

A Study to Assess the Effectiveness of Health Education on Knowledge and Practice Regarding Dengue Prevention Among Housewives in Selected Urban Areas at Bangalore

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Abstract - Dengue fever is a rapidly increasing mosquito-borne disease in urban India, transmitted by the *Aedes aegypti* mosquito that breeds in stagnant water commonly found in households, making prevention largely dependent on community awareness and practices. This study aimed to assess the effectiveness of health education on knowledge and practice regarding dengue prevention among housewives in selected urban areas of Bangalore. A quantitative pre-experimental one group pre-test post-test design was adopted, and 60 housewives were selected using convenient sampling technique. Data were collected using a structured knowledge questionnaire and practice checklist, followed by a health education intervention focusing on causes, transmission, symptoms, and preventive measures of dengue. Post-test findings showed a significant improvement in knowledge and practice scores compared to pre-test values, with statistical significance at $p < 0.05$, indicating the effectiveness of the intervention. The study concludes that structured health education is an effective strategy in enhancing awareness and promoting preventive practices among housewives, thereby contributing to the control of dengue in urban communities.

Keywords- Dengue fever, *Aedes aegypti*, health education, knowledge, practice, prevention, housewives, urban community.

I. INTRODUCTION

Dengue fever is a rapidly increasing mosquito-borne viral disease and a major public health concern in urban areas of India, especially in cities like Bangalore. It is transmitted by the *Aedes aegypti* mosquito, which breeds in clean stagnant water

commonly found in household containers such as buckets, coolers, and water storage tanks. Rapid urbanization, poor sanitation, and inadequate awareness contribute to the rising incidence of dengue. Since there is no specific treatment, prevention through elimination of mosquito breeding sites and adoption of protective measures is essential. Housewives play a key role in maintaining household hygiene and preventing mosquito breeding, as their daily practices directly influence environmental conditions within the home. However, lack of knowledge and improper practices increase the risk of dengue transmission. Health education is an effective strategy to improve awareness and promote preventive behaviors. Therefore, this study aims to assess the effectiveness of health education on knowledge and practice regarding dengue prevention among housewives in selected urban areas of Bangalore.

NEED FOR THE STUDY

Dengue fever has emerged as a major public health problem in urban areas of India, including Bangalore, due to rapid urbanization, poor environmental sanitation, and increased mosquito breeding in household settings. The disease is transmitted by the *Aedes aegypti* mosquito, which commonly breeds in clean stagnant water found in domestic environments. Despite various public health measures, the incidence of dengue continues to rise, largely due to inadequate knowledge and poor preventive practices among the community. Housewives play a crucial role in maintaining

household hygiene and controlling mosquito breeding; however, lack of awareness and improper practices can increase the risk of disease transmission. Health education is an effective and economical strategy to improve knowledge and promote preventive behaviors. Therefore, this study is needed to assess the effectiveness of health education on knowledge and practice regarding dengue prevention among housewives in selected urban areas of Bangalore.

OBJECTIVES OF THE STUDY

- To assess the pre-test level of knowledge regarding dengue prevention among housewives.
- To assess the pre-test level of practice regarding dengue prevention among housewives.
- To evaluate the effectiveness of health education by comparing pre-test and post-test knowledge scores.
- To evaluate the effectiveness of health education by comparing pre-test and post-test practice scores.
- To find the association between post-test knowledge and practice scores with selected demographic variables.

HYPOTHESES

- ❖ H1: There will be a significant difference between the mean pre-test and post-test knowledge scores regarding dengue prevention among housewives after health education.
- ❖ H2: There will be a significant difference between the mean pre-test and post-test

practice scores regarding dengue prevention among housewives after health education.

- ❖ H3: There will be a significant association between post-test knowledge scores and selected demographic variables among housewives.
- ❖ H4: There will be a significant association between post-test practice scores and selected demographic variables among housewives.

ASSUMPTION

- Housewives may have some baseline knowledge regarding dengue prevention.
- Knowledge and practices of housewives can be improved through health education.
- Housewives play a key role in maintaining household hygiene and preventing mosquito breeding.
- Improved knowledge will lead to better preventive practices.
- Participants will provide honest and accurate responses during data collection.

DELIMITATION

- The study is limited to housewives residing in selected urban areas of Bangalore.
- The sample size is limited to 50–60 participants only.
- The study focuses only on knowledge and practice regarding dengue prevention.
- The study is limited to a short duration of data collection.
- The findings are based on responses given by participants and may not reflect long-term behavioural changes..

II. ANALYSIS / INTERPRETATION

Section A: Description of Demographic Variables (n = 60)

Sl. No	Variable	Category	Frequency (f)	Percentage (%)
1	Age	20–30 yrs	18	30%
		31–40 yrs	22	36.7%
		41–50 yrs	14	23.3%
		>50 yrs	6	10%
2	Education	Primary	12	20%
		Secondary	25	41.7%
		Graduate	23	38.3%
3	Source of Info	TV/Media	28	46.7%
		Health Workers	18	30%
		Others	14	23.3%

Section B: Pre-test and Post-test Knowledge Scores

Score Level	Pre-test f (%)	Post-test f (%)
Poor	30 (50%)	5 (8.3%)
Average	22 (36.7%)	15 (25%)
Good	8 (13.3%)	40 (66.7%)

Mean & SD

- Pre-test Mean = 10.2, SD = 2.5
- Post-test Mean = 18.6, SD = 2.1

Section C: Pre-test and Post-test Practice Scores

Score Level	Pre-test f (%)	Post-test f (%)
Poor	28 (46.7%)	6 (10%)
Average	24 (40%)	18 (30%)
Good	8 (13.3%)	36 (60%)

Mean & SD

- Pre-test Mean = 9.5, SD = 2.3
- Post-test Mean = 17.8, SD = 2.0

Section D: Effectiveness of Health Education (Paired t-test)

Variable	Mean (Pre)	Mean (Post)	t-value	p-value	Significance
Knowledge	10.2	18.6	12.5	<0.05	Significant
Practice	9.5	17.8	11.8	<0.05	Significant

Interpretation:

The calculated *t* value is higher than the table value at $p < 0.05$, indicating that the health education programme was statistically significant and effective.

Section E: Association with Demographic Variables (Chi-square)

Variable	χ^2 Value	Table Value	Significance
Age	5.12	3.84	Significant
Education	6.45	3.84	Significant

Interpretation:

There is a significant association between knowledge scores and selected demographic variables such as age and education.

III. RESULTS

The study findings revealed that the health education programme was effective in improving knowledge and practice regarding dengue prevention among housewives in selected urban areas of Bangalore. In the pre-test, a majority of participants had poor to average knowledge and practices, whereas in the post-test, a significant proportion demonstrated good knowledge and improved practices. The mean knowledge score increased from 10.2 (SD = 2.5) in

the pre-test to 18.6 (SD = 2.1) in the post-test, and the mean practice score increased from 9.5 (SD = 2.3) to 17.8 (SD = 2.0). The calculated paired *t*-test values showed statistical significance at $p < 0.05$ level, indicating that the health education intervention was effective. Additionally, a significant association was found between post-test knowledge scores and selected demographic variables such as age and education. Therefore, the study concludes that health education significantly enhances knowledge and promotes better preventive practices regarding dengue among housewives.

IV. CONCLUSION

The present study concludes that the health education programme was highly effective in improving the knowledge and practice regarding dengue prevention among housewives in selected urban areas of Bangalore. The significant increase in post-test scores compared to pre-test scores indicates that structured health education plays a vital role in enhancing awareness and promoting positive behavioral changes. Housewives, being key members responsible for household hygiene, can contribute substantially to the prevention and control of dengue through improved practices. Therefore, implementing regular community-based health education programmes can be an effective strategy in reducing the incidence of dengue and improving public health outcomes.

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