

# A Study to Assess the Effect of Health Teaching on Knowledge Regarding Dengue Fever Among Residing from Selected Urban Area

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## ABSTRACT

### Introduction

Dengue fever is an acute, mosquito-transmitted viral disease characterized by fever, headache, arthralgia, myalgia, rash, nausea, and vomiting. Infections are caused by any of four virus serotypes (DEN-1, DEN-2, DEN-3, and DEN-4). The incidence of dengue is increasing in most tropical areas throughout the world. Economic, political, technologic, ecologic, and demographic changes have brought about the emergence of new microbial diseases, as well as an increase in the incidence of previously known infections.

### The objectives of the study:

1) To assess the level of knowledge regarding dengue fever from selected urban area. 2) To evaluate the effect of health teaching regarding dengue fever among residing from selected urban area. 3) To find the association between the effect of the health teaching regarding dengue fever among the selected urban area.

### Method

Pre-experimental one group pre-test post-test design was used to assess the effect of health teaching on knowledge regarding dengue fever among residing from selected urban area. 50 samples were selected for the study by non-probability purposive sampling technique. Data collection was done by using questionnaires. Pre-test was conducted, after pretest intervention given to samples and post test was conducted after 7 days. The data was analyzed by descriptive and inferential statistics. The reliability was assessed using test re-test method. Pearson's correlation coefficient was found to be 0.95. Hence, the tool of the study was found to be reliable.

### Result

Descriptive and inferential statistics were used for analysis. Researcher applied paired t-test for the effect of health teaching regarding dengue fever among residing from selected urban area. Average knowledge score in pretest was 11.9 which increased to 20.6 in post-test. T-value for this test was 15.2 with 49 degrees of freedom. Corresponding p-value was small (less than 0.05), the null hypothesis is rejected. Average knowledge score in post-test was significantly higher than that in pretest. It is evident that the health teaching was significantly effective in improving the knowledge among residents from urban area.

### Conclusion

Health teaching was effective to improve knowledge regarding dengue fever and was shown to be effective. Hence corresponding p-value was small (less than 0.05), the null hypothesis is rejected. It is evident that the average knowledge score in post-test was significantly higher than that in pre-test.

**Keywords:** Dengue fever, Health teaching, Knowledge

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**Conflict of interest:** None

## INTRODUCTION

Dengue fever is brought on by the dengue virus belonging to the Flaviviridae family and the Flavivirus genus. Dengue virus comes in four distinct serotypes. It is one of the most common mosquito-borne diseases affecting humans. Humans contract the virus when bitten by an infected Aedes vector mosquito. There is a risk of Dengue virus infection for about 400 billion people, and over 400 million infections happen each year. The reproduction and diversity of Aedes vector mosquitoes are affected by ecological changes due to urbanization, industrialization, and deforestation. Africa is the origin of Aedes aegypti, while Asia is the origin of Aedes albopictus. However, these two species are currently expanding in a large number of nations. Populations living within tropical and subtropical nations run the risk of contracting arboviral illnesses. The swift advancement of the economy, industry, and mass migration has led to a rise in arbovirus vectors. The first dengue case identified in India was in the year 1921, and now it has become one of the most highly affected countries in the world with high mortality and morbidity rates. All four Dengue virus serotypes (Dengue virus 1, 2, 3, and 4) were reported to circulate in the north-eastern states of India. There are abundant Aedes mosquito populations in northeast India, indicating the ideal environmental conditions for mosquito vectors and the distribution of viral disease.<sup>1</sup> Dengue Virus infection can lead to a broad range of clinical presentations, varying from a mild flu-like illness known as DF to a condition that pose risk to life known as dengue shock syndrome. Dengue fever symptoms typically involve fever, rash, nausea, vomiting, and body aches. At the same time, the DF complication, dengue shock syndrome, is characterized by severe blood vessels bleeding and shock, with mortality rates reaching as high as 20% if remains untreated. The previous classification system by the World Health Organization categorized dengue disease into three classification: undifferentiated fever, dengue fever, and dengue haemorrhagic fever. The latter was further subdivided into four levels of severity, where levels III and IV representing dengue shock syndrome, which is a life-threatening stage of the disease. In 2009, the World Health Organization modified the DF classification, as a replacement for the previous categories into; severe dengue, dengue with warning signs, and dengue without warning signs.<sup>2</sup>

Title : Effect of Health Teaching on knowledge regarding dengue fever among residing from selected urban area.

Objective

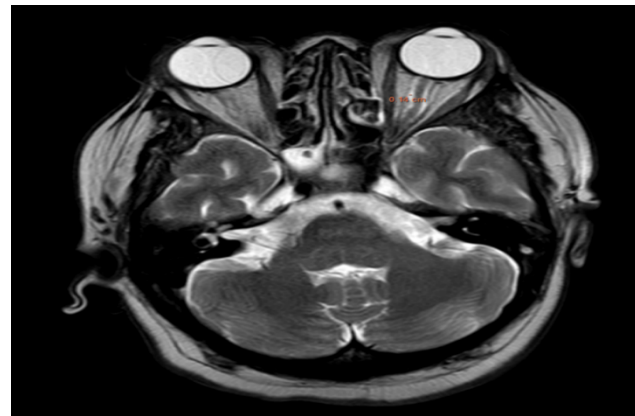
1. To assess the level of knowledge regarding dengue fever from selected urban area.
2. To evaluate the effect of health teaching regarding dengue fever among residing from selected urban area.
3. To find the association between the effect of the health teaching regarding dengue fever among the selected urban area.

Hypothesis

H<sub>0</sub> – There is no effect of health teaching on knowledge regarding dengue fever among residing in selected urban area

Methodology

An evaluative study with Pre-experimental one group pre-test



post-test design was used to assess the effect of health teaching on knowledge regarding health teaching regarding dengue fever among the selected urban area. 60 samples were taken using non-probability purposive sampling technique from selected urban area. Validity done by the 12 subject experts, the Test – Retest method used for reliability with 0.95 score, Pilot study was conducted on 6 sample residing among urban area, official permission was taken for data collection and data was collected. Prior to data collection, informed consent was taken from the sample and they were assured for confidentiality of information. The data was collected using self-structured demographic data and knowledge questionnaire. The data was analyzed by SPSS statistical software.

Result:

Description of samples (residents from rural area) based on their personal characteristics.

40% of them had age 29-39 years, 50% of them were females, 44% of them had primary education, 50% of them were labourers, 40% of them had income Rs. 10000-15000, 46% of them were residing in row/chawl, 38% of them were non vegetarian, 46% of them had blood pressure 40% of them did not have any habit in their family members 72% of them were aware of dengue and 32% of them had history of dengue fever to family members.

Analysis of data related to knowledge regarding dengue fever from selected urban area.

In pretest, 28% of the residents had poor knowledge, 58% of them had average knowledge and 14% of them had good knowledge regarding dengue fever.

Analysis of data related to effect of health teaching regarding dengue fever among residing from selected urban area.

N=50

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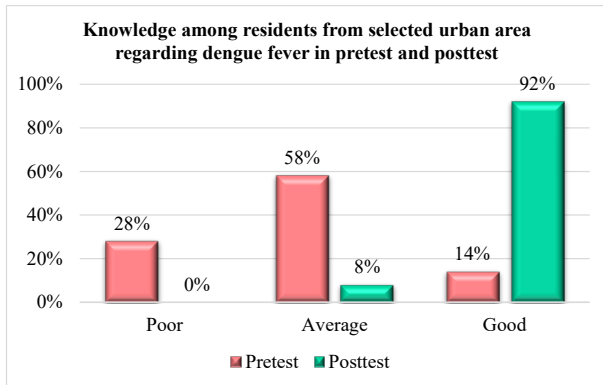


Fig no 1: Effect of health teaching regarding dengue fever among residing from selected urban area

The effect of health teaching on knowledge regarding dengue fever. In pretest, 28% of the residents had poor knowledge, 58% of them had average knowledge and 14% of them had good knowledge regarding dengue fever. In post-test, 8% of the residents had average knowledge and 92% of them had good knowledge regarding dengue fever. This indicates that there is remarkable improvement in the knowledge among residents from urban area regarding dengue fever.

Table 1: Paired t-test for the effect of health teaching regarding dengue fever among residing from selected urban area

	Mean	SD	T	df	p-value
Pretest	11.9	4.4	15.2	49	0.000
Post-test	20.6	2.7			

Researcher applied paired t-test for the effect of health teaching regarding dengue fever among residing from selected urban area. Average knowledge score in pretest was 11.9 which increased to 20.6 in post-test. T-value for this test was 15.2 with 49 degrees of freedom. Corresponding p-value was small (less than 0.05), the null hypothesis is rejected. Average knowledge score in post-test was significantly higher than that in pretest. It is evident that the health teaching was significantly effective in improving the knowledge among residents from urban area.

Analysis related to association between the knowledge regarding dengue fever among the selected urban area and demographic variables

Table 4: Fisher’s exact test for the association between the knowledge regarding dengue fever among the selected urban area and demographic variables

Since all the p-values were large (greater than 0.05), none of the demographic variable was found to have significant association with the knowledge among residents from urban area.

**DISCUSSION**

The current study is design to assess the effect of health teaching on knowledge regarding dengue fever among residents in the selected urban area .The data has been analyzed by descriptive and inferential statistics.

The study can be discussed with a similar descriptive study

done by Rajput, Veena in 2022 aimed to assess the effectiveness of Planned Health Teaching Programme on Knowledge regarding Dengue fever and its Prevention among the higher secondary student in selected govt. School at durg. In this study Quasi experimental one group pre-test post-test design was adopted. A total of 60 samples were selected probability -simple random sampling technique after 7th day of intervention post-test had conducted and the collected data was analyzed using descriptive and inferential statistics. The Result shows that The mean post-test knowledge score obtained was (16.78), mean % (55.93) were higher than the mean pre-test knowledge score (8.35), mean % (27.83), The calculated t- value 4.9, DF (59) is greater then table value 2.02 at the 0.05 level of significance. Findings of the study showed that the knowledge score of the higher secondary students regarding dengue fever and its prevention was less before the introduction of PHTP. The PHTP facilitated them to gain more knowledge regarding dengue fever and its prevention which was evident in post-test knowledge scores. Hence H1 is accepted which proves the effectiveness of planned health teaching programme regarding dengue fever and its prevention. The result of the study indicated that Higher secondary students 81.66% had poor knowledge before the intervention and after intervention there was 100% improvement in the knowledge and they gain good knowledge about dengue and its prevention. The findings of the present study showed that, the posttest knowledge score was higher than the pre-test Knowledge score range. The hypothesis are proved and accepted.3

A Similar study conducted by R., sandeep & shettigar, divya & jayappa, suma in (2014). An educational intervention programme on dengue and its prevention among rural high school children, karnataka, india. In this study cross sectional descriptive survey was used. High school children were selected through probability simple random sampling. The data was collected using a pretested structured questionnaire. The Planned-teaching programme was administered at the end of the pre-test. The post-test was carried out after 7 days, using the same tool as the pre-test. The data was analysed using SPSS version 16 and the results expressed as proportions. A total of 60 high school children were included in the study . The Analysis of data revealed pre test knowledge score was 28.25%. Considering the level of knowledge of high school students, a planned teaching programme was administered. The post test knowledge score was 70.83%. Hence comparison in pre-test knowledge score and post-test percentage of dengue and its prevention was approximately 42.58%. A significant association between age and post test knowledge was found. The study concluded that a significant number of high school children had poor knowledge. So researcher felt that awareness programmes regarding dengue fever and its prevention. should be emphasized.4

A Similar study conducted by Negi, Rashmi & Handa, Shweta in 2017 aimed to assess the Effectiveness of Planned Teaching Programme on Knowledge and Attitude on Prevention and Control of Dengue Fever to the Common People in the Community Set Up in Delhi. Evaluative research approach and one group pre-test post test design was adopted. This study was conducted in community area of Village Madangir, New Delhi. The total sample comprises of 50 people. Purposive sampling technique was used to select the samples. The Data was collected by prior permission from the concern authority. Oral consent from

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participants was obtained and data were collected by self administered questionnaire. The study was conducted in Madangir area in New Delhi for 5 days. Initially the researcher develops good rapport with the participants and they were assembled in a park, seated comfortably and questionnaire was distributed to the sample. Researcher clearly explained the questionnaire and distributed to the participants. The duration of education was 25min. Post test was done after 5 days. Pamphlet was developed and distributed to enhance the knowledge of community people on dengue fever. Data was analyzed and interpreted using descriptive statistics. Pre- test and post test knowledge score was 11.44 and 18.82 respectively. The mean difference for knowledge was 7.38 and for attitude was 0.96. The standard deviation for knowledge pretest and posttest score were 2.04 and 0.95 and for attitude it was 1.26 and 0.83 respectively. On the basis of the findings of the above study conclusion can be made that community people still have deficient knowledge regarding dengue fever with a varying degree and health education was found to be effective in increasing knowledge regarding dengue fever.5

A Similar study conducted by Vineela.P, Mary & Prathiba, K. & Manasa.Y, Manasa.Y. in 2025 aimed to assess the Knowledge Regarding Prevention of Dengue Fever among selected village at Nellore. Quantitative research approach design was adopted for the study which was conducted in pogathota, 30 house wives were recruited in the study by non probability convenience sampling technique. Structured questionnaire was used to collect the data. Data was analyzed by using descriptive and inferential statistics. Percentages of categorical variables were computed. The findings obtained from the demographic variables by the analysis of the data with selected samples are having 16.67% are having inadequate knowledge, 80% are having moderate knowledge and 3.34% having adequate knowledge. There is significant relationship between the gender and level of knowledge regarding prevention of dengue fever. The study concluded that Structured teaching programme is necessary to improve the knowledge level among house wives.6.

### CONCLUSION

The main purpose of the study was used to assess the effect of health teaching on knowledge regarding dengue fever among residing in urban area. The study revealed that health teaching significantly improved the knowledge regarding dengue fever among residing in urban area. Since all the p-values were large (greater than 0.05), none of the demographic variable was found to have significant association with the knowledge among residents from urban area.

The Residents of urban area very well understood the concept of dengue fever and were able to follow the guidelines provided during health teaching, in accordance to the instruction given. In this study, one group pretest knowledge score depicts that majority of subjects of knowledge regarding dengue fever were assessed. Whereas, in post-test majority of subjects had achieved improved knowledge dengue fever. A concluded study to assess the effect of health teaching on knowledge regarding dengue fever was shown to be effective. Researcher applied paired t-test for the effect of health teaching regarding dengue fever among residing from selected urban area. Average knowledge score in pretest was

11.9 which increased to 20.6 in post-test. T-value for this test was 15.2 with 49 degrees of freedom. Corresponding p-value was small (less than 0.05), the null hypothesis is rejected. Average knowledge score in post-test was significantly higher than that in pretest.

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