

# Knowledge, Attitude and Practice of General Public and Nursing Staff of Hospitals Regarding the Dengue Fever.

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## ABSTRACT

**Background:** In recent years, mosquito borne diseases have emerged as a serious public health concern in India. Awareness among the general public is most important for the prevention of the dengue infection. Also nursing staff are the personnel who were contacting the general public constantly. Therefore this study was done to study the knowledge, attitude and practice of general public and nursing staff of hospitals regarding the dengue fever. **Methods:** The study was included of 189 general public people came to the OPD of the SMBT medical college, (at Ghoti, Nashik) along with their patients, while 78 were nursing staff of nearby hospitals. Specially prepared questionnaires consisting of 18 questions were used for the study. All the responses were collected and tabulated. The statistical analysis was done with the help of IBM SPSS statistics version 20 using student's t test. **Results:** It was found that the most of the general public don't have enough knowledge regarding the disease and its preventive practices. On comparison of the scores of the general public and nurses, the scores of the nurses were higher than that of the general public scores and the difference was found to be statistically significant. (Student's t test,  $p < 0.001$ ). **Conclusion:** There is need to improve the knowledge of dengue infection among the general public through educating media, posters, pamphlets or through seminars on medical education. Also the nursing staff should have enough knowledge as they are the prime personals contacting people and can be an important source of educating them.

**Keywords:** Knowledge, Mosquito, Dengue fever, Vector borne diseases.

## INTRODUCTION

In recent years, mosquito borne diseases (MBDs) have emerged as a serious public health concern in India. Many of these, particularly dengue fever, Japanese encephalitis and malaria now occur in epidemic proportions almost on an annual basis causing considerable morbidity and mortality. Though, the confirmed cases of malaria have decreased from 75 million in 1950's to 1.49 million in year 2010, approximately 65% of the population at risk of becoming infected with malaria in South-East Asia is still residing in India. Recently, it has been suggested that malaria incidence is between 9 times and 50 times greater than reported with approximately 13 fold under estimation of malaria related mortality.

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On the other hand, changing epidemiology of dengue fevers in terms of strains, severity and geographic distribution is a growing concern in

Indian subcontinent. Over the last 10-15 years recurrent outbreaks of dengue fever have occurred in different parts of the country. Delhi, the capital city of India, has experienced nine major outbreaks of dengue fever from 1967 to 2010. Thus, it is evident that malaria and dengue have already established their endemicity in Delhi. The failure to cap the resurgence of malaria and the continuing increased incidence of other MBDs is warranting a more proactive approach for their prevention.<sup>[1-7]</sup>

This study was done to study the knowledge, attitude and practice of general public and nursing staff of hospitals regarding the dengue fever.

## MATERIALS AND METHODS

The study was included of 189 general public people came to the OPD of the SMBT medical college, Ghoti, Nashik, along with their patients, while 78 were nursing staff of nearby hospitals. Specially prepared questionnaires consisting of 18 questions were used for the study. The questionnaires were consisting of knowledge of dengue infection like symptoms of dengue fever, transmission, mosquito vectors, breeding sites of mosquito, biting time of mosquito, etc. attitude questions to prevent dengue infections consisted of personal preventive practices,

coverage of water containers, wearing of long sleeved clothing, application of mosquito repellants, use of insecticides, nets, etc.

Each correct answer was given score 1, while incorrect answer was given score zero and don't know answer was also considered as wrong answer and given score zero. Approval of the local ethical committee was taken before start of the study. Well-informed consent was taken from each of the participant while participating in the study.

All the responses were collected and tabulated. The statistical analysis was done with the help of IBM SPSS statistics version 20 using student's t test.

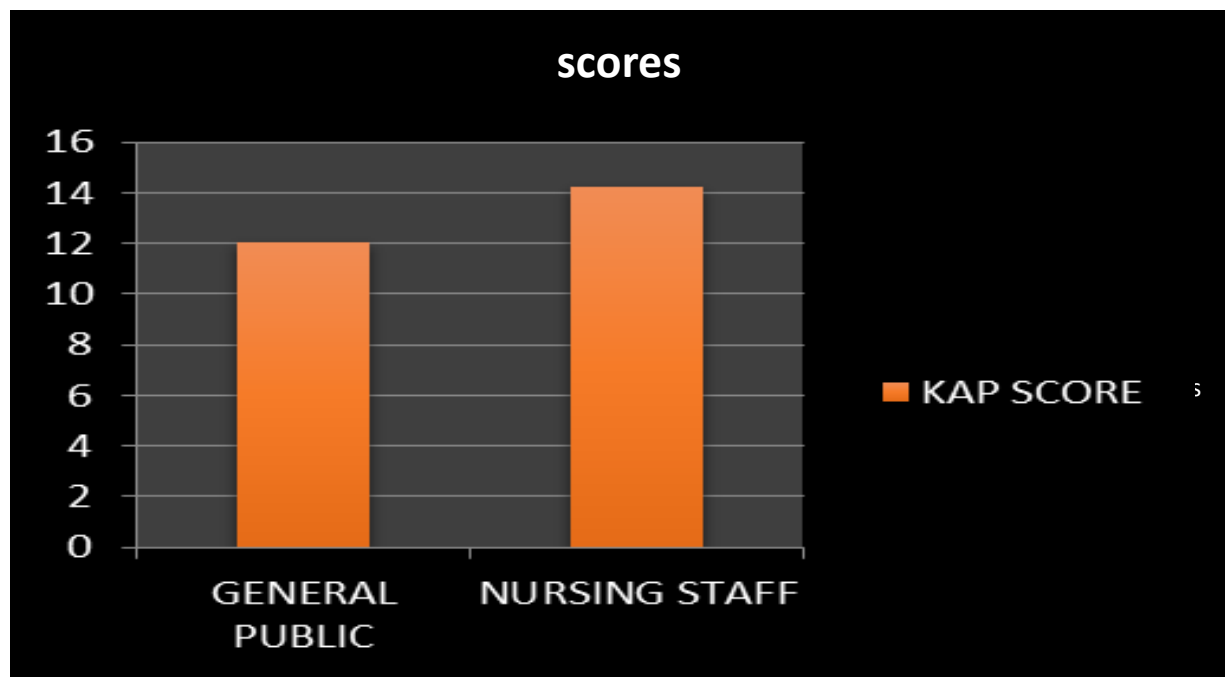
## RESULTS

A total of 210 general public were given the form containing questionnaires. Out of which 189 had submitted their responses. Similarly out of 83 nursing staff, 78 had submitted their responses. It was found that the most of the general public don't have enough knowledge regarding the disease and its preventive practices. On comparison of the scores of the general public and nurses, the scores of the nurses were higher than that of the general public scores and the difference was found to be statistically significant (Student's t test,  $p < 0.001$ ) [Table 1, Figure 1].

**Table 1: Comparison of the KAP scores of the general public and the nursing staff by using student's t test.**

Group	Number (n)	Mean $\pm$ SD	T value	P value
General public	189	12.05 $\pm$ 1.54	9.3693	<0.001*
Nursing staff	78	14.20 $\pm$ 1.93		

\* $p < 0.001$  = Statistically highly significant, SD = Standard deviation.



**Figure 1: Graph showing comparison of the KAP scores of the general public and the nursing staff.**

## DISCUSSION

Vector is an important link in transmission of MBDs and thus, protection from vector serves as one of the best strategies for prevention in population. Personal protective measures (PPMs) serve as critical action in this regard. A variety of PPMs are available including-repellent creams, mosquito nets (plain or insecticide treated), mosquito coils, liquid repellents, electric rackets, mats, smokeless coils, Incense sticks and naphthalene balls. Under national vector borne disease control program, government has introduced insecticide treated nets for the malaria endemic communities. Considering the increasing problem of MBDs, it is important that people should be aware

about various measures available and how to use them correctly. Success of these measures largely depends on the access, acceptability and proper usage by the target population. Further, role of community participation in vector control is imminent. Community participation in turn depends on people's awareness and knowledge towards the disease and its prevention. Therefore, for designing evidence based effective prevention strategies, it is pertinent to study the existing knowledge of the population regarding the disease.<sup>[5, 8, 9]</sup>

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-3 and DEN-4). Dengue fever predominantly occurs in Southeast Asia, the Americas, Africa and the Caribbean Islands. There has been a gradual global upsurge in the number of dengue cases in the last decade. 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. Therefore, it is possible for one to be infected with dengue fever several times during one's lifetime. There are two main forms of dengue disease, dengue fever and the more severe dengue haemorrhagic fever (DHF). Infection with any of the four serotypes can produce a broad range of clinical manifestations including asymptomatic infection, mild flu-like symptoms and the more severe haemorrhagic fever.<sup>[10-15]</sup>

The symptoms of dengue infection are high fever, severe headache, painful joints and muscles, vomiting, nausea, pain behind the eyes and skin rashes. These symptoms almost last for about one week, but weakness and tiredness may last for several weeks. In some patients dengue fever leads to development of Dengue Hemorrhagic Fever, and at the time of subsidence of the fever, the patient may reflect problems with blood circulation. These can include blood in the urine or stool, bleeding gums or bloody nose. These symptoms may lead to death if untreated. Through the bites of infected female mosquitoes, the virus is transmitted to humans. Female mosquito feeds on blood because it needs protein for laying eggs. After incubation of virus for about 4 to 10 days, an infected mosquito is capable of transmitting the virus to the host for the rest of its life. The main carriers and multipliers of the virus are infected humans. The mosquito A. aegypti found in urban habitats and breeds commonly in man-made containers like flower vases, water storage jars, unused toilets bowls and choked roof gutters. A. aegypti is a daytime feeder; its peak periods of biting are early in the morning and evening before dusk. Dengue fever is endemic in Asian countries; the epidemics went on increase in the last 15 years. At now, dengue becomes an important viral mosquito borne disease affecting humans.<sup>[15]</sup>

In present study, it was found that the most of the general public don't have enough knowledge regarding the disease and its preventive practices. On comparison of the scores of the general public and nurses, the scores of the nurses were higher than that of the general public scores and the difference was found to be statistically significant. (Student's t test,  $p < 0.001$ )

The World Health Organization (WHO) introduced practice guidelines for the diagnosis, treatment, prevention, and control of dengue in 1997, with a more clinically applicable revision published in

2009.2 Although dengue can present with a variety of symptoms and result in unpredictable disease progression, a case fatality of <1% is achievable with adherence to these new guidelines.<sup>2</sup> Early recognition of dengue is a crucial first step in this process, with a robust management strategy at the first point of care having the invaluable potential to reduce unnecessary hospitalization and prevent death.<sup>[16]</sup>

## CONCLUSION

There is need to improve the knowledge of dengue infection among the general public through educating media, posters, pamphlets or through seminars on medical education. Also the nursing staff should have enough knowledge as they are the prime personals contacting people and can be an important source of educating them

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