

# Dengue Fever Awareness among Patient Presenting to Tertiary Care Hospital, Gurugram (India)

Sonu Kumar Singla<sup>1</sup>, Mahima Rao<sup>1</sup>, Rajpal Verma<sup>2</sup>, Shikha Verma<sup>3</sup>, Vikram Sahoo<sup>4</sup>

<sup>1</sup>Post Graduate Student, SGT Medical College, Hospital & Research Institute, <sup>2</sup>Professor, SGT Medical College, Hospital & Research Institute, <sup>3</sup>Medical Officer, 357 FD Hospital Leimakhong, <sup>4</sup>Post Graduate Student, SGT Medical College, Hospital & Research Institute

## Abstract

**Background:** Dengue fever is widespread in India. Environmental changes and lack of awareness increase spread and increase dengue outbreaks. This study was conducted at SGT Medical College Hospital & Research Institute, Budhera, Gurugram, (India), to build knowledge of dengue infection and dengue prevention activities among patients.

**Method:** A cross-sectional survey was performed in SGT Medical College Hospital & Research Institute, Budhera, Gurugram, India. Study took place among 224 participants from May to October 2020. Organized patients sampling followed. A pre-tested, semi-structured questionnaire. Difference was calculated using Chi square test (qualitative variables). P was assumed to be  $p < 0.05$ .

**Results:** 210 (93.7%) of participants understood dengue. Dengue fever symptoms responded 50% of participants correctly. 89% correctly claimed Aedes mosquito transmits dengue. About 40 % of participants had correct knowledge about Aedes mosquito's breeding habitat and biting habit. In addition to avoiding mosquito bite, researchers use diverse strategies-mosquito spirals (53.7%), mosquito nets (14.7%). No mosquito bites prevention strategy followed by 15.1%.

**Conclusions:** While most of the sample participants knew of dengue and dengue fever transmission mosquito signs, under half were conscious and 25% did not observe any mosquito bite avoidance procedure. Conclusions: Group consciousness plays an important part in improvising practices to avoid dengue.

**Keywords:** Sensitivity, Dengue fever, Experience, Activities.

## Introduction

The number of dengue cases reported annually increased from 0.4 million to 1.3 million in the decade 1996-2005, and the WHO reported annually. Over the past 50 years, symptomatic cases have grown 30-fold with increased geographic expansion to new nations and from urban to rural areas in the present decade. The annual incidence of symptomatic cases has been reported

at about 50 million - 100 million, mostly in Asia, and then in Latin America and Africa.<sup>1</sup>

During the 1996 Dengue epidemic, India recorded 16,517 cases and 545 deaths, accompanied by upheaval since 2010 to 2015. Cases exceeding those registered in 2014 were registered. Due to substantial undeclared dengue in healthcare systems, Haryana reported 2.5% of the national burden in 2015. Due to the seriousness of the disease, steps to prevent dengue spread were mandatory for an hour. Essentially, this relies on population recognition and involvement, which relies on dengue understanding and prevention. In this context, SGT Medical College Hospital & Research Institute, Budhera, Gurugram, India, conducted an assessment to assess susceptibility to dengue and its prevention among patients.<sup>2</sup>

---

### Corresponding Author:

**Dr. Sonu Kumar Singla**

Post Graduate, Department of Medicine, SGT Medical College

e-mail: s.k.singla24@gmail.com

Mobile No.: 9876033265

Due to the existence of favorable dengue vector breeding sites, the epidemic has been mostly confined to urban and semi-urban areas of the world. However, owing to urbanization, industrialization, large-scale construction activities and rapid transport, there has been a paradigm change in the pattern of dengue occurrence from urban to rural areas over time, rendering rural areas attractive for dengue vector breeding. These trends also culminated in recurrent dengue outbreaks in the country's rural areas. Increased spread of the disease resulting in rapid population development, lack of adequate awareness of dengue infection and prevention steps, environmental improvements and increased breeding of *Aedes* in living premises.<sup>3</sup>

Given the seriousness of the epidemic, it has become important to take prevention and control steps to avoid dengue transmission within an hour. This, in essence, relies on the recognition and involvement of the population, which again depends on the understanding of dengue and its prevention in the environment. In this sense, the study was conducted at SGT Medical College Hospital & Research Center, Budhera, Gurugram (India), to ascertain the knowledge of dengue and its prevention among patients.

### Material and Method

This hospital based descriptive cross-sectional study was conducted on patients attending the outpatient department (OPD) of SGT Medical College Hospital & Research Institute, Budhera, Gurugram, India, after obtaining ethical approval by the Ethical review committee of Faculty of medicine. The study was conducted from May to October 2020 by Dr. Sonu Singla physician working at the outpatient department of the SGT Medical College Hospital & Research Institute. Data collection was done using a self-administered pretested data collection form (questionnaire) which composed of standard questions to assess knowledge and attitude on dengue fever as well as its prevention. The questionnaire was in both English and Hindi languages. Determination of sample size: Assuming that Dengue Fever and its avoidance are well informed of the incidence as 50 percent and that the absolute accuracy is 7 percent, and the non-response rate 10 percent, the sample size arrived at was 224. Population of sampling and study: the population of the study consists of patients of SGT Medical College Hospital & Research Institute.

Patients between 18-60 years of age attending the OPD were included while patients who were mentally

subnormal or who needed immediate hospital admission were excluded. Every 12th patient who was eligible for the study was recruited for the questionnaire survey after obtaining the informed written consent. Tool for research: a three-section research tool.

- **Section I** contained socio-demographic specifics, for example, old age, gender, schooling, jobs.
- **Section II** dealt with views of society in particular of mosquito-borne illness and dengue. This includes detail on moustache transmitted illness, mosquito-borne diseases, prior exposure to dengue, the explanation for and spread of dengue, vector bionomics and its life cycle, awareness on dengue and dengue fever symptoms.
- **Section III** deals with awareness about Dengue prevention, i.e. the subjective opinion of dengue prevention, the prevention of mouse breeding, the personal defense against mosquito bite and the Government's policies and policies for the prevention and control of dengue.

Outcome variables: Outcome variables include those that determine the perception of dengue fever signs, mosquito propagation and reproductive and biting behaviours and preference to treatment. Statistical analysis: Microsoft Excel Spread Sheet has entered data. The completeness and correctness of the research questionnaire is checked before entering the worksheet. Data tests for data entered in the worksheet of MS Excel have been carried out at a daily period. Data were analyzed in version 21.0 of the Social Science Statistical Package (SPSS IBM). Qualitative variables are described as quantities. The mean, range and standard deviations are known as quantitative variables. After applying unique significance tests, the results were checked for normality. Differences in proportions (qualitative variables) were significant Using chi square test decided. The p value was calculated to be  $p < 0.05$ .

### Results

Research was performed with a 100% answer rate among 224 participants. About 19 and 64 years of age, averaging  $35(\pm 12.7)$  for participants. 20.5% the populace was illiterate and 67.4% belonged to the nuclear family.

210 (93.7%) of the participants knew dengue fever. Information was collected from TV (33.9%), with healthcare services (18.7%) and newspapers (14.7%). 11% Study participants replied correctly to

mosquito-borne diseases. 89% Correctly claimed Aedes mosquito transmits dengue. 4(1.8%) have also become dengue-affected before. 20% of analytical participants. Historically, dengue infection was of friends, neighbors, and families. About 40 % of participants had correct knowledge about Aedes mosquito's breeding habitat and biting habit. Around 56 percent of participants said Aedes breeds mosquito in dirty water. 71 % of participants correctly identified dengue fever symptoms. Student majority (60.7%) prefers public health over dengue fever treatment.

Many (53.7%) at home use mosquito buckles to deter mosquito bites. Mosquito bed nets use just 14.7%, while no mosquito-bite control approaches use 15.1%. Just 6.69% use insecticide-treated bednets. Participants regard chemical interventions including sprays, mosquito repellents, coils and repellents as the most successful approach to prevent spawning and biting of mosquitoes (Table).

**Table: Practice of prevention of dengue**

Practice of Dengue Prevention	(%)
<b>Using personal protective measures</b>	
Mosquito coils	53.7
Bed nets	14.7
Insecticide treated bed nets	6.67
Repellant cream	6.25
Repellant spray	3.6
Nothing	15.1
<b>Most effective measure</b>	
Chemical	52.7
Environmental	29
Biological	8
Integrated	4
Don't know	6.2

Unlike analphabets and primary education, Aedes mosquito's proportion of higher education participants was more forgiving of breeding and biting behaviours. This was considered potentially important. (P=1,000). Those in the nuclear family recognized Aedes' breeding and biting behaviour. (P=0.043) However, at least one member of the joint family is known as a nuclear family mitigation (p=0.01).

## Discussion

This study investigates understanding and behaviours of Dengue infection in SGT Medical College Hospital & Research Institute, Budhera, Gurugram, India. In this study, we find that in those with higher qualifications, biting and breeding expertise is far higher. The finding is consistent with the study performed by Dr. Sonu Singla. There was no difference in sex in breeding knowledge and mitigating measures. During the new study, 93.7% heard about dengue fever. Another study conducted in urban settlements in southern Delhi suggests that 90% are conscious in dengue (78%) in a study conducted in Brazil, while Thailand's dengue consciousness (67%) is 15–17. Malhotra Getal's urban population report. 89% Symptoms right. Gupta et al's study, which reported 92 percent of fever followed by headache as a dengue symptom, was reported in Degallier N et al and Benthem et al papers, whereas most studies find dengue-specific rash and bleeding to separate dengue-specific from other diseases<sup>4</sup>.

About 40% of participants in this study had correct knowledge on Aedes mosquito breeding habitat and biting habit. In a Matta et al study, 79.8 percent of respondents knew about mosquito breeding areas. Aedes' correct knowledge of breeding habits and biting practices in our study has a huge gap. This subject needs to be targeted and disseminated, and neighborhood information about preventive dengue prevention measures. Some researchers (63.4%) carry mosquito coils, bed nets (14.7%) insecticide-treated bed nets (11.2%) and other preventive measures at home. It was determined that the majority of respondents were aware of measures such as window screening, mosquito pad, spooling/fluid vaporising/repelling cream, network use, fan use, smokes in particular in rural and slum areas. Correctly reported that Aedes mosquito transmitted dengue in this report. 72.62% of respondents identified mosquito bite as a cause of dengue near a survey in Brazill Swaddiwudhipong et.al. In our study, 50% registered signs of dengue fever correctly. Gupta et al's study, which reported 92 percent of fever followed by headache as a dengue symptom, was reported in Degallier N et al and Benthem et al papers, whereas most studies find dengue-specific rash and bleeding to separate dengue-specific from other diseases. Secondary education, higher childhood, the finding is consistent with the study performed by Kohli C et. al. and Sharma AK et al. There was no difference in sex in breeding knowledge and mitigating measures<sup>7</sup>.

## Conclusion

Our results indicate that although most participants were conscious of dengue symptoms and dengue fever mosquito transmission, fewer than half were conscious of Aedes mosquito reproductive habits<sup>8</sup> and 25% did not practice mosquito bites. Public health and educational initiatives are also proposed to be more aggressive and preventive in the future. Health education can be offered by many ways, including mainstream coverage and use of audiovisual assistance in healthcare camps. Therefore, these systems can ensure that the information learned is implemented.

**Ethical Clearance:** Taken from ethical committee of institution

**Source of Funding:** Self

**Conflict of Interest:** Nil

## References

1. Porter KR, Beckett CG, Kosasih H, et al. Epidemiology of dengue and dengue hemorrhagic fever in a cohort of adults living in Bandung, West Java, Indonesia. *Am J Trop Med Hyg.* 2005;
2. Gubler DJ, Ooi EE, Vasudevan S, Farrar J. *Dengue and Dengue Hemorrhagic Fever: 2nd Edition.* 2014.
3. World Health Organization. *Dengue: guidelines for diagnosis, treatment, prevention, and control.* Spec Program Res Train Trop Dis. 2009;x, 147.
4. WHO. *Dengue and dengue haemorrhagic fever.* World Health Organization. 2nd edition. Geneva. 1997.
5. Bhatt S, Gething PW, Brady OJ, Messina JP, Farlow AW, Moyes CL, et al. The global distribution and burden of dengue. *Nature.* 2013; 496(7446):504.
6. Bhatt S, Gething P, Brady O, Messina J, Farlow A, Moyes C. The global distribution and burden of dengue. *NIH-PA Author Manuscr Nat.* 2012; 496(7446):504-507.
7. Carabali M, Hernandez LM, Arauz MJ, Villar LA, Ridde V. Why are people with dengue dying? A scoping review of determinants for dengue mortality. *BMC Infect Diseases* 2015.
8. Centers for disease control and prevention. *Dengue and dengue hemorrhagic fever: information for health care practitioners.* *Dengue Hemorrhagic Fever* 2009.