A Cross Sectional Study of Assessment of Knowledge, Attitude and Preventive Practices about Dengue Fever among Mbbs Students in a Tertiary Care Hospital

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Abstract
Introduction: *Dengue fever (DF) is increasingly recognized as one of the world's major vector borne diseases. Dengue is prevalent in tropical and sub-tropical climates worldwide, mostly in urban and semi-urban areas. The incidence of dengue has grown dramatically around the world in recent decades. Over 2.5 billion people over 40% of the world's population are now at risk from dengue. WHO currently estimates there may be 50-100 million dengue infections worldwide every year.*

Materials and Methods: *A cross sectional study was planned & carried out among MBBS students of tertiary care hospital during February 2018 to August 2018. A prestructured & self-administered questionnaire was prepared, validated & used to collect information regarding knowledge, attitude & practices regarding dengue fever from MBBS students. The study population included all the MBBS students of class 2nd, 3rd year who were present at the time of study. Total 150 MBBS students were included in the study.*

Results: *The socio-demographic characteristics of respondent are given in Table-1. The table shows that, among 150 MBBS students, 107(71.33%) were female and 43 (28.66%) were male. About 40.66% of them were in age group 15-20 years. The study found that almost all (94%) had heard of dengue fever and many students ie 25.33% derived this information from TV followed by print media (14.66%) whereas 16.66% student had information from radio broadcasts. Apart from media another source of information was doctor (14%), family and friends (13.33%). (Table -2) Majority of respondents had obtained information through multiple sources.*

Conclusion: *Among MBBS student of tertiary care hospital, the main source of information about Dengue fever was obtained from the mainstream media including both newsprint & television. The low prevalence of sufficient knowledge, based on an overall knowledge score on dengue, was evident among MBBS students. However, isolated knowledge on symptoms and prevention may be considered somewhat adequate. The known preventive measures mainly focused on protection from mosquito bite. In spite of our study limitations our findings highlight the need for further information, education and communication programs in the community.*

Key words: *Dengue fever, MBBS, Semi-urban areas*

I. Introduction

Dengue fever (DF) is increasingly recognized as one of the world's major vector borne diseases. Dengue is prevalent in tropical and sub-tropical climates worldwide, mostly in urban and semi-urban areas.[1]The incidence of dengue has grown dramatically around the world in recent decades. Over 2.5 billion people over 40% of the world's population are now at risk from dengue. WHO currently estimates there may be 50-100 million dengue infections worldwide every year. [2]

Before 1970, only nine countries had experienced severe dengue epidemics. The disease is now endemic in more than 100 countries in Africa, the Americas, the Eastern Mediterranean, South-east Asia and the Western Pacific. The American, South-east Asia and the Western Pacific regions are the most seriously affected.[1]Dengue fever is endemic in India & continues to be a public health concern. Major epidemics have been reported from Delhi, capital of India in the years1967, 1970, 1982, 1996, 2003, 2006, 2010.[2-3]

Dengue, a vector borne disease, has hit all major cities of the country, with the total number of cases by Nov 2012 reaching 37,070 including 227 deaths - a sharp increase from 18,860 cases and 169 deaths in 2011. [4]

Dengue fever is caused by a mosquito-borne human viral pathogen that belongs to the genus Flavivirus of the family Flaviviridae (single-strand, non-segmented RNA viruses).There are four dengue serotypes (DEN-1, DEN-2, DEN-3and DEN-4). Dengue is transmitted to humans by two species of Aedes mosquitoes namely, Aedes aegypti (principal vector) and Aedes albopictus. Although infection with one dengue serotype confers lifetime immunity against re-infection by the same serotype, there is no evidence of cross immunity.[5]A wide

clinical spectrum has been classified by the World Health Organization[6] and it is possible for an individual to be infected with DF several times during his life time.

In the absence of a vaccine or specific antiviral to treat DF, vector control is one of the most important preventive measures in combating dengue. The recurrence of DF each year and the rising number of cases with each epidemic suggest that vector control efforts are probably not carried out properly and need to be improved. Dengue vector, human knowledge & human behavior each have been reported to play an important role in the transmission of the diseases. Considering the magnitude of the problem the present study was undertaken to assess the knowledge & attitude of the MBBS students regarding dengue and the preventive practices undertaken by them & to determine the relationship of dengue fever prevention practices with level of knowledge & attitude.[7]

II. Materials And Methods

Study setting: A cross sectional study was planned & carried out among MBBS students of tertiary care hospital during February 2018 to August 2018. A prestructured & self-administered questionnaire was prepared, validated & used to collect information regarding knowledge, attitude & practices regarding dengue fever from MBBS students. The study population included all the MBBS students of class 2nd, 3rd year who were present at the time of study. Total 150 MBBS students were included in the study.

Study instrument: A prestructured & self-administered questionnaire was used to collect data regarding dengue fever knowledge, attitude & practices from MBBS students. Data were collected from 150 respondents.

Data analysis: Data was analyzed using SPSS version 20 statistical software. Responses to questions were coded such that correct answers scored one and incorrect answers scored zero. These scores were added to arrive at a single value out of a possible total score of 9 for knowledge, 11 for attitude and 8 for practice. Respondents were considered to have good knowledge if they correctly answered more than 66.6% of the questions similarly respondents were regarded as having positive attitude towards prevention of dengue if they scored more than 50% of the questions. Participants were deemed to have good preventive practices if they answered more than 50% of the questions correctly.[8]

III. Results

The socio-demographic characteristics of respondent are given in Table-1. The table shows that, among 150 MBBS students, 107(71.33%) were female and 43 (28.66%) were male. About 40.66% of them were in age group 15-20 years. The study found that almost all (94%) had heard of dengue fever and many students ie 25.33% derived this information from TV followed by print media (14.66%) whereas 16.66% student had information from radio broadcasts. Apart from media another source of information was doctor (14%), family and friends (13.33%). (Table-2) Majority of respondents had obtained information through multiple sources.

Overall 80% were aware that dengue spreads by mosquito bite. However, 10% respondents reported dengue spreads by drinking dirty water. (Table-3) Regarding species of mosquito (Aedes) which spread dengue, only less than half of the respondents (44.3%) could answer correctly aedes mosquito. 22.6% of the respondents reported main breeding place of dengue mosquito is coolers & tyres whereas only 19.33% reported that mosquito breed on stagnant water (Table-3). Only 15.9% respondents correctly reported that Aedes mosquito bites during day time. Around 21.33% respondents were aware of fever with rash as the presenting symptom whereas 24.66% were reported that only fever is the presenting symptom. Headache was considered as a symptom by only 16.66% of respondents whereas other symptoms like vomiting and bleeding from nose were reported by 17.33% and 4.66% respectively. (Table-3)

S.No	Distribution on respondents	Frequency	Percentage
1	**Age Distribution (years)**		
	15-20	**61**	**40.66**
	20-25	**81**	**54**
	25-30	**8**	**5.33**
2	**Gender Distribution**		
	Male	**43**	**28.66**
	Female	**107**	**71.33**
3	**Class**		
	2nd year	**70**	**46.66**
	3rd year	**80**	**53.33**
4	**Religion**		
	Hindu	**75**	**50**
	Muslim	**13**	**8.66**
	Christian	**62**	**41.33**

Table 1: Distribution of respondents according to their socio-demographic characteristics

S.No	Source of information	Frequency	Percentage
1	Radio	25	16.66
2	Television	38	25.33
3	Newspaper	22	14.66
4	Doctor	21	14
5	Fellow MBBS student	24	16
6	Friends	20	13.33
7	Total	150	100

Table 2: Distribution of respondent according to their Source of information about dengue

S.No	Distribution of respondents	Frequency	Percentage
1	**Causes of Dengue**		
	Mosquito bite	120	80
	Dirty drinking water	15	10
	Contaminated food	6	4
	Eating raw vegetables	5	3.33
	Polluted air	3	2
	Houseflies	1	0.66
2	**Breeding sites of dengue mosquito**		
	Coolers		
	Coolers & tyres	12	8
	Coolers & tyres & flower pots	34	22.66
	Burrows and pit	26	17.33
	Vessels/ containers	10	6.66
	Dirty surrounding	21	14
	Stagnant water	18	12
		29	19.33
3	**Symptom of dengue**		
	Fever only	37	24.66
	Fever with rash	32	21.33
	Vomiting	26	17.33
	Headache	25	16.66
	Abdominal pain	23	15.33
	Bleeding from nose	7	4.66

Table 3: Distribution of respondents according to their knowledge about Dengue

S.No	Preventive Practices	Frequency	Percentage
1	Use of anti-mosquito spray	32	21.33
2	Mosquito coil/mat/Liquid vaporizer	18	12
3	Mosquito repellent cream	42	28
4	Covering body with cloth	5	3.33
5	Mosquito Net	23	15.33
6	Cleaning & covering of water storage tank	24	16
7	Draining of stagnant water	25	16.66
8	Window & door screen	32	21.33
9	Burning of Neem leaves	28	18.66
10	Use of electrocuter	6	4

Table 4: Common preventive practices against Dengue

S.No	Score	Knowledge	Attitude	Practices
1	Satisfactory	57	68	18
2	Unsatisfactory	43	32	82

Table 5: Percentage of individual with satisfactory and unsatisfactory score in knowledge, attitude & practices

IV. Discussion

This study sought to assess MBBS student knowledge, attitude and practices related to dengue infection. Our study revealed that almost all respondents (94%) had heard about Dengue. Findings are similar to study conducted in OPD of AIIMS, New Delhi in which 96.3% respondent were reported to be aware of dengue7. However similar studies conducted in Brazil8 & Thailand[9]responses are 78% & 67% respectively which is lower from our study. The possible reasons for better awareness could be repeated exposure of MBBS student to health education messages on dengue and other mosquito-borne diseases by MBBS teachers. In the present study, television emerges as most important source of information (37.8%). This is similar to a study from North India & south Delhi[7,10]. This emphasizes upon the fact that mass media like television is a very important source of information and this can be further used to disseminate more awareness regarding dengue. Mosquito bite was cited as a cause of dengue by 80.6% respondents and results are in consonance with studies conducted by Itrat A et al in a tertiary care hospital in Karachi and Chinnakali et al in AIIMS New Delhi. There was misconceptions amongst 9.5% respondents that dirty drinking water can cause dengue & 3.5% thought that houseflies spread dengue. These observations demand the need to educate the MBBS students on causative aspects and breeding sites of dengue so as to help them to understand and practice the preventive measure. The Aedes aegypti mosquito is known tobite mostly during several hours after dawn and before dusk. Interestingly, only about 15.9% of respondents were aware of this unique behavior of the vector. Bridging this gap in knowledge is essential in the design of programsto educate MBBS students on personal protection against mosquitoes. It was found that 43.7% respondents could enumerate fever with rash as the presenting symptom while 30.3% of respondents mention only fever as the presenting symptom. This observation differed from a study conducted by Matta S et al where 61.8% were aware of only fever as the presenting symptom. 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. This difference may be due to regular exposure of MBBS students to health professionals including doctors, MBBS teacher as well as patients. Knowledge of management strategies for the disease was high among respondent. Mosquito mats, coil and repellent cream were used during night time. This highlights the existing gap in the knowledge with respect to the biting habits of Aedes mosquito. Measures aimed at preventing water stagnation, which serves as local breeding sites were popular techniques (43.8%) in use. This is in accordance with studies done in Thailand which reported a significant reduction of dengue vectors and dengue hemorrhagic fever cases in areas having clean-up campaigns before and during rainy seasons15.

V. Conclusion

Among MBBS student of tertiary care hospital, the main source of information about Dengue fever was obtained from the mainstream media including both newsprint & television. The low prevalence of sufficient knowledge, based on an overall knowledge score on dengue, was evident among MBBS students. However, isolated knowledge on symptoms and prevention may be considered somewhat adequate. The known preventive measures mainly focused on protection from mosquito bite. In spite of our study limitations our findings highlight the need for further information, education and communication programs in the community.

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