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Original Article

Knowledge and preventive practices regarding dengue among adult population of rural area of Nalgonda district, South India.

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ABSTRACT

Aims: To study the knowledge regarding dengue and the preventive measures practiced by the community. To suggest recommendations based on their awareness and practice of preventive measures. Methods: A community based cross sectional study was undertaken in Seshambabudem village of Tippathy mandal, Nalgonda district during February to May 2011. The study area constitutes 315 households with population of 1469. All the households were included by census method. From each household an individual aged 19-60 years were interviewed by using pre designed, pre tested semi structured questionnaire. Likewise 292 individuals from 315 households were enrolled in the study. Data was compiled and analyzed and results were shown in percentages. Results: Majority of the respondents (43.2%) were in the age group of 15-30 years. As per their literacy status, 45.2% were illiterate. As per modified B G Prasad's classification of socio-economic status, those belonging to high class and lower middle class of socio-economic status were 25.3% and 18.5% respectively. The most common cause of dengue cited was mosquito bite (60.61%). Around 57.53% of them were aware of fever as the presenting symptom. However more than a quarter (34.9%) of the respondents were not aware of any of the symptoms. Half of the respondents (51.36%) were aware of preventive measures such as mosquito repellents like matt, liquid repellents/coils. Common preventive practices that were prevalent in the community were use of mosquito repellents (46.57%), prevent water stagnation (13.01%), cleaning the house (34.93%). Very few of them practiced weekly emptying of containers (9.58%) and use of mosquito nets (11.64%). Important sources of information about dengue were from TV/ Radio (39.04%). Conclusion: Our findings highlight the need for further information, education and communication programs to identify barriers to action and to seek ways to translate population knowledge about dengue into positive preventive practices.

1. Introduction

Dengue is the most common disease among all the arthropod borne viral diseases. Dengue is a mosquito borne infection that in recent decades has become a major international public health concern. Dengue causes a severe flu like illness and sometimes potentially lethal complications called as Dengue haemorrhagic fever and Dengue shock syndrome. Dengue is found in tropical and subtropical regions around the world, predominantly in urban and semi urban areas [1].

The first major epidemic of the severe and fatal form of disease, Dengue haemorrhagic fever occurred in South East Asia as a direct result of this changing ecology. In the last 25 years of the 20th century, a dramatic global geographic expansion of epidemic DF/ DHF occurred, facilitated by unplanned urbanisation in tropical developing countries, modern transportation, lack of effective mosquito control and globalisation. As we go into the 21st century, epidemic DF/ DHF is one of the most important infectious disease affecting tropical urban areas [2].

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The incidence of dengue has grown dramatically around the world in recent decades. Some 2.5 billion people – two fifth of the world's population- are now at risk from dengue [1]. WHO currently estimates there may be 50 – 100 million dengue infections worldwide every year including 500,000 DHF cases and 22,000 deaths, mostly among children [3].

In India dengue has been endemic for over two centuries with mostly a benign and self-limited course. The first major outbreak of dengue was reported in India in 1991. In 2006 another major epidemic affected India and strained the already stretched health care system [4].It is important that the community should be made aware on prevention and control of dengue. An attempt was made to assess the knowledge and practice regarding dengue.

2.Materials and Methods

A community based cross sectional study was undertaken in Seshambabudem village of Tippathy mandal, Nalgonda district during February to May 2011. The study area constitutes 315 households with population of 1469. All the households were included by census method.

From each household an individual aged 19-60 years were interviewed by using pre designed, pre tested semi structured questionnaire. Likewise 292 individuals from 315 households were enrolled in the study. Response rate was 92.7%. The reasons for non response were locked houses and non-availability of the subjects even after 2 visits. House to house visits were conducted to collect the data. Informed consent was taken from study subjects. The information was gathered regarding socio-demographic profile, knowledge about dengue causation and its prevention and their practices related to prevention of dengue. Data was compiled and analyzed and results were shown in percentages.

3.Results:

A total of 315 houses were visited out of which 292 were included in the study. Majority of the respondents (43.2%) were in the age group of 15-30 years with 53.4% of them being females. As per their literacy status, 45.2% were illiterate and only 7.6% were graduates and above. As per modified B G Prasad's classification of socio-economic status [5], those belonging to high class and lower middle class of socio-economic status were 25.3% and 18.5% respectively.

The most common cause of dengue cited was mosquito bite (60.61%). Other causes being dirty drinking water (35.95%) and dirty surroundings (25%). Spread of dengue was known only to 60.95% respondents. Regarding their knowledge about breeding sites, burrows and pits was mentioned by 43.49% of them and coolers and tyres was cited by only 10.61% of the respondents.
Around 57.53% of them were aware of fever as the presenting symptom and 22.6% were aware of fever with chills. However more than a quarter (34.93%) of the respondents were not aware of any of the symptoms.

Half of the respondents (51.36%) were aware of preventive measures such as mosquito repellents like matt, liquid repellents/coils and cleaning of house helps to prevent the disease was known to another half of them (48.63%). Other preventive measures that they were aware of were preventing water stagnation (35.61%), use of mosquito nets (30.82%), spraying of insecticide (13.69%), and weekly emptying of containers (10.27%).

Common preventive practices that were prevalent in the community were use of mosquito repellents (46.57%), prevent water stagnation (13.01%), cleaning the house (34.93%). Very few of them practiced weekly emptying of containers (9.58%) and use of mosquito nets (11.64%).

Important sources of information about dengue were from TV/ Radio (39.04%), health personnel (13.01%), friends and neighbours (12.32%), newspaper (11.64%). However contribution from panchayat (2.73%) and school (0.68%) was poor.

Table 1. Distribution of respondents according to their socio-demographic characteristics (n=292)

Distribution of respondents	Frequency	Percentage
Age distribution (yrs)		
15-30	126	43.2
31-45	86	29.5
46-60	20	20.5
>60	20	6.8
Gender distribution		
Males	156	53.4
Females	136	46.6
Literacy status		
Illiterate	132	45.2
Primary	82	28.1
High school	36	12.3
Intermediate	20	6.8
Graduate	18	6.2
Post-graduate	4	1.4
Socio-economic status		
Upper High	70	24
High	74	25.3
Upper Middle	48	16.4
Lower Middle	5	18.5
Poor	29	9.9
Very Poor (BPL)	17	5.8

ie. poor SE status

Table 2. Distribution of respondents according to their knowledge about Dengue

Distribution of respondents	Frequency	Percentage
Causes of dengue*		
Mosquito bite	177	60.61
Dirty drinking water	105	35.92
Dirty surroundings	73	25
Contaminated food	23	7.87
Causative organism	13	4.45
Breeding sites of dengue mosquito*		
Coolers	47	16.06
Coolers and tyres	31	10.61
Coolers and tyres and flower	31	10.61
Burrows and pit	127	43.49
Vessels/containers	57	19.52
Coconut shells	33	11.3
Cattle shed	3	1.02
Dirty surroundings	47	16.09
Stagnant water	17	5.82
Symptoms of dengue*		
Fever only	168	57.53
Fever with chills	66	22.6
Headache	26	8.9
Malaise	24	8.21
Fever with rash	4	2.05
Don't know	102	34.93
Knowledge of preventive measures*		
Mosquito repellent	150	51.36
Cream	2	0.68
Cleaning of house	142	48.63
Prevent water stagnation	104	35.61
Spraying of insecticide	40	13.69
Use of oil in cooler	4	1.36
Use of mosquito nets	90	30.82
Empty container (Weekly)	30	10.27

* Multiple responses (n=292)

Table 3. Distribution of respondents as per their practices of mosquito Control

Distribution of respondents	Frequency	Percentage
Method used*		
Mosquito repellent	136	46.57
Cream	2	0.68
Cleaning of house	102	34.93
Prevent water stagnation	38	13.01
Spraying of insecticide by panchayat worker	10	3.42
Use of mosquito nets	34	11.64
Empty container (Weekly)	28	9.58

***Multiple responses (n=292)**

Table 4. Distribution of respondents as per their source of information about dengue

Distribution of respondents	Frequency	Percentage
Source of information*		
Television / Radio	114	39.04
Health personnel	38	13.01
Friends and neighbours	36	12.32
News paper	34	11.64
Panchayat	8	2.73
Banners	8	2.73
School	2	0.68

***Multiple responses (n=292)**

4.Discussion:

Mosquito bite was cited as a cause of dengue by 60.61% respondents which is similar to a study done in an urban resettlement colony of South Delhi by Acharya A et al [6]. However in a study conducted in Chennai city by Kumar AV et al [7] only 18.3% respondents cited this cause. There was widespread misconception amongst 35.95% respondents that dirty drinking water can cause dengue. In a study conducted by Itrat A et al in a tertiary care hospital in Karachi only 6.1% respondents mentioned this cause [8]. These observations demand the need to educate the community on causative aspects and breeding sites of dengue so as to help them to understand and practice the preventive measures.

Spread of dengue was mentioned by 60.95% respondents. Acharya A et al [6] observed similar findings in their study and slightly higher percentage (84.8%) was noted in study conducted by Itrat A et al [8].

Less than 20% of the respondents could enumerate the correct breeding sites of Aedes aegypti. This observation differed from a study conducted in Safdarjung hospital in New Delhi by Matta S et al [9] where coolers and tyres as breeding sites was mentioned by a quarter of the respondents. In a study conducted by Haldar A et al in a slum area of metropolitan city of West Bengal it was observed that 39.1% were aware of the breeding sites of Aedes aegypti [11]. Water jars as the breeding sites was mentioned by 80% of the respondents in a study of Northern Thailand done by Benthem BHBV et al [10].

It was interesting to know that 57.53% respondents could enumerate only fever as the presenting symptom while < 10% of them could list out the associated symptoms and a significant proportion (34.93%) were totally unaware of any of the symptoms. Similar observations were noted in a study conducted by Matta S et al where 61.8% were aware of only fever as the presenting symptom [9]. Also study done in East Delhi by Gupta P et al observed that fever was commonest symptom of the disease known to 83% of the respondents [12]. Itrat A et al in their study also made a similar finding of fever being known to 81.5% respondents [8]. However in a study conducted in Westmoreland, Jamaica by Shuaib F et al it was observed that 49.5% of them were able to identify fever as a symptom of dengue [13]. However this observation urges us to comment that knowledge of other associated symptoms is essential which specifically reflects their knowledge of dengue.

Knowledge application gap was noticed amongst the respondents. Though 51.36% mentioned use of mosquito repellents only 46.57% were actually using it. Also 35.61% cited preventing water stagnation as preventive measure but it was actually practiced by only 13.01%. These observations were similar to the study done by Acharya A et al where practicing preventive measures were less as compared to their knowledge regarding the same [6]. Kumar AV et al in his study noted 74.8% had no knowledge about prevention [7]. Similar gap between knowledge and preventive practices was observed in the study conducted by Itrat A et al [8]. Shuaib F et al also observed good knowledge but poor implementation of preventive measures in their study [13]. So it is essential to see that community is made to apply the preventive measures.

Regarding the source of information, around 39.04% respondents cited media. Higher observation was observed in the study done by Acharya A et al [6] where 59% respondents stated Television and Matta S et al [9] also observed that Television (57.2%) was the commonest source of information. Haldar A et al made similar observation of mass media being the main source of information (65%) [11].

5.Conclusion:

To conclude it can be stated that though they were aware of the preventive measures application of them was inadequate. Also the preventive measures were related only to personal protection. There is a need to make them aware of the different preventive practices and reduce this knowledge application gap. The need of the hour is to conduct health education sessions in the community, strengthen involvement of the panchayat and school in IEC activities and organise training sessions of health workers which will go a long way in prevention and control of dengue.

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