

# Awareness of dengue fever among the parents of children coming to the dental outpatient department – A questionnaire study

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## Abstract

**Aim:** The aim of this study is to establish the awareness of dengue fever among the parents of children coming to dental OutPatient department (OP).

**Objective:** The objective was to design and complete a questionnaire to evaluate the awareness of dengue fever among the parents of children coming to dental OP.

**Background:** The World Health Organization declares dengue to be endemic in South Asia. Dengue fever, also known as breakbone fever, is a mosquito-borne tropical disease caused by the dengue virus. Despite the magnitude of problem, no documented evidence exists on the awareness and preventive methods regarding dengue. This study is conducted to establish awareness, knowledge, and prevention regarding dengue fever among the parents of children coming to dental OP.

**Reason:** To increase the awareness and thereby gaining the knowledge about the signs and symptoms of dengue fever for the early diagnosis and treatment.

**Materials and Methods:** A cross-sectional study was performed among the parents of children coming to dental outpatient department. Around 80 parents were randomly selected for the questionnaire survey study. To assess awareness on dengue, the questionnaire was covered about knowledge on the signs and symptoms, mode of transmission, mosquito bite time, preventive measures, and source of their knowledge.

**Results and Conclusion:** The study shows a low prevalence of sufficient knowledge in the population based on overall knowledge score on dengue. The isolated knowledge on signs and symptoms, prevention is adequate, with preventive measures mainly focused toward protection from mosquito bites.

**Keywords:** Dengue, medications, mode of spread, preventive measures, signs and symptoms

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## INTRODUCTION

Dengue, a mosquito-borne viral infection, is progressing as one of the world's emerging infectious diseases that is

transmitted by the arthropod vectors. The infection causes flu-like illness and occasionally develops into a potentially lethal complication called severe dengue. It is also called as breakbone fever. In India, the dengue virus was first isolated

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in Kolkata in 1945. The epidemic of dengue hemorrhagic fever (DHF) first occurred in Kolkata in 1963. Around 500,000 cases of DHF and 50–100 million cases of dengue fever resulting in around 24,000 deaths were reported annually.<sup>[1]</sup> It is said that children are more affected than adults, and females are more affected than males.<sup>[2]</sup> Over half of the world's population resides in areas potentially at risk for dengue transmission, making dengue one of the most important viral diseases in terms of mortality and morbidity. Despite the consequences, there is no documented evidence existing on the awareness and prevention of the disease.

On considering these strategies, the aim of the study was to assess the level of knowledge about dengue, its spread, symptoms, treatment, and prevention among the parents of children coming to the dental outpatient department (OPD). This study also aims to create and spread awareness and to educate the population about the consequences of the disease, thereby reducing the mortality rate.

**MATERIALS AND METHODS**

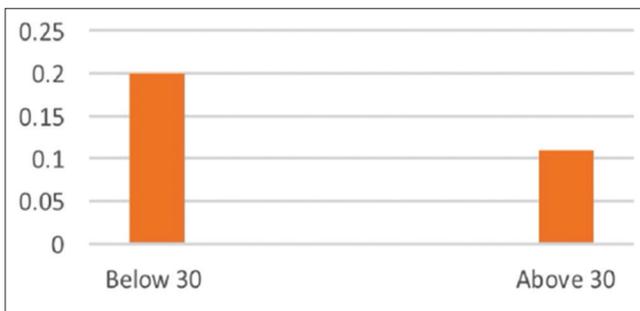
A cross-sectional study assessing the knowledge, attitudes, and practices regarding dengue was performed among the parents of children coming to dental OPD. Around 80 parents were randomly selected for the questionnaire survey study. To assess awareness on dengue, the

questionnaire was covered about knowledge on the signs and symptoms, mode of transmission, mosquito bite time, preventive measures, and source of their knowledge. Questions were given with yes/no choices, easily understandable, and brief in manner. The questionnaire was given to all patients participating in the study and was requested to complete the answers, with prior explanation to fill the questionnaire. All answers were collected, tabulated, and subjected to statistical evaluation.

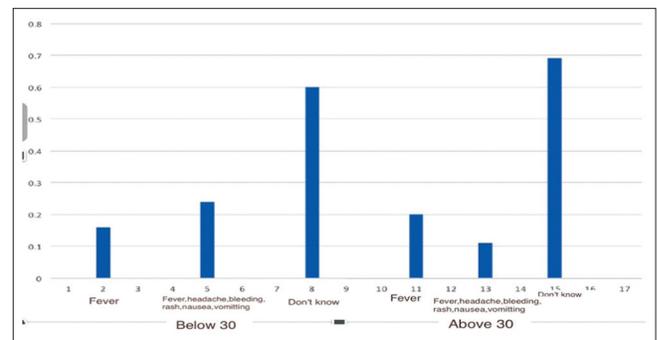
**RESULTS**

The study was conducted to evaluate the knowledge of dengue fever, and thereby create awareness to reduce the mortality rate caused by the disease [Graphs 1-4].

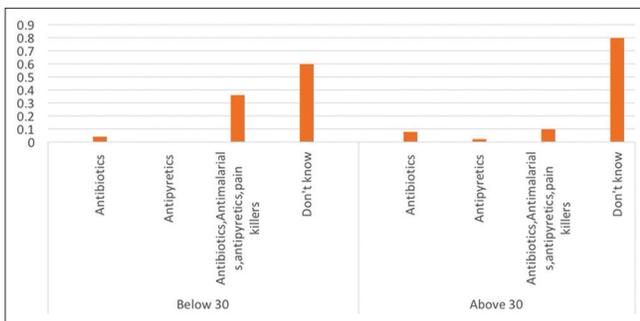
Baseline showed that the mean age of the samples who participated in the study was 30 ± 10 years. Of the 70 samples participating in the study, 36 were <30 years, and 64 were above 30 years. All the 70 samples were aware of the disease. Of the 70 samples, 36% of the samples below 30 years reported that the disease is transmissible from human-to-human, whereas the rest 64% of the samples had a controversial answer. Of the samples above 30 years, 22% reported that the disease is transmissible, and the rest 78% had a controversial answer.



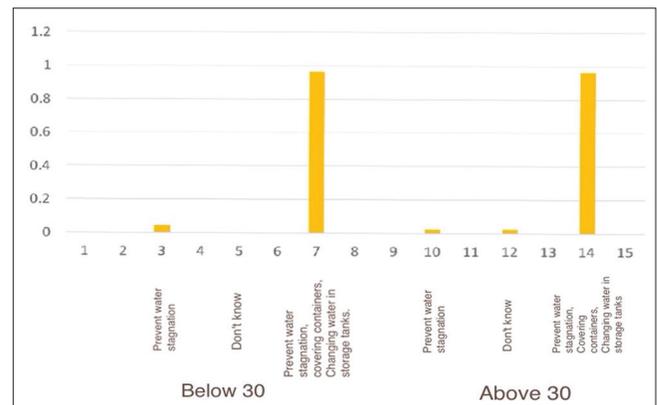
**Graph 1:** Represents the knowledge on whether dengue is transmissible



**Graph 2:** Represents the knowledge on common symptoms



**Graph 3:** Represents the knowledge on medications for dengue



**Graph 4:** Represents the knowledge on various preventive measures

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Of the samples below 30 years, all reported that the mode of spread is by mosquito bite, and 12% reported that fly bite is also one of the modes, 32% of the samples agreed that dirty drinking water is another mode of spread, and 4% reported about the unhygienic food. Of the samples above 30 years, all reported that the mode of spread is by mosquito bite, 7% reported about the fly bite and unhygienic food, and 9% reported about the dirty drinking water.

Of the samples below 30 years, 16% reported that fever is the most common symptom, 24% stated that fever, bleeding, rashes, muscular pain, and vomiting and nausea are the symptoms of the disease. The rest 60% were unaware of the disease. Of the samples above 30 years, 20% reported that fever is only is the symptom of the disease, 11% reported that bleeding, rash, headache, muscular pain, vomiting, and nausea are the symptoms of the disease, and the rest 69% were unaware of the disease.

On evaluating the knowledge on medications, of the samples below 30 years, 60% reported that they are unaware of it, 4% of the samples suggested antibiotics, and the 36% suggested antibiotics, antimalarials, antipyretics, and pain killers. Of the samples above 30 years, 80% reported that they are unaware of it, 8% of the samples suggested antibiotics, and 2% suggested antipyretics, and the rest 10% suggested all the medications.

Of the samples below 30 years, 20% of the samples were unaware of the common breeding sites, and the rest 80% suggested that standing clean water, standing dirty water, trash, vegetation, running clean water, and running dirty water might be the breeding sites. Of the 80%, 8% of the samples opted only standing clean water, 4% opted standing dirty water, and the rest 68% suggested group answers. Of the samples above 30 years, 28% of the samples were completely unknown about the common breeding sites, and the rest 72% opted standing clean water, standing dirty water, trash, vegetation, running clean water, and running dirty water as the breeding sites. Of the 72%, 7% opted only standing clean water, another 7% opted only standing dirty water, 9% opted only trash as the breeding site, and 2% opted vegetation as the breeding site, whereas the rest 47% suggested all the options.

Of the samples below 30 years, 4% of the samples were unaware of the mosquito bite time, 4% of the samples suggested sunrise, 12% suggested sunset, 8% suggested morning, 16% suggested nighttime, and the rest 56% opted all the options. Of the samples above 30 years, 11% were unaware of the biting time, 20% suggested sunrise, 15% suggested sunset, 4% suggested morning, 2% suggested

noon, 15% suggested night, and the rest 33% suggested all the options.

On evaluating the knowledge on preventive measures, of the samples below 30 years, 4% suggested liquid vaporizer or coil, and rest 96% chose all the other measures also. Of the samples above 30 years, 2% opted liquid vaporizer, another 2% chose to smoke, and the rest 96% suggested all the options.

On enquiring about the breeding site eradication, of the samples below 30 years, 4% suggested prevention of water stagnation, and the rest 96% chose all the other options. Of the samples above 30 years, 11% suggested prevention of water stagnation, another 4% were unaware of the eradication measures, and the rest 85% suggested all the options.

## DISCUSSION

Baseline showed that the mean age of the samples who participated in the study was  $30 \pm 10$  years. Of the 70 samples, 64% of the samples below 30 years reported that the disease is not transmissible, whereas above 30 years, 78% were aware of it. More than 50% of the sample were aware about that dengue is a transmissible disease. These findings are consistent with similar studies done in the South Asian region, in which 84% were aware of it.<sup>[3,4]</sup>

Of the samples below and above 30 years, all reported that the mode of spread is by mosquito bite. Of the samples below 30 years, 60% were unaware about the common signs and symptoms of the disease, whereas above 30 years, 69% were unaware of it. However, adequate knowledge on dengue symptoms has been reported in similar studies done in Pakistan and Brazil.<sup>[5,6]</sup>

On evaluating the knowledge on medications, of the samples below 30 years, 60% were unaware of it, whereas more than 90% of the samples above 30 years were unaware about the medications. Studies conducted in Brazil and Pakistan although majority of people did identify antipyretics as being important, the majority were unaware.<sup>[7]</sup>

Of the samples below 30 years, 20% of the samples were unaware of the common breeding sites and above 30 years, 28% were unaware of it. Measures aimed at preventing water stagnation, which serves as local breeding sites were reported in the studies done in Thailand, in which a significant reduction of dengue vectors and DHF cases in areas having cleanup campaigns before and during rainy seasons.<sup>[8]</sup>

According to the WHO guideline on dengue, the *Aedes aegypti* mosquito typically bites during the day. In our study, only 12% below 30 years were aware of it, and above 30 years, only 26% were aware. Similar studies conducted in Pakistan, 44% of the population were aware of it.

Preventive measures preferred were the use of mosquito sprays and coils. Several studies have reported these methods to be the most effective means of prevention.<sup>[9,10]</sup> Window and door screens were also a popular method of vector control. Window curtains and domestic water container covers treated with insecticide can reduce densities of dengue vectors to low levels and potentially affect dengue transmission.<sup>[11]</sup> These results displayed that the study population was using adequate preventive methods aimed at controlling both the vector's breeding and its spread.

## CONCLUSION

The study shows a low prevalence of sufficient knowledge in the population based on overall knowledge score on dengue. The isolated knowledge on signs and symptoms, prevention is adequate, with preventive measures mainly focused toward protection from mosquito bites.

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## Conflicts of interest

There are no conflicts of interest.

## REFERENCES

1. Porter KR, Beckett CG, Kosasih H, Tan RI, Alisjahbana B, Rudiman PI, *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;72:60-6.
2. Dengue haemorrhagic fever: Diagnosis, treatment, prevention and control. ... prevention and control. 2<sup>nd</sup> ed. Geneva: World Health Organization; 1997.
3. Acharya A, Goswami K, Srinath S, Goswami A. Awareness about dengue syndrome and related preventive practices amongst residents of an urban resettlement colony of South Delhi. *J Vector Borne Dis* 2005;42:122-7.
4. Dégallier N, Vilarinhos PT, de Carvalho MS, Knox MB, Caetano J Jr. People's knowledge and practice about dengue, its vectors, and control means in Brasília (DF), Brazil: Its relevance with entomological factors. *J Am Mosq Control Assoc* 2000;16:114-23.
5. Khan E, Siddiqui J, Shakoor S, Mehraj V, Jamil B, Hasan R. Dengue outbreak in Karachi, Pakistan, 2006: Experience at a tertiary care center. *Trans R Soc Trop Med Hyg* 2007;101:1114-9.
6. Itrat A, Khan A, Javaid S, Kamal M, Khan H, Javed S, *et al.* Knowledge, awareness and practices regarding dengue fever among the adult population of dengue hit cosmopolitan. *PLoS One* 2008;3:e2620.
7. Gibbons RV, Vaughn DW. Dengue: An escalating problem. *BMJ* 2002;324:1563-6.
8. van Benthem BH, Khantikul N, Panart K, Kessels PJ, Somboon P, Oskam L. Knowledge and use of prevention measures related to dengue in northern Thailand. *Trop Med Int Health* 2002;7:993-1000.
9. Fradin MS, Day JF. Comparative efficacy of insect repellents against mosquito bites. *N Engl J Med* 2002;347:13-8.
10. Jelinek T. Dengue fever in international travelers. *Clin Infect Dis* 2000;31:144-7.
11. Kroeger A, Lenhart A, Ochoa M, Villegas E, Levy M, Alexander N, *et al.* Effective control of dengue vectors with curtains and water container covers treated with insecticide in Mexico and Venezuela: Cluster randomised trials. *BMJ* 2006;332:1247-52.