

A study to assess the level of knowledge and awareness regarding prevention of dengue fever among people residing at rural area

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ABSTRACT: Dengue is the life-threatening mosquito-borne viral infection that has been a public health problem. Dengue is a preventable disease despite of being fatal. Three main lines of prevention are often applied in line that is health education, mosquito elimination and vaccination.

METHODS: Quantitative approach was used for this study. Descriptive design will be used to collect data. Is at Thiruvallur which the data covering nearly 3,000 population at mappedu village 600 population were female 400 and male 200. The sample size comprised of 100 rural area peoples in the age group of 30 to above 50 years including both men and women who are residing at mappedu area. On probability convenient sampling method is planned.

RESULT: The total 100 respondents were majority are female and minority are male. In this minimum samples had inadequate knowledge, majority had moderate knowledge and minority had adequate knowledge and awareness regarding the prevention of dengue fever

CONCLUSION: The study indicated that the respondents were not familiar with dengue. Need for more information, education, communication program to identify barrier and provide positive preventive practices about dengue. I conclude that there is need to increase health promotion activities to increase knowledge which forms the basis for awareness regarding the prevention of dengue

KEYWORDS: Assess, knowledge, awareness, prevention and dengue fever

INTRODUCTION: Dengue fever is an acute, mosquito-transmitted viral disease characterized by fever, headache, arthralgia, myalgia, rash, nausea, and vomiting. Infections are caused by any of four virus serotypes (DEN-1, DEN-2, DEN-3, and DEN-4)¹. The incidence of dengue is increasing in most tropical areas throughout the world. Economic, political, technologic, ecologic, and demographic changes have brought about the emergence of new microbial diseases, as well as an increase in the incidence of previously known infections. The increase in dengue activity in Asia, Africa, and the Americas represents a pandemic that is being facilitated by increased air travel; global urbanization; population growth; greater abundance of disposable, non-degradable containers that can serve as Aedes production sites; and lack of effective mosquito control programs². This report summarizes information about risk factors for severe disease, recent dengue outbreaks throughout the world, and cases of dengue virus infection in travelers who have been diagnosed on return to the United States. Dengue is an infectious disease caused by a virus. The virus is transmitted by a type of mosquito (*Aedes aegypti*) that bites during daylight hours. (Rajiv Gandhi University of Health science, Bangalore).

The dengue virus belongs to the Flaviviridae family of viruses that cause diseases in humans. Dengue is the most common infection caused by viruses transmitted by mosquitoes (these are known as arboviral illnesses)³. Dengue causes severe flu-like symptoms, such as a high temperature (fever) of 40C (104F) or over, severe headache, muscle and joint pain, facial flushing and skin rash. Anyone can catch dengue if the disease is common in that area (endemic). See the box, below left, for a list of high-risk countries. However, dengue is more common among older children, adolescents and adults⁴. The risk of travelers catching dengue depends on several factors, including, the countries they visit, how long they stay in an endemic area (although even short-term visitors may be vulnerable to dengue), the season of travel (mosquitoes breed in fresh-standing water, such as puddles and collected rainwater), the intensity of dengue transmission in that area.

Dengue is a self-limiting disease. Self-limiting means that it clears up by itself, usually within a couple of weeks. The incubation period (the time it takes for symptoms to show after infection) for dengue is five to eight days⁵. There is no vaccine to prevent you becoming infected, although research into developing a vaccine to protect against dengue is in progress. The only way to prevent getting the virus is to avoid being bitten and to be particularly careful around the hours of dawn and dusk. There are no specific medications available to treat the disease, but symptoms can be managed by taking paracetamol, drinking plenty of fluids and resting⁶.

Dengue is one of the most important mosquito-transmitted arboviral diseases of tropical and subtropical parts of the world. It is estimated that 100 million cases occur per year, and 2.5 billion people at risk. Hemorrhagic complications causing encephalopathy is a rare but fatal⁷. We discuss the management of 5 uncommon cases of intracranial hemorrhage in dengue. High index of suspicion is required for early diagnosis.

In 2003 only 8 countries in South East Asia Region reported dengue cases. As of 2006, ten out of the eleven countries in the Region (Bangladesh, Bhutan, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand and Timor-Leste) reported dengue cases⁸. Most people with dengue recover within two weeks. However, in some cases dengue can develop into dengue hemorrhagic fever (DHF). This is a potentially fatal complication of dengue where you bleed from your nose, gums and inside your body. It can also lead to dengue shock syndrome (DSS), a serious complication of dengue hemorrhagic fever that can lead to shock (a sudden loss in blood pressure)⁹. This is also potentially fatal. In 2009, large numbers of dengue cases were reported in Brazil. Over 226,000 cases reported within the first 15 weeks of the year. Large numbers were also reported in Bolivia and Argentina¹⁰.

According to the World Health Organization, each year there are 50-100 million cases of dengue¹¹. Dengue fever is a fatal viral infection that results in up to 24,000 deaths every year. Dengue a mosquito-borne viral disease has rapidly spread in all regions of WHO in recent years. The number of dengue cases reported annually to WHO has increased from 0.4 to 1.3 million in the decade 1996–2005, reaching 2.2 million in 2010 and 3.9 billion in 2018. In the last 50 years, incidence has increased 30-fold with increasing geographic expansion to new countries and in the present decade, from urban to rural settings. The estimated global annual incidence of symptomatic cases is about 50 million – 100 million who were predominantly from Asia, followed by Latin America and Africa¹².

In India, 16517 cases and 545 deaths were reported during 1996 dengue outbreak after which there was upsurge of cases from 2010 onwards¹³. In 2018, 89974 cases have been reported which were lower than the cases reported in 2017. Tamil Nadu reported 4.04% of the national burden in the year 2018¹⁴. Overall burden of disease is appearing sleek due to the substantial under-reporting of dengue within health systems¹⁵. The disease was mainly restricted to urban and semi-urban areas of the country because of the availability of favorable breeding sites of dengue vector. However, over period of time there was a paradigm shift in the trend of incidence of dengue from urban to rural areas due to urbanization, industrialization, large scale development activities and rapid transportation which made the rural areas favorable for dengue vector breeding¹⁶. These developments have resulted in frequent outbreaks of dengue in rural areas of the country. Rapid population growth, lack of correct knowledge about dengue infection and preventive measures, environmental changes and increased breeding of *Aedes* in the living premises resulted in higher transmission of disease¹⁷.

Considering the severity of the disease it has become need of the hour to adopt preventive and control measures to halt the transmission of dengue. This in turn depends on the community acceptance and participation which again depends on the community awareness regarding dengue and its prevention. With this background the study was conducted to determine the awareness about dengue and its prevention among a rural population in Thiruvallur district of Tamil Nadu state.

OBJECTIVES:1. TO ASSESS THE LEVEL OF KNOWLEDGE AND PREVENTION OF DENGUE FEVER AMONG PEOPLE IN A RURAL AREA MAPPED

2. To associate the level of knowledge on dengue fever with selected demographic variable

MATERIAL AND METHODS:

A sample of 100 rural people are selected by non probability convenient sampling techniques

The descriptive study was conducted during a one month period. Data collection was conducted in mappedu. After getting permission from the village panchayat. Demographic variable consist of gender, age, habit, occupation, family size and environment. Self-structured questionnaire was used to collect data

The study investigators explained to the adults about the study's objectives, rationale and requirement of consent to participate in the study. The investigators then provided instructions for filling the questionnaire, and then guided the adults. Understanding of each question was checked by asking the individuals to repeat the meaning. During the filling of questionnaires, the investigators helped the individuals throughout and helped simplifying the meaning of each question, clarifying doubts and checking for completeness of filling up the questionnaire

Chi-square test was used to test the association between categorical variables. $P < 0.05$ was taken as statistically significant

RESULTS: The total 100 respondent's majority were 70% female. Majority of the sample were between the age group (41-45 years) 35%. 30% are the age group of 36-40 years. Majority of environment is surrounded by waste material. Out of 100 samples 49% of sample had moderate adequate knowledge prevention of dengue fever. 20% of the sample had adequate knowledge regarding prevention of dengue fever. 31% of the sample had inadequate knowledge regarding prevention of dengue fever.

There was an association between the demographic variable and knowledge and awareness regarding prevention of dengue. There was statistically significant found between the source of information and the level of knowledge and awareness regarding prevention of dengue fever. it was clear that though majority of the study participants heard about dengue symptoms and mosquito transmitting dengue infection, less than half were aware about breeding habits of Aedes mosquito and 25% did not follow any method of mosquito bite prevention practices

As per mean deviation the frequency of level of knowledge is 10.01 and as per standard deviation the frequency of level of knowledge 3.71

TABLE 1: Presentation of Frequency and percentage distribution of demographic variables of rural people at mappedu

S.NO	DEMOGRAPHIC VARIABLE	FREQUENCY	PERCENTAGE
1	Gender		
	a)Male	30	30%
	b)Female	70	70%
2	Age		
	a) 30-35 years	15	15%
	b) 36-40 years	30	30%
	c) 41-45 years	35	35%
	d)46 -Above 50 years	20	20%
3	Habit		
	a)smoking	30	30%
	b)tobacco chewing	15	15%
	c)alcoholism	30	30%
	d)others	25	25%
4	Occupation		
	a)farmer	30	30%
	b)factory workers	15	15%
	c)housewife	40	40%
	d)others	15	15%
5	Family size		
	a)Joint family	40	40%
	b)Nuclear family	48	48%
	c)Extended family	12	12%
6	Environment		
	a)Surrounded by drainage		
	b)Polluted air	30	30%
	c)Surrounded by waste materials	20	20%
		50	50 %

Table 1: showed that majority of the people seventy(70%) are females and thirty(30%) were males. Most of them are the age group of 41-45 years. 30% of the people having smoking habit and 30% having alcoholism. 48% families are nuclear family. The environmental status of 50% were surrounded by waste materials.

TABLE 2: Frequency and percentage distribution of the level of knowledge and awareness regarding prevention of dengue

LEVEL OF KNOWLEDGE	FRQUENCY	PERCENATGE
Inadequate knowledge	31	31%
Moderate knowledge	49	49%
Adequate knowledge	20	20%
Total	100	100%

Table 2: Showed the majority of the people had moderate knowledge forty-nine(49%). And 31 % had inadequate knowledge and 20% adequate knowledge regarding the prevention of dengue fever.

FIGURE 1: Frequency and percentage distribution of the level of knowledge and awareness regarding prevention of dengue

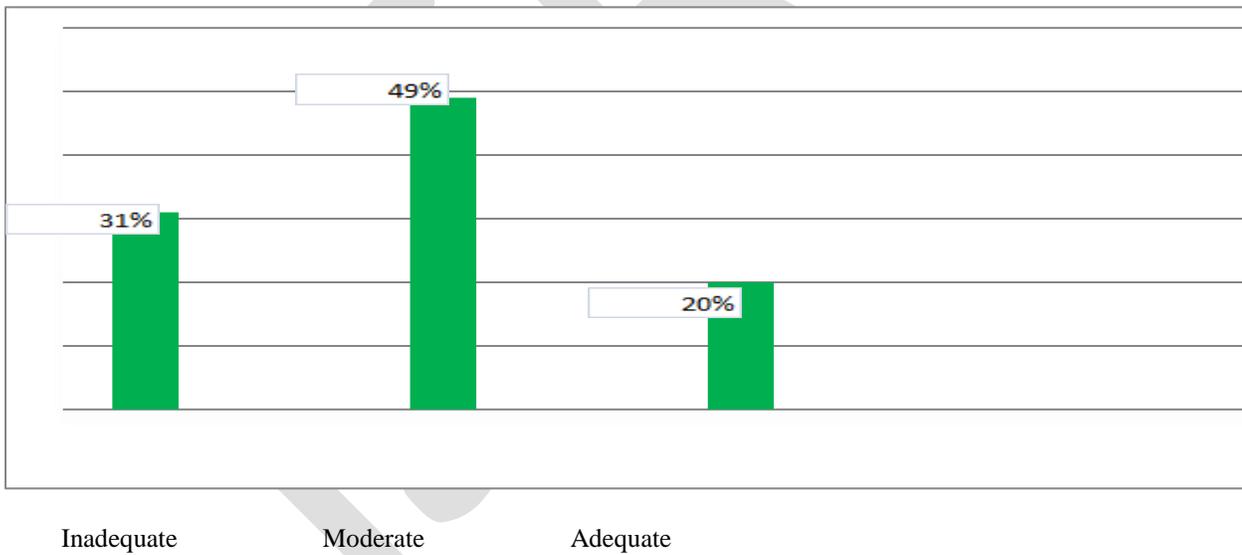


Figure 1: Showed that 31% inadequate knowledge, 49% moderate knowledge and 20% adequate knowledge regarding prevention of dengue

TABLE 3:The mean and standard deviation for level of knowledge regarding prevention of dengue

Level of knowledge and Frequency

awareness regarding prevention

of dengue

Mean deviation 10.01

Standard deviation 3.71

Table 3: Showed the mean deviation of knowledge regarding prevention of dengue and the standard deviation of knowledge and awareness regarding prevention of dengue

DISCUSSION: It has been discussed based on the objective of the study. The present study explored the knowledge and awareness preventive practices regarding Dengue infection among the rural community of Tamil Nadu as it is one of the state hit by dengue outbreaks during post monsoon periods. It was found in the present study that knowledge about biting and breeding habits was much higher in those who had higher education. The current study documented the knowledge, awareness and preventive practices regarding Dengue among the communities of mappedu, in view of the fact that this area had been hit by several dengue outbreaks in recent years. The poor living conditions in the low socioeconomic areas (rural) 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. Understanding people perception and their practices could help in identifying of targets areas and also in formulating strategies so to combat these outbreaks.

The first objective was to assess the level of knowledge and prevention of dengue fever among people in a rural area mapped. Frequency and percentage distribution of the level of knowledge showed that 49% had moderate, 31% inadequate and 20% adequate knowledge and awareness regarding the prevention of dengue fever. According to the discussion with could literate the people about the dengue fever factors and prevention and assess the knowledge level of the rural area people at mappedu.

The second objective was to associate the level of knowledge on dengue fever with selected demographic variable. The demographic variable associate with frequency and percentage could found that a statistical significant between the source of information and level of knowledge among people residing at mappedu rural area.

Other finding reported by **Antony** at 2001 was conducted a study to assess the knowledge and attitudes about dengue and practice of prevention followed by the residents of a rural area and an urban resettlement colony of east Delhi. A pre structured and pre tested format containing the relevant question was administered to the subjects. A total of 400 subjects were interviewed. Nearly four fifth (82.3%) of these were aware of dengue. Audiovisual media was the most common source of information in these areas. Fever was the commonest symptom of the disease known to 92% respondents followed by symptoms of bleeding and headache, mosquito was known to spread the disease to 71% respondents.

Vidyadhara in 2014 during the past two decades, epidemics of dengue fever have been causing concern in several South-East Asian countries, including India. A study was conducted in a tertiary care hospital situated in Southern India to determine the trends and outcome of dengue cases. There was a steady rise in number of cases from 2002 to 2012, with the largest number of cases seen in 2012. Most cases were observed in the post-monsoon season in the month of September. Out of a total of 344 cases, 285 (82.8%) patients had dengue fever, 34 (9.8%) had dengue hemorrhagic fever and 25 (7.3%) had dengue shock syndrome. As the study shows that that knowledge and awareness among prevention of dengue fever is inadequate. The disease control programme should emphasize on vector surveillance, integrated vector control, emergency response, early clinical diagnosis and appropriate management of the cases.

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