

Original Research Article

Knowledge, practices and health seeking behaviour regarding dengue among household in an urban slum of Visakhapatnam, Andhra Pradesh

Amrita Kumari Konar^{1*}, Rongala Venkata Manasa²

¹Department of Community Medicine, PRM Medical College and Hospital, Baripada, Odisha, India

²Department of Community Medicine, GIMSR, Vishakhapatnam, Andhra Pradesh, India

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*Correspondence:

Dr. Amrita Kumari Konar,

E-mail: dramritakumari86@gmail.com

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ABSTRACT

Background: Dengue/dengue hemorrhagic fever is an emergent disease in India. It is a mosquito-borne viral disease. The aim of this study is to assess the knowledge, attitude and practice regarding dengue among households in urban slum area and to find out the health seeking behavior of respondent during first episodes of fever.

Methods: This study was a descriptive cross sectional study undertaken in field practice area of UHTC of GITAM institute of medical science, Visakhapatnam, Andhra Pradesh. The sampling technique was two stage simple random sampling. Face-to-face interview based on a pre-designed and pretested questionnaire. The data was compiled and analyzed.

Results: Out of total 262 individual were interviewed, 69.8% were aware about dengue. The major source of information was TV/radio (74.4%). The most common health seeking behaviour for first episode of fever was nearby UHTC and then government hospital.

Conclusions: The knowledge and awareness regarding dengue was satisfactory in the study population but the knowledge about the mode of transmission and breeding habit is still lacking. More awareness campaign and health education will improve.

Keywords: Dengue, Urban Slum, Awareness, Souse of information, Health seeking behaviour

INTRODUCTION

Dengue is a mosquito borne viral disease that has rapidly spread in all regions of WHO in recent years. Female mosquitoes mainly of the species *Aedes aegypti* and, to a lesser extent, *Aedes albopictus*, transmit dengue virus. Dengue is caused by the infection of dengue virus (DENV), a flavivirus in the family of *Flaviviridae*. It is a RNA virus with four known serotypes (DEN 1, DEN 2, DEN 3, and DEN 4).^{1,2} It has emerged as a notable public health problem in recent decades in terms of the mortality and morbidity associated with it. It has been estimated that globally there were 50-100 million dengue infections taking place annually. South-East Asia is one of the

regions with highest risk of dengue fever/dengue hemorrhagic fever (DHF), accounting for 52% of the global risk. The case fatality rate in patients with DHF and dengue shock syndrome (DSS) can be as high as 44%.³ Dengue/dengue hemorrhagic fever (DHF) is an emergent disease in India. The relationship of this country with dengue has been long and intense. The first recorded epidemic of clinically dengue like illness occurred at Madras in 1780 and the dengue virus was isolated for the first time almost simultaneously in Japan and Calcutta in 1943-1944. After the first virologically proved epidemic of dengue fever along the East Coast of India in 1963-1964, it spread to all over the country. The first full blown epidemic of the severe form of the illness, the dengue

hemorrhagic fever/dengue shock syndrome occurred in North India in 1996. It is endemic in 31 states and union territories of the country and contributes annual outbreaks of dengue/ DHF.¹

High rainfall and low temperatures are associated with increased number of dengue cases. Since there is no specific treatment to control dengue virus, the vectors involved in transmission are targeted through chemical vector control programs. But they provide only limited feasibility due to personnel and financial requirements. Vector resistance and problems in implementation of programs.⁴

Dengue prevention and control is not possible without adequate community participation especially in following practices to avoid vector breeding in and around residential areas. Thus evaluation of people's knowledge, attitude, and practice is of great importance, would guide public administrators to plan, design and implement initiatives, programs, and policies for better dengue prevention. Hence, this study was conducted to assess the knowledge and practice regarding dengue among households in urban slum area and to find out the health seeking behavior of respondent during episodes of fever.

METHODS

Current study is a community based cross sectional study conducted between October 2018 to November 2018. As this was the post monsoon season, there was sudden rise in the number of dengue cases. The study was conducted in the field-practise area of the urban health and training centre (UHTC), of a private medical college GITAM university, in the city of Visakhapatnam.

Individuals who were residing in those slums for past one year or more with age at the time of interview above 18 yrs were included in the study. The participants who were mentally ill and not willing to participate are excluded from the study. The sampling technique was two stage systematic random sampling. The first stage randomly chosen two slums and second stage every seventh household taken till designed sample got. The sample size was calculated 180 by assuming the level of knowledge regarding dengue as 68% as reported in previous study with 10% relative precision at 95% confidence interval.⁵ A total of 262 person were interviewed.

In selected house, an adult member in the family, who present at the time of visit, was interviewed for collection of information after getting verbal consent. It was a face to face interview. Participation in the study was voluntary and no incentives were provided. A pre-tested structured questionnaire was developed after a pilot study. The questionnaire was divided into following sections: socio-demographic information, knowledge about dengue symptoms, signs, and mode of transmission, preventive

practices against dengue. Confidentiality of each participant was ensured. At the end of the interview each respondent was provided a leaflet with information relating to dengue fever. The collected data was entered in Microsoft excel and analysed using SPSS.

RESULTS

A total 262 individual were interviewed. The socio demographic profile of the study participants were shown in (Table 1). Their ages were categorized into 18-28 years, 28-38 years and >38 years. Majority belonged to the age group of 18-28 years. Out of total participants 71.8% were female and 35.1% were illiterate. Most of them (59.5%) were unemployed and 35.5% were illiterate. According to BG Prasad's classification of socio-economic status, subjects belonging to lower class were 48.5%.⁶

Table 1: Distributions according to their socio demographic profile.

Socio demographic factors	N (%)	
Age (years)	18-28	112 (42.7)
	28-38	82 (31.3)
	>38	68 (26.0)
Sex	Male	74 (28.2)
	Female	188 (71.8)
Education	Illiterate	92 (35.1)
	Primary	78 (29.8)
	Secondary	72 (27.5)
	Graduate & beyond	20 (7.6)
Occupation	Unemployed	156 (59.5)
	Employed	106 (40.5)
Socio economic status (BG Prasad)	Lower class	29 (11.1)
	Lower middle class	98 (37.4)
	Middle class	85 (32.5)
	Upper middle class	36 (13.7)
	Upper class	14 (5.3)
Religion	Hindu	178 (67.9)
	Muslims	84 (32.1)

The knowledge and awareness about dengue among the study participants is shown in (Table 2). Out of total 69.8% were heard about dengue. Majority 63.7% says the mode of transmission is due to mosquito bites. 53.5% study participants knows about symptom of dengue but only 26% were aware about complications of dengue. The major source of information was TV/radio (74.4%) among the study participants (Table 3).

The distribution of study participants according to personal preventive measure against dengue is shown in (Figure 1). Majority 66.1% of the study participants were using mosquito repellents and bed net against mosquito. The most common health seeking behavior of first episode of fever during was nearby UHTC and Government hospital (Figure 2).

Table 2: Distribution according to their knowledge and awareness about dengue.

Knowledge and awareness about dengue (n=262)		Frequency (%)
Heard about dengue	Yes	183 (69.8)
	No	79 (30.2)
Mode of transmission	Mosquito bite	167 (63.7)
	Sharing food with infected person/ Drinking dirty water, houseflies	34 (13)
	Don't know	84 (32.1)
Breeding places of mosquito	Water storage jars/discarded containers/coolers	86 (32.8)
	Overhead tanks/dirty water	81 (30.9)
	Unhygienic condition (garbage/trash)	59 (22.6)
	Plants/vegetation	10 (3.8)
	Don't know	26 (9.9)
Knowledge on dengue vector behavior (biting time)	Day time	37 (14.1)
	Evening time	97 (37.0)
	Night time	66 (25.2)
	Don't know	75 (28.6)
Aware about symptoms of dengue	Yes	194 (74.0)
	No	68 (26.0)
Aware of complication of dengue fever	Yes (shock and hemorrhage)	122 (46.6)
	No	140 (53.5)

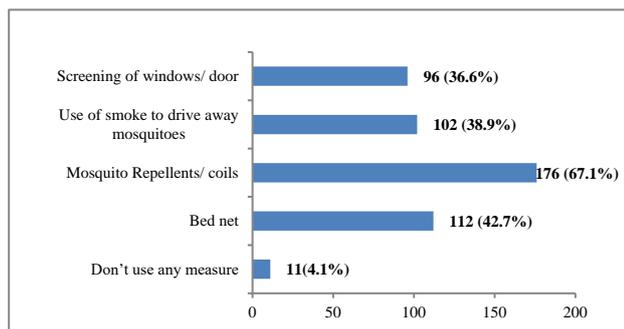


Figure 1: Distribution of study participants according to personal preventive measures against dengue.

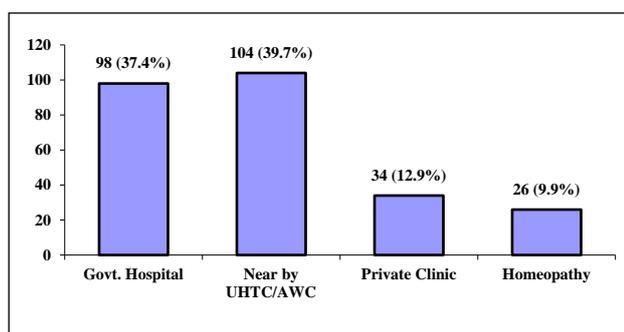


Figure 2: Health seeking behavior during DF of study participants.

DISCUSSION

This is a community based cross sectional study was conducted in slum population of to assess the knowledge,

attitude and practices about dengue. In present study about 68.8% had heard about dengue, 53.5% were aware about the dengue symptoms and only 26% aware about complications of dengue. Bangalore survey shows 69.6% had heard about dengue disease and in Thailand, the knowledge about dengue was 67% where as in Brazil it was 78%.^{1,7,8} Similar study in Guntur, Chennai and in north side New Delhi had reported the high level of awareness.⁹⁻¹¹ As already known that dengue is caused by biting of *Aedes aegypti* mosquito. In current study it was found that 63.7% study participants knew that it caused by mosquito bites. Where as a study done in South India, Chittoor district also showed similar result where 68% of individuals knew mosquito cause vector borne disease.¹²

Table 3: Source of information among the study population.

Source of information	Frequency (%)
TV/radio	153 (58.3)
Newspaper/magazines/brochures/ banners	98 (37.4)
Family/friends	73 (27.9)
Health personnel	85 (32.4)

The *Aedes aegypti* mosquito typically bites during the day time. In our study, only 14% knew the biting time of dengue mosquitoes is day time but 28.6% don't know exactly about biting time. Similar result was found in Bangalore where 11.4% said the mosquito is a day biter but 41.4% said it bites in both day and night.¹³ The most common symptoms of dengue fever are high fever, severe headache, severe pain behind the eyes, joint pain, muscle and bone pain, rash and mild bleeding. In this study, 26%

study participants don't know exactly about the dengue symptoms whereas a study conducted in Bangalore found that 34.93% of study subject were totally unaware of dengue symptoms.¹⁴ But there are many studies where it was observed that fever is the only presenting symptoms.^{15,16}

It was observed through current study that the majority (95.9%) of study participants used one or another of protective measures against mosquitoes. Similar study done in Pondicherry showed that almost everyone (99.3%) used some personal protective measure.¹² In present study 67.1% of the study population use mosquito repellents and coils as the major mosquito preventive measure, especially during night time. However, a study done by Pradeep et al and Naik et al found that 55.1% and 46.6% were using mosquito repellent for prevention against mosquito.^{1,14} Mosquito repellent (mats and coils) and bed net were used by more than half of the study participants and all of them used it during night time. This shows that there is a gap in the knowledge with respect to the biting habits of *Aedes* mosquito. Regarding source of information 74.4% study participants cited through multimedia such as television, radio etc. and 77.7% said its by health workers. A similar study by Matta et al were observed for multimedia 57%.¹⁵

Limitations

The limitation of current study was; the observations of current study could not be generalized with large population (belonging to different cultural background), may be because the sample size was not enough. There are possibilities of interviewer bias as some study participants would provide socially desirable respond.

CONCLUSION

It was concluded through current study findings that though the knowledge and awareness regarding dengue was adequate in the study population but the knowledge about the mode of transmission and breeding habit is still not to sufficient extent. Thus there are many health policy and programme needed to strengthen the capacity building of health personnel and education system. The adoption of the mosquito control methods was good enough in the area. Thus, it is recommended to increase the knowledge and application of preventive measures by massive awareness campaign and health education before monsoon season, so as to ensure that knowledge imparted to community get translated into practice as well as is the emergent need.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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