| Disagree | 2 |
| Not sure | 3 |

22. Willing to spend money to buy mosquito repellants

| | |
|----------|---|
| Agree | 1 |
| Disagree | 2 |
| Not sure | 3 |

23. Accept the local health authority to put Abate

| | |
|----------|---|
| Agree | 1 |
| Disagree | 2 |
| Not sure | 3 |

Practices Questions

24. Empty the unused water in the container in house

| | |
|-----|---|
| Yes | 1 |
| No | 2 |

25. If Yes,

| | |
|--------------------|---|
| Once a week | 1 |
| Twice a month | 2 |
| Once a month | 3 |
| Once in six months | 4 |
| Others | 5 |

26. Turn unused containers upside down to prevent water stagnation in the last one week

| | |
|-----|---|
| Yes | 1 |
| No | 2 |

27. Check around house for any disposed containers/ tyres that could collect water

| | |
|-----|---|
| Yes | 1 |
| No | 2 |

28. If Yes,

| | |
|--------------------|---|
| Once a week | 1 |
| Twice a month | 2 |
| Once a month | 3 |
| Once in six months | 4 |
| Others | 5 |

29. Allow health inspectors to check your house for mosquito breeding sites in last one year

| | |
|-----|---|
| Yes | 1 |
| No | 2 |

30. Inform the local authorities

| | |
|-----|---|
| Yes | 1 |
| No | 2 |

31. Use mosquito control measures in the day time

| | |
|-----|---|
| Yes | 1 |
| No | 2 |

32. If Yes, what

| | |
|--------------|---|
| Creams | 1 |
| Nets/Screens | 2 |
| Mats | 3 |
| Coils | 4 |
| Vapourisers | 5 |

33. Drink NilavembuKudineer

| | |
|-----|---|
| Yes | 1 |
| No | 2 |

34. If Yes, How often

| | |
|--------------------|---|
| Once a week | 1 |
| Twice a month | 2 |
| Once a month | 3 |
| Once in six months | 4 |
| Others | 5 |

35. Knowledge Category

| | |
|----------------------|---|
| Adequate knowledge | 1 |
| Inadequate knowledge | 0 |

36. Practice Category

| | |
|---------------------|---|
| Adequate Practice | 1 |
| Inadequate Practice | 0 |

| Sno | Name | Age | Sex | House +ve | Contai exam | Contain + | Family | Religion | Education | Occupatio n | Monthllyn come | SES | Heard den | Sources | Modes | Bree site | Biting | Symp | fever | headac | rashes | nausea | Vomitt | bod pai | musc pai | Fatal | Vuln | adult | <12 ye old | preven | foggig | elimi | abat | biol | docto con | Risk | removal | seek RX | pub rol | activi | spend mon | abate pu | empty | disposedc ontainers | HI | Informloc alauthoriti es | Controlme asures | Controlus e | Nilavemb ukudineer | Practicesc ore | Kcore | | | |
|-----|---------------|-----|-----|-----------|-------------|-----------|--------|----------|-----------|-------------|----------------|-----|-----------|---------|-------|-----------|--------|------|-------|--------|--------|--------|--------|---------|----------|-------|------|-------|------------|--------|--------|-------|------|------|-----------|------|---------|---------|---------|--------|-----------|----------|-------|---------------------|----|--------------------------|------------------|-------------|--------------------|----------------|-------|------|------|------|
| 95 | SARASWATHI | 30 | 2 | 0 | 3 | 0 | 1 | 1 | 3 | 6 | 25000 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 2 | 0 | 1 | 0 | 0 | 1 | 3 | 1 | 2 | 1 | 3 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 5 | 1 | 5.00 | 6.00 | | | |
| 96 | KAVIYA | 23 | 2 | 0 | 3 | 0 | 1 | 1 | 3 | 6 | 15000 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 3 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 3 | 1 | 2 | 2 | 1 | 3 | 1 | 1 | 1 | 1 | 2 | 1 | 5 | 2 | 5.00 | 7.00 | |
| 97 | RAMATHAL | 70 | 2 | 1 | 3 | 3 | 1 | 1 | 5 | 6 | 20000 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 0 | 2 | 3.00 | 0.00 | | |
| 98 | BAGIYALAKSHMI | 50 | 2 | 0 | 2 | 0 | 2 | 1 | 4 | 3 | 30000 | 2 | 1 | 1 | 1 | 1 | 3 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 3 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 3 | 3 | 1 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 4.00 | 4.00 | |
| 99 | RAHUL | 28 | 1 | 0 | 2 | 0 | 1 | 1 | 4 | 3 | 25000 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 6 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 3 | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 3 | 1 | 3 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 4.00 | 6.00 | | |
| 100 | SAKUNTHALA | 60 | 2 | 0 | 2 | 0 | 1 | 1 | 4 | 6 | 30000 | 2 | 1 | 5 | 1 | 4 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 3 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 3 | 2 | 1 | 2 | 1 | 1 | 1 | 5 | 1 | 5.00 | 7.00 | | |
| 101 | NAGARATHNAM | 20 | 1 | 0 | 2 | 0 | 1 | 1 | 1 | 7 | 20000 | 2 | 1 | 4 | 1 | 4 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 5 | 1 | 7.00 | 7.00 | | |
| 102 | RAMA SELVI | 28 | 2 | 0 | 2 | 0 | 1 | 1 | 3 | 6 | 30000 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 3 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 7.00 | 6.00 | | | |
| 103 | RAJESHWARI | 30 | 2 | 0 | 2 | 0 | 1 | 1 | 3 | 6 | 25000 | 2 | 1 | 1 | 1 | 1 | 5 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 5 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 3 | 2 | 5.00 | 3.00 | | |
| 104 | RADHIKA | 27 | 2 | 0 | 2 | 0 | 1 | 1 | 1 | 1 | 20000 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 3 | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 7.00 | 6.00 | | |
| 105 | RAJESHWARI | 35 | 2 | 0 | 2 | 0 | 1 | 1 | 3 | 6 | 25000 | 2 | 1 | 1 | 1 | 1 | 3 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 4 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 1 | 2 | 1 | 3 | 1 | 3 | 2 | 1 | 1 | 2 | 1 | 2 | 2 | 0 | 1 | 3.00 | 4.00 | |
| 106 | SUGUNA | 27 | 2 | 0 | 2 | 0 | 1 | 1 | 1 | 6 | 20000 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 3 | 3 | 1 | 1 | 1 | 1 | 2 | 1 | 5 | 1 | 5.00 | 6.00 | |
| 107 | RATHIKA | 27 | 2 | 0 | 2 | 0 | 1 | 1 | 2 | 6 | 30000 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 4 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 3 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 5 | 1 | 5.00 | 5.00 | |
| 108 | SAROJINI | 50 | 2 | 0 | 2 | 0 | 1 | 1 | 5 | 6 | 15000 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 0 | 1 | 4.00 | 0.00 | |
| 109 | LAKSHMI | 45 | 2 | 0 | 2 | 0 | 1 | 1 | 3 | 6 | 40000 | 1 | 1 | 1 | 1 | 1 | 2 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 4 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 1 | 2 | 1 | 3 | 1 | 3 | 1 | 1 | 1 | 2 | 2 | 1 | 5 | 1 | 3.00 | 4.00 | | |
| 110 | ESWARI | 50 | 2 | 0 | 2 | 0 | 1 | 1 | 5 | 6 | 20000 | 1 | 1 | 5 | 4 | 3 | 1 | 4 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 2 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 3 | 1 | 2 | 2 | 1 | 3 | 2 | 1 | 1 | 1 | 2 | 2 | 1 | 5 | 1 | 4.00 | 4.00 | | |
| 111 | MALLIGA | 50 | 2 | 0 | 2 | 0 | 1 | 1 | 3 | 6 | 15000 | 2 | 1 | 1 | 1 | 1 | 3 | 2 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 1 | 1 | 1 | 3 | 0 | 0 | 1 | 0 | 2 | 1 | 2 | 1 | 3 | 2 | 2 | 1 | 1 | 2 | 1 | 2 | 1 | 5 | 1 | 4.00 | 4.00 | | |
| 112 | RAMYA | 35 | 2 | 0 | 2 | 0 | 2 | 1 | 3 | 6 | 60000 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 5 | 1 | 6.00 | 6.00 | | |
| 113 | SUMATHI | 50 | 2 | 0 | 2 | 0 | 1 | 1 | 3 | 6 | 25000 | 2 | 1 | 1 | 1 | 3 | 1 | 5 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 5 | 1 | 7.00 | 6.00 | |
| 114 | KANNAKI | 55 | 2 | 1 | 3 | 1 | 1 | 1 | 5 | 5 | 15000 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 2 | 3 | 2 | 2 | 1 | 1 | 2 | 1 | 2 | 1 | 4 | 2 | 3.00 | 0.00 | |
| 115 | MANI | 50 | 1 | 1 | 3 | 2 | 1 | 1 | 5 | 5 | 10000 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 3 | 2 | 1 | 2 | 2 | 1 | 2 | 1 | 1 | 2 | 0 | 2 | 3.00 | 0.00 | | |
| 116 | MURUGESAN | 37 | 1 | 1 | 3 | 2 | 1 | 1 | 2 | 5 | 30000 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 0 | 0 | 1 | 2 | 0 | 1 | 0 | 0 | 1 | 1 | 2 | 2 | 1 | 3 | 1 | 1 | 2 | 1 | 1 | 2 | 0 | 2 | 3.00 | 6.00 | | | |
| 117 | GEETHALAKSHMI | 29 | 2 | 0 | 2 | 0 | 1 | 1 | 3 | 6 | 30000 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 3 | 0 | 0 | 1 | 0 | 1 | 3 | 1 | 2 | 1 | 3 | 3 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 5.00 | 6.00 | |
| 118 | SWATHI | 26 | 2 | 0 | 3 | 0 | 1 | 1 | 3 | 6 | 20000 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 2 | 1 | 5 | 1 | 6.00 | 6.00 |
| 119 | RAMYA | 26 | 2 | 0 | 3 | 0 | 1 | 1 | 1 | 6 | 35000 | 1 | 1 | 1 | 1 | 1 | 1 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 5 | 1 | 7.00 | 6.00 | |
| 120 | USHA | 23 | 2 | 0 | 3 | 0 | 1 | 1 | 1 | 6 | 25000 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 3 | 0 | 0 | 1 | 3 | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 3 | 1 | 3 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 0 | 1 | 4.00 | 6.00 | |
| 121 | JEEVITHA | 21 | 2 | 0 | 3 | 0 | 1 | 1 | 1 | 6 | 20000 | 1 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 5 | 1 | 7.00 | 5.00 | |
| 122 | SURESH | 21 | 1 | 0 | 3 | 0 | 1 | 1 | 1 | 7 | 15000 | 2 | 1 | 5 | 1 | 6 | 3 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 4 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 1 | 2 | 1 | 2 | 3 | 2 | 2 | 1 | 2 | 1 | 2 | 2 | 0 | 2 | 2.00 | 3.00 | | |
| 123 | NAGESHWARI | 60 | 2 | 0 | 3 | 0 | 1 | 1 | 5 | 6 | 20000 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 1 | 1 | 3 | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | 2 | 4.00 | 0.00 | | |
| 124 | MANIYAN | 43 | 1 | 0 | 3 | 0 | 2 | 1 | 3 | 3 | 40000 | 1 | 1 | 4 | 6 | 1 | 5 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 3 | 2 | 2 | 1 | 3 | 2 | 3 | 1 | 1 | 1 | 1 | 2 | 0 | 2 | 4.00 | 4.00 | |
| 125 | Nagammal | 50 | 2 | 0 | 3 | 0 | 1 | 1 | 2 | 6 | 18000 | 2 | 1 | 4 | 4 | 3 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 3 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 3 | 1 | 2 | 1 | 3 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 0 | 1 | 4.00 | 3.00 | | |
| 126 | Ramathal | 50 | 2 | 1 | 3 | 1 | 1 | 1 | 3 | 3 | 12000 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 3 | 1 | 1 | 3 | 3 | 1 | 1 | 1 | 2 | 2 | 2 | 0 | 2 | 3.00 | 0.00 | | |
| 127 | Karthiyayini | 30 | 2 | 0 | 3 | 0 | 1 | 1 | 1 | 6 | 25000 | 2 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 5 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 1 | 3 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 2 | 1 | 5 | 1 | 5.00 | 6.00 | |
| 128 | loganayaki | 30 | 2 | 0 | 2 | 0 | 1 | 1 | 1 | 6 | 20000 | 2 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 1 | 2 | 2 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 5 | 1 | 7.00 | 6.00 | | |
| 129 | Prema | 30 | 2 | 0 | 2 | 0 | 1 | 1 | 2 | 6 | 10000 | 2 | 1 | 4 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 6.00 | | | |

| Sno | Name | Age | Sex | House +ve | Contai exam | Contain + | Family | Religion | Education | Occupatio n | Monthlyn come | SES | Heard den | Sources | Modes | Bree site | Biting | Symp | fever | headac | rashes | nausea | Vomitt | bod pai | musc pai | Fatal | Vuln | adult | <12 ye old | preven | foggig | elimi | abat | biol | docto con | Risk | removal | seek RX | pub rol | activi | spend mon | abate pu | empty | disposedc ontainers | HI | Informloc alauthoriti es | Controlme asures | Controlus e | Nilavemb ukudineer | Practicesc ore | Kcore | | |
|-----|-------------|-----|-----|-----------|-------------|-----------|--------|----------|-----------|-------------|---------------|-----|-----------|---------|-------|-----------|--------|------|-------|--------|--------|--------|--------|---------|----------|-------|------|-------|------------|--------|--------|-------|------|------|-----------|------|---------|---------|---------|--------|-----------|----------|-------|---------------------|----|--------------------------|------------------|-------------|--------------------|----------------|-------|------|------|
| 189 | 189 | 24 | 1 | 0 | 3 | 0 | 2 | 1 | 2 | 3 | 25000 | 2 | 1 | 1 | 1 | 4 | 2 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 5 | 1 | 5.00 | 6.00 | | |
| 190 | 190 | 28 | 2 | 0 | 3 | 0 | 1 | 1 | 3 | 6 | 20000 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 5 | 2 | 6.00 | 6.00 | |
| 191 | 191 | 60 | 2 | 0 | 2 | 0 | 1 | 1 | 3 | 6 | 20000 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 2 | 1 | 1 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 5 | 1 | 5.00 | 0.00 | | |
| 192 | 192 | 50 | 1 | 1 | 3 | 1 | 1 | 1 | 5 | 5 | 15000 | 2 | 1 | 4 | 6 | 6 | 2 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 3 | 0 | 0 | 1 | 0 | 1 | 2 | 1 | 3 | 1 | 3 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 4 | 2 | 3.00 | 4.00 | |
| 193 | 193 | 62 | 1 | 0 | 3 | 0 | 1 | 1 | 2 | 3 | 20000 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 5 | 2 | 5.00 | 6.00 | | |
| 194 | 194 | 25 | 2 | 0 | 3 | 0 | 1 | 1 | 3 | 7 | 15000 | 2 | 1 | 0 | 1 | 1 | 1 | 5 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 3 | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 0 | 1 | 5.00 | 6.00 | |
| 195 | 195 | 29 | 1 | 0 | 3 | 0 | 1 | 1 | 3 | 5 | 20000 | 2 | 1 | 4 | 1 | 4 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 3 | 0 | 0 | 1 | 0 | 1 | 2 | 1 | 2 | 2 | 3 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 5 | 2 | 4.00 | 7.00 | |
| 196 | 196 | 65 | 1 | 0 | 2 | 0 | 1 | 1 | 3 | 5 | 20000 | 1 | 1 | 3 | 1 | 4 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 3 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 6.00 | 7.00 | |
| 197 | 197 | 45 | 1 | 1 | 4 | 2 | 1 | 1 | 5 | 3 | 30000 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 1 | 1 | 1 | 3 | 3 | 1 | 2 | 2 | 2 | 1 | 2 | 2 | 0 | 2 | 1.00 | 0.00 | | |
| 198 | 198 | 35 | 2 | 0 | 3 | 0 | 2 | 1 | 3 | 6 | 30000 | 2 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 0 | 0 | 0 | 1 | 2 | 0 | 1 | 0 | 0 | 1 | 1 | 2 | 2 | 1 | 3 | 3 | 1 | 1 | 1 | 1 | 2 | 1 | 5 | 1 | 5.00 | 5.00 |
| 199 | 199 | 23 | 1 | 0 | 3 | 0 | 1 | 1 | 3 | 3 | 15000 | 3 | 1 | 1 | 1 | 1 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 2 | 2 | 1 | 3 | 3 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 4.00 | 5.00 | | |
| 200 | 200 | 58 | 2 | 0 | 3 | 0 | 1 | 1 | 3 | 6 | 30000 | 2 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 3 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 5 | 1 | 7.00 | 7.00 | |
| 201 | 201 | 45 | 2 | 0 | 2 | 0 | 1 | 1 | 3 | 6 | 20000 | 1 | 1 | 1 | 6 | 4 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 3 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 4.00 | 6.00 | | | |
| 202 | 202 | 33 | 2 | 0 | 2 | 0 | 1 | 3 | 1 | 1 | 75000 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 3 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 5 | 1 | 7.00 | 6.00 | | |
| 203 | 203 | 50 | 1 | 0 | 2 | 0 | 1 | 1 | 2 | 3 | 50000 | 1 | 1 | 3 | 4 | 2 | 5 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 6.00 | 4.00 | | |
| 204 | 204 | 38 | 2 | 0 | 3 | 0 | 1 | 1 | 2 | 3 | 40000 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 3 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 7.00 | 6.00 | | |
| 205 | 205 | 32 | 2 | 0 | 3 | 0 | 1 | 1 | 1 | 1 | 35000 | 1 | 1 | 1 | 1 | 1 | 6 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 7.00 | 5.00 | | |
| 206 | 206 | 52 | 2 | 0 | 2 | 0 | 1 | 1 | 3 | 6 | 30000 | 2 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 3 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 5 | 1 | 6.00 | 7.00 | |
| 207 | 207 | 44 | 2 | 0 | 2 | 0 | 1 | 1 | 2 | 3 | 20000 | 2 | 1 | 1 | 1 | 4 | 1 | 2 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 4 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 7.00 | 6.00 |
| 208 | 208 | 34 | 2 | 0 | 2 | 0 | 1 | 1 | 1 | 3 | 40000 | 1 | 1 | 1 | 1 | 4 | 1 | 2 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 5 | 1 | 7.00 | 7.00 | |
| 209 | 209 | 64 | 1 | 1 | 4 | 2 | 1 | 1 | 4 | 5 | 20000 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 0.00 | 0.00 | | |
| 210 | 210 | 63 | 2 | 1 | 3 | 2 | 1 | 1 | 4 | 6 | 20000 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 1 | 2 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 3 | 2 | 1.00 | 0.00 |
| 211 | 211 | 54 | 1 | 1 | 3 | 1 | 1 | 1 | 4 | 6 | 20000 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 0.00 | 0.00 | | |
| 212 | 212 | 41 | 1 | 0 | 2 | 0 | 1 | 1 | 2 | 3 | 30000 | 1 | 1 | 5 | 1 | 4 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 4 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 1 | 3 | 3 | 3 | 1 | 1 | 1 | 1 | 2 | 2 | 5.00 | 5.00 | | |
| 213 | 213 | 35 | 2 | 0 | 2 | 0 | 1 | 1 | 1 | 3 | 45000 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 7.00 | 6.00 | |
| 214 | 214 | 28 | 2 | 0 | 2 | 0 | 1 | 1 | 1 | 1 | 70000 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 5 | 1 | 7.00 | 7.00 | |
| 215 | 215 | 65 | 2 | 1 | 3 | 2 | 1 | 1 | 4 | 6 | 15000 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 1.00 | 0.00 | | |
| 216 | ARTHI | 23 | 2 | 0 | 2 | 0 | 1 | 1 | 2 | 6 | 20000 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 3 | 1 | 3 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 2 | 2 | 1 | 5 | 1 | 5.00 | 6.00 | | |
| 217 | RANGARAJ | 50 | 2 | 1 | 3 | 1 | 1 | 1 | 5 | 5 | 30000 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 2 | 1 | 2 | 3 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 0.00 | 0.00 | | |
| 218 | JAYASREE | 25 | 2 | 0 | 2 | 0 | 1 | 1 | 3 | 3 | 10000 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 5 | 1 | 6.00 | 6.00 | | |
| 219 | SIVARAJ | 50 | 1 | 0 | 3 | 0 | 1 | 1 | 3 | 5 | 20000 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 2 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 3 | 2 | 1 | 2 | 3 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 0 | 1 | 5.00 | 4.00 | | |
| 220 | SARASWATHI | 42 | 2 | 0 | 2 | 0 | 2 | 1 | 3 | 6 | 28000 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 2 | 0 | 1 | 0 | 0 | 1 | 1 | 2 | 2 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 5 | 1 | 6.00 | 6.00 |
| 221 | NIRMALA | 50 | 2 | 0 | 3 | 0 | 1 | 1 | 3 | 6 | 30000 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 1 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 3 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 5 | 1 | 5.00 | 6.00 | | |
| 222 | SARATHAMANI | 50 | 2 | 0 | 2 | 0 | 1 | 1 | 3 | 6 | 30000 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 2 | 2 | 1 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 5 | 1 | 7.00 | 6.00 | | |
| 223 | LALITHAMBAL | 62 | 2 | 0 | 3 | 0 | 1 | 1 | 3 | 6 | 20000 | 1 | 1 | 1 | 1 | 4 | 1 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 7.00 | 6.00 | |
| 224 | SASIKALA | 50 | 2 | 0 | 2 | 0 | 1 | 1 | 2 | 4 | 30000 | 1 | 1 | 1 | 1 | 1 | 1 | 5 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0</ | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Sno | Name | Age | Sex | House +ve | Contai exam | Contain + | Family | Religion | Education | Occupatio n | Monthlyl ycome | SES | Heard den | Sources | Modes | Bree site | Biting | Symp | fever | headac | rashes | nausea | Vomitt | bod pai | musc pai | Fatal | Vuln | adult | <12 ye old | preven | foggig | elimi | abat | biol | docto con | Risk | removal | seek RX | pub rol | activi | spend mon | abate pu | empty | disposedc ontainers | HI | Informloc alauthoriti es | Controlme asures | Controlus e | Nilavemb ukudineer | Practicesc ore | Kcore | | | | |
|-----|------|-----|-----|-----------|-------------|-----------|--------|----------|-----------|-------------|----------------|-----|-----------|---------|-------|-----------|--------|------|-------|--------|--------|--------|--------|---------|----------|-------|------|-------|------------|--------|--------|-------|------|------|-----------|------|---------|---------|---------|--------|-----------|----------|-------|---------------------|----|--------------------------|------------------|-------------|--------------------|----------------|-------|------|------|------|------|
| 565 | 92 | 27 | 2 | 0 | 3 | 0 | 1 | 1 | 1 | 1 | 20000 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 3 | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 3 | 1 | 3 | 1 | 3 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 7.00 | 6.00 |
| 566 | 93 | 35 | 2 | 1 | 3 | 2 | 1 | 1 | 3 | 6 | 25000 | 2 | 1 | 1 | 1 | 1 | 3 | 6 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 4 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 1 | 2 | 1 | 3 | 1 | 3 | 2 | 1 | 1 | 2 | 1 | 2 | 2 | 0 | 1 | 3.00 | 4.00 | | | |
| 567 | 94 | 27 | 2 | 0 | 3 | 0 | 1 | 1 | 1 | 6 | 20000 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 3 | 3 | 1 | 1 | 1 | 1 | 2 | 1 | 5 | 1 | 5.00 | 6.00 | | | | |
| 568 | 95 | 27 | 2 | 0 | 3 | 0 | 1 | 1 | 2 | 6 | 30000 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 4 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 3 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 5 | 1 | 5.00 | 5.00 | | | | |
| 569 | 96 | 50 | 2 | 0 | 3 | 0 | 1 | 1 | 5 | 6 | 15000 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 0 | 1 | 4.00 | 0.00 | | | |
| 570 | 97 | 45 | 2 | 1 | 3 | 1 | 1 | 1 | 3 | 6 | 40000 | 1 | 1 | 1 | 1 | 1 | 2 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 4 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 1 | 2 | 1 | 3 | 1 | 3 | 1 | 1 | 1 | 2 | 2 | 1 | 5 | 1 | 3.00 | 4.00 | | | |
| 571 | 98 | 50 | 2 | 0 | 3 | 0 | 1 | 1 | 5 | 6 | 20000 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 4 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 1 | 3 | 1 | 2 | 1 | 1 | 1 | 2 | 2 | 1 | 5 | 1 | 4.00 | 4.00 | | | |
| 572 | 99 | 50 | 2 | 0 | 2 | 0 | 1 | 1 | 3 | 6 | 15000 | 2 | 1 | 1 | 1 | 1 | 3 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 1 | 3 | 0 | 0 | 1 | 0 | 2 | 1 | 2 | 1 | 3 | 2 | 2 | 1 | 1 | 2 | 1 | 2 | 1 | 5 | 1 | 4.00 | 4.00 | | | |
| 573 | 100 | 35 | 2 | 0 | 2 | 0 | 2 | 1 | 3 | 6 | 60000 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 2 | 0 | 1 | 0 | 0 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 5 | 1 | 6.00 | 6.00 | | | | | |
| 574 | 101 | 50 | 2 | 0 | 2 | 0 | 1 | 1 | 3 | 6 | 25000 | 2 | 1 | 1 | 1 | 1 | 3 | 1 | 5 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 5 | 1 | 7.00 | 6.00 | | | |
| 575 | 102 | 55 | 2 | 1 | 3 | 3 | 1 | 1 | 5 | 5 | 15000 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 2 | 3 | 2 | 2 | 1 | 1 | 2 | 1 | 4 | 2 | 3.00 | 0.00 | | | | |
| 576 | 103 | 50 | 1 | 1 | 3 | 2 | 1 | 1 | 5 | 5 | 10000 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 3 | 2 | 1 | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 2 | 0 | 2 | 3.00 | 0.00 | | | |
| 577 | 104 | 37 | 1 | 1 | 4 | 2 | 1 | 1 | 2 | 5 | 30000 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 3 | 0 | 0 | 1 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 3 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 0 | 2 | 3.00 | 6.00 | | | |
| 578 | 105 | 29 | 2 | 0 | 2 | 0 | 1 | 1 | 3 | 6 | 30000 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 3 | 0 | 0 | 1 | 0 | 1 | 3 | 1 | 2 | 1 | 3 | 3 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 5.00 | 6.00 | | | |
| 579 | 106 | 26 | 2 | 0 | 2 | 0 | 1 | 1 | 3 | 6 | 20000 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 5 | 1 | 6.00 | 6.00 | |
| 580 | 107 | 26 | 2 | 0 | 2 | 0 | 1 | 1 | 1 | 6 | 35000 | 1 | 1 | 1 | 1 | 1 | 1 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 5 | 1 | 7.00 | 6.00 | |
| 581 | 108 | 23 | 2 | 0 | 2 | 0 | 1 | 1 | 1 | 6 | 25000 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 3 | 0 | 0 | 1 | 3 | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 3 | 1 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 0 | 1 | 4.00 | 6.00 | | |
| 582 | 109 | 21 | 2 | 0 | 2 | 0 | 1 | 1 | 1 | 6 | 20000 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 5 | 1 | 7.00 | 5.00 | | | |
| 583 | 110 | 21 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 7 | 15000 | 2 | 1 | 5 | 1 | 1 | 6 | 3 | 6 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 4 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 1 | 2 | 1 | 2 | 3 | 2 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 2 | 0 | 2 | 2.00 | 3.00 | | |
| 584 | 111 | 60 | 2 | 0 | 2 | 0 | 1 | 1 | 5 | 6 | 20000 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 1 | 1 | 3 | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | 2 | 4.00 | 0.00 | | | |
| 585 | 112 | 43 | 1 | 0 | 2 | 0 | 2 | 1 | 3 | 3 | 40000 | 1 | 1 | 4 | 6 | 1 | 5 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 3 | 2 | 2 | 1 | 3 | 2 | 3 | 1 | 1 | 1 | 1 | 2 | 0 | 2 | 4.00 | 4.00 | | | |
| 586 | 113 | 50 | 2 | 0 | 2 | 0 | 1 | 1 | 2 | 6 | 18000 | 2 | 1 | 4 | 4 | 3 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 3 | 1 | 2 | 1 | 3 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 0 | 1 | 4.00 | 3.00 | | | |
| 587 | 114 | 50 | 2 | 1 | 5 | 3 | 1 | 1 | 3 | 3 | 12000 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 3 | 1 | 1 | 3 | 3 | 1 | 1 | 1 | 2 | 2 | 0 | 2 | 3.00 | 0.00 | | | | |
| 588 | 115 | 30 | 2 | 0 | 3 | 0 | 1 | 1 | 1 | 6 | 25000 | 2 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 5 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 1 | 3 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 5 | 1 | 5.00 | 6.00 | | |
| 589 | 116 | 30 | 2 | 0 | 3 | 0 | 1 | 1 | 1 | 6 | 20000 | 2 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 5 | 1 | 7.00 | 6.00 | | |
| 590 | 117 | 30 | 2 | 0 | 3 | 0 | 1 | 1 | 2 | 6 | 10000 | 2 | 1 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 6.00 | 5.00 | | |
| 591 | 118 | 24 | 2 | 0 | 4 | 0 | 1 | 1 | 1 | 7 | 20000 | 2 | 1 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 1 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 1 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 6.00 | 5.00 | | |
| 592 | 119 | 31 | 2 | 0 | 2 | 0 | 1 | 1 | 2 | 6 | 10000 | 2 | 1 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 1 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 6.00 | 5.00 | | | |
| 593 | 120 | 58 | 2 | 1 | 3 | 2 | 2 | 1 | 5 | 6 | 12000 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 3 | 1 | 3 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 0 | 2 | 3.00 | 0.00 | | | |
| 594 | 121 | 30 | 2 | 0 | 2 | 0 | 1 | 1 | 1 | 3 | 30000 | 1 | 1 | 4 | 1 | 4 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 3 | 0 | 0 | 1 | 2 | 0 | 1 | 0 | 0 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 5 | 1 | 6.00 | 7.00 | | |
| 595 | 122 | 57 | 2 | 1 | 3 | 2 | 1 | 1 | 3 | 6 | 30000 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 3 | 1 | 3 | 2 | 1 | 1 | 2 | 1 | 2 | 1 | 2 | 3.00 | 0.00 | | | | |
| 596 | 123 | 26 | 2 | 0 | 3 | 0 | 1 | 1 | 4 | 6 | 20000 | 1 | 1 | 1 | 1 | 3 | 1 | 5 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 1 | 3 | 3 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 2 | 2 | 0 | 1 | 4.00 | 5.00 | | |
| 597 | 124 | 50 | 2 | 0 | 3 | 0 | 1 | 1 | 5 | 6 | 12000 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 3 | 3 | 1 | 2 | 2 | 1 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 4.00 | 0.00 | | | |
| 598 | 125 | 38 | 2 | 0 | 3 | 0 | 1 | 1 | 3 | 3 | 30000 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 5 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 5 | 1 | 7.00 | 5.00 | | | |
| 599 | 126 | 28 | 2 | 1 | 3 | 1 | 1 | 1 | 3 | 6 | 15000 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 0 | 2 | 3.00 | 0.00 | | |
| 600 | 127 | 52 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |