

## ORIGINAL ARTICLE

**Mounting dengue awareness: A cost effective Strategy for prevention**

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**Abstract**

**Background:** Dengue is a serious illness which takes toll on human health every year. The best way to prevent it is by increasing awareness among common people. This study was conducted to assess the level of knowledge, attitudes and practices regarding dengue fever in people urban health training centre in Pune, Maharashtra. **Methods:** A cross-sectional study was conducted among patients attending OPD of Urban health training centre of department of community medicine, Pune situated in Ajmera, Pimpri, Pune. Through convenience sampling, a questionnaire was administered to patients after taking their informed consent. **Results:** A total of 100 patients were interviewed. Among knowledge 83% had heard about dengue and the most common source of information was TV & radio (72.3%) Most of them were aware regarding mosquito bite being the mode of dengue transmission (80.7%). 22% were unaware regarding biting time of mosquito while 22% said night is the biting time of dengue mosquito. 62.7% were using coils for mosquito bite prevention followed by mosquito net (43.4%) and spray (31.3%). **Conclusion:** This study revealed that most of the study population is aware of dengue illness and increasing education level is having positive attitude on dengue illness.

**Key Words**

Dengue; Awareness; Prevention

**Introduction**

As the industrialization is increasing, the burden of vector borne diseases is also increasing. Among various vector borne diseases, dengue is an important illness which is needed to be studied in detail. All over the world approximately 2.5 billion people are suffering from dengue illness (1). In India, in 2015 about 181 deaths occurred due to dengue only, while alone in Maharashtra total 4164 cases occurred and out of them 21 died (2). According to World health organization data, dengue illness is endemic in South Asia (3). Government declared National vector borne disease programme for the control of mosquito borne diseases in 2003. With all

this in background, the present study was conducted to assess awareness level of community people regarding dengue fever

**Aims & Objectives**

1. To study the awareness of OPD patients.
2. To study the socio-demographic profile of study participants.
3. To assess the knowledge, attitude and practices regarding Dengue fever.

**Material and Methods**

**Study setting:** OPD of urban health training centre of Dr. D. Y. Patil medical college, Pimpri, Pune situated in Ajmera

**Study design:** A descriptive cross-sectional study was conducted between June 2014 till July 2014 among patients attending OPD of Urban health training centre of department of community medicine, Pune situated in Ajmera, Pimpri, Pune.

**Study Population:** The participants were the patients attending Out Patient department of urban health training centre. The respondents should be the residents and must be residing in UHTC area for atleast more than a year. Voluntary participants were chosen for the study. Permission regarding conduction of study was taken from Institutional Ethical Committee (IEC) of the DYPMC, Deem University, Pimpri, Pune.

**Sample Size:** Through convenience purposive sampling, a total of 100 patients interviewed.

**Data Collection:** After enrolment in the study pre-tested and close ended questionnaire was administered. Informed consent was taken prior to enrollment in study. A pretested questionnaire contained 4 parts i.e. 1) demographic 2) knowledge about dengue symptoms, signs and transmission modes 3) attitudes towards dengue 4) preventive practices against dengue

**Statistical Analysis:** Data was entered in to MS-excel and analyzed using Epi-Info 7. Data is presented in proportions and appropriate test of significance is applied.

## Results

In this study 66 were females and 34 males. Among females 81.8% were literate while 73.55 males were educated. Mean age for females was 44.34 years and for males it was 51.71 years ([Table 1](#))

Out of 100 subjects, 83% of study population said that they had heard about dengue, while 17% population were still unaware about dengue ([Table 2](#))

Magazines, TV & radio were the most common (72.3%) source of such information. Fever (89.2%) was cited as the most common symptom of dengue fever. Most (80.7%) of the people mentioned mosquito bite as the mode of transmission for dengue fever. Standing clean /dirty water (41%) is the most common breeding site for mosquito. 45% mentioned day time is the most frequent biting time Above table shows attitudes of study population regarding DF ([Table 3](#)). Most of them strongly agreed that DF is a serious illness. As the level of education increased, the more people realized the seriousness of illness ([Table 4](#)).

Most of the respondents (62.7%) were using mosquito coil for prevention from mosquito bite. 43.4% were using mosquito net for its prevention

## Discussion

Dengue is fatal disease taking a high toll on human lives. Prevention of Dengue is possible only with increased awareness among general population, so the study tries to assess the awareness level of people.

83% of study population said that they had heard about dengue. since the awareness was found to be adequate, possible reasons may be repeated telecast of these messages via mass media and printed media, similar results were found in a study in Pondicherry (4) where 86% had heard of it.

Magazines, TV & radio were the most common (72.3%) source of such information, while a study by Hairi F *et al* (5) and study in rural India (6) cited TV (82%,59.75%) as the most common source of such information. Mosquito bite was cited as a cause of dengue by 80.7% respondents, which is similar to a study done in rural India (6) (76.8%) and dengue hit cosmopolitan of Karachi (3) (86.9%) and Brazil (7). Adequate knowledge on dengue symptoms i.e. fever as the commonest, has been reported in studies done in India (3,8,9) and Brazil (7). Benthem *et al* (10) reported that rash and bleeding are the symptoms which differentiates between dengue infection from other diseases. The knowledge about mosquito breeding places (49.4%) amongst study population reflects the impact of effective IEC by government. Pandit N (11) reported a very high knowledge (98%) and Matta *et al* (12) found that, 79.8 % respondents knew about breeding places of mosquitoes. Most frequent biting time is mentioned as day time (54.2%), similar findings observed in study in central India (6).

Mean score of attitude is found increasing with the level of education i.e. people with higher education is having more positive attitude for dengue illness. Pérez-Guerra CL *et al* (13) in his study regarding attitudes towards dengue prevention found that respondents mentioned that neighbours should keep their surroundings clean and prevent the breeding of larva, while government should take the responsibility of fumigation. A study in Malaysia also mentioned similar results regarding dengue fever risk and cultural influences (5). Mann Whitney test was found to be significant for questions on seriousness of dengue, risk of getting dengue and

controlling the mosquito breeding places is a good strategy to prevent dengue.

Most (97.6%) of them were going to doctor for treatment of dengue. Similar results were obtained from studies by Shankar *et al* (14) (75.5%). This is a highly encouraging finding. In our study 4.8% respondents relied upon self-medication. In a similar study (15), 25.5% respondents tried self-medication, 20.5% referred chemists for treatment and 11.4% tried home remedy.

Window screening, mosquito coil / mats, use of bed nets, covering standing water and removal of standing water were the measures about which most of the participants were aware. Preventive measures preferred were use of mosquito sprays and coils. Several studies (3,16,17) have reported these methods to be most effective means of prevention. While a study in Delhi (14) and Gujarat (11) reported that 97% population were using one or more methods for prevention from mosquito bite.

### Conclusion

This study revealed that most of the study population is aware of dengue illness and increasing education level is having positive attitude on dengue illness.

Practice is found somewhat lower as compare to knowledge and attitude for dengue illness.

The matter of concern is that 17% of study population had still not heard of dengue disease.

### Recommendation

There is increasing need of giving health education to all the individuals to bridge the gap between knowledge and practice.

### Limitation of the study

A similar kind of study can be planned for community purpose. Large number of sample size can be taken.

### Authors Contribution

All authors have contributed equally in the study.

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**Tables**

**TABLE 1 SOCIO-DEMOGRAPHIC PROFILE OF STUDY POPULATION**

Sex	Religion		Literacy		No	Mean age
	Hindu	muslim	literate	illiterate		
<b>Female</b>	52(78.7%)	14(21.21%)	54(81.81%)	12(18.18%)	66(100%)	44.34
<b>Male</b>	25(73.53%)	9(26.47%)	25(73.52%)	9(26.47%)	34(100%)	51.71

**TABLE 2 KNOWLEDGE ABOUT DENGUE**

Variables	No.	%
<b>Heard about dengue</b>		
<b>Yes</b>	83	83
<b>No</b>	17	17

**TABLE 3 SOURCE OF INFORMATION FOR THE DENGUE ILLNESS, MODE OF TRANSMISSION, SYMPTOMS, COMMON BREEDING SITES AND MOST FREQUENT BITING TIME**

Variables	No. (83)	%
<b>1.source of information</b>		
Magazines, TV& radio	60	72.3
Health professionals	24	28.9
Posters& internet	5	6
<b>2. Common symptoms</b>		
Fever	74	89.2
others	68	81.9
Don't know	8	9.6
<b>3.Modes of transmission</b>		
Mosquito bite	67	80.7
others	27	32.5
<b>4.Common breeding sites of mosquito</b>		
Standing clean/dirty water	41	49.4
Garbage/plants & vegetation	22	26.5
Running clean/dirty water	6	7.3
<b>6.Most frequent mosquito biting time</b>		
Day time	45	54.2
Night	22	26.5
Don't know	22	26.5

**TABLE 4 ATTITUDE REGARDING DENGUE DISEASE**

Variables	Illiterate Mean (SD)	Primary Mean (SD)	Secondary & HS Mean (SD)	Graduate & above Mean (SD)	P value
<b>Dengue is a serious illness</b>	2.54(0.522)	2.84(0.375)	3.11(0.793)	3.41(0.507)	0.008*
<b>You are at risk of getting dengue</b>	2.36(0.504)	2.84(0.375)	2.81(0.732)	2.41(0.712)	0.034*
<b>Dengue fever can be prevented</b>	2.72(0.467)	2.69(0.480)	2.88(0.543)	2.94(0.429)	0.70
<b>Is controlling the breeding places for mosquito is a good strategy to prevent dengue</b>	2.36(0.504)	3.07(0.645)	2.97(0.635)	3.41(0.507)	0.007*
<b>Do you think stagnant water around house are breeding places for mosquito</b>	3.00(0.632)	3.07(0.641)	3.09(0.610)	3.23(0.664)	0.765
<b>Do you think communities should actively participate in controlling vector of dengue</b>	2.90(0.700)	3.38(0.506)	3.09(0.569)	3.29(0.469)	0.157

\* Mann-Whitney test, difference is statistically significant

**Figures**

**FIGURE 1 AWARENESS ABOUT AMONG RESPONDENT**

